
Storm Water Pollution Prevention Plan



Storm Water Pollution Prevention Plan (SWPPP)

Permit Number: WVR _____

Prepared For:

PENDLETON COUNTY PUBLIC SERVICE DISTRICT

Development Name & Location:

SANDY RIDGE WATER EXTENSION

COUNTY ROUTE 22

Prepared by:

CERRONE ASSOCIATES, INC

Date:

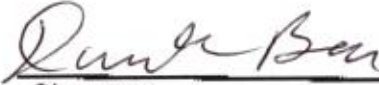
JANUARY 2024

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CERTIFICATIONS

**To Be Completed by Permittee
(Plans and Specifications Operational Control)**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for attesting to false information, including the possibility of fine and imprisonment for knowing violations."

<u>Darrell Bodkin PSD Chairman</u>	<u>304-358-3027</u>
Name and Title	Telephone Number
<u></u>	<u>1/19/24</u>
Signature	Date

**To Be Completed by Construction Site Operator/Co-Permittee
(Day-to-Day Operational Control)**

"I certify that I have reviewed this document and all attachments that were prepared under professional supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for attesting to false information, including the possibility of fine and imprisonment for knowing violations."

_____	_____
Name and Title	Telephone Number
_____	_____
Signature	Date

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1.0. CONTACT INFORMATION

<i>PERMITTEE</i>	<i>PHONE/FAX/MOBILE</i>	<i>ADDRESS</i>
<i>Pendleton County PSD</i>	<i>304-358-3027</i>	<i>PO Box 861 Franklin, WV 26807</i>
<i>PROJECT CONTRACTOR</i>		
<i>TBD</i>		
<i>QUALIFIED PERSON/ 24-HOUR CONTACT</i>		
<i>Darrell Bodkin</i>	<i>304-358-3027</i>	
<i>OTHER</i>		

2.0 OBJECTIVE

A storm water pollution prevention plan must be prepared for storm water discharges that will reach Waters of West Virginia, including discharges to the Municipal Separate Storm Sewer System (MS4), and to identify and address potential sources of pollution that are reasonably expected to affect the quality of discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment staging areas, vehicle repair areas, fueling areas, etc., used by the permitted project. The SWPPP must describe and ensure the implementation of practices that will be used to reduce the pollutants in storm water discharges associated with construction activity at the construction site and assure compliance with the terms and conditions of the general permit.

3.0 Non-Storm Water Discharges

All discharges authorized by this permit shall be composed entirely of storm water.

4.0 SWPPP REVIEW AND AMMENDMENTS

4.1 Review

This SWPPP must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWPPP. This SWPPP must be made readily available at the time of an on-site inspection.

4.2 Amendments

This SWPPP will be revised or updated when the following occurs:

1. Change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not been previously addressed in this SWPPP.
2. Results of inspections or investigations indicating this SWPPP is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under the general permit.
3. To identify any new contractor and/or subcontractor that will implement a measure of the SWPPP.

All other permittees implementing portions of the SWPPP that will be impacted by a change to the SWPPP will be notified of the change in a timely fashion.

The revisions to the SWPPP will be documented on the "SWPPP Revision Documentation Form" found in the front of this document. The authorized representative with regulatory authority (corporate officer or proprietor) to approve the SWPPP shall sign the modified plan certifying that the SWPPP revision information is true and accurate.

5.0 SITE OR PROJECT DESCRIPTION

5.1 Description of Construction Activity & Environmental Impacts

Developer: Cerrone Associates, Inc.

Builder: TBD

SiteLocation: County Route 20, 22, 25, and a private drive

Site/Project Description and Mitigation of Potential Environmental Impacts: CONTRACT #1 – Water Lines and Booster Stations

Install 34,240 LF 4-inch water line; 2,280 LF of 3-inch water line; 1,300 LF 2-inch water line; 1,030 LF of directional drills; 152 LF of highway bores; 50 LF of highway open cuts; 80 LF of stream crossings; 24 gate valves; 6 Air Release Assemblies; 9 Flushout Assemblies; 1 80 GPM hydroconstant booster station; 1 50 GPM booster station; and other work required to provide the complete system improvements project.

CONTRACT #2 – Water Storage Tank

Construct one (1) water storage tank measuring 11 feet in diameter by 33 feet in height to the overflow with a nominal volume of 24,000 gallons. Contract also includes access road and appurtenances to make a complete operating system.

Install erosion control facilities and devices, strip topsoil, commence excavation, install bedding (if necessary), install pipe, backfill, restore surface with top soil, lime, fertilizer, seed, and mulch. Surface restoration must be done within 4 days of commencing excavation. Maintain erosion control measures until vegetative cover is established. Open trench to be sufficient in advance of pipe laying to expose any obstructions that might alter alignment or grade, but not more than can be backfilled at the end of the work day, or 200 feet, whichever is less. No trench will be left open overnight.

5.2 Construction Activity with Potential Pollutants and Sources

The following lists the construction activities or materials that have the potential to contribute pollutants, including sediment, to storm water runoff.

Construction Activity and/or Material	Potential Pollutant
<ul style="list-style-type: none">• Land clearing	<ul style="list-style-type: none">• Sediment – Total Suspended Solids (TSS), turbidity, oil and grease, Total Petroleum Hydrocarbons (TPH)

<ul style="list-style-type: none"> • Excavation 	<ul style="list-style-type: none"> • Sediment – TSS, turbidity, oil and grease, TPH
<ul style="list-style-type: none"> • Filling 	<ul style="list-style-type: none"> • Sediment – TSS, turbidity, oil and grease, TPH
<ul style="list-style-type: none"> • Paving 	<ul style="list-style-type: none"> • Sediment – TSS, turbidity, oil and grease, TPH, pH
<ul style="list-style-type: none"> • Install foundations, retaining walls, etc 	<ul style="list-style-type: none"> • Sediment – TSS, turbidity, oil and grease, TPH, pH
<ul style="list-style-type: none"> • Grading 	<ul style="list-style-type: none"> • Sediment – TSS, turbidity, oil and grease, TPH
<ul style="list-style-type: none"> • Utilities 	<ul style="list-style-type: none"> • Sediment – TSS, turbidity, oil and grease, TPH
<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> •

5.3 Major Activities Schedule

The following schedule sheet is an intended schedule or sequence of major activities that will disturb the soil for major portions of the site. Details are provided as an attachment in Appendix C.

Schedule Sheet for Soil Disturbing Activities

Estimate Construction Start Date: September 2024

Estimate Construction End Date: May 2025

Activity	Estimated Time	Actual Time
Install BMPs		
Land clearing		
Grading		
Excavation		
Filling		
Utilities		
Install foundations, retaining walls, etc		
Paving		
Revegetation		
BMP Removal		

5.4 Property Acreage

The total area of the property is N/A acres. The total anticipated area of soils to be disturbed is 2.17 acres.

5.5 Construction Activity Acreage

The total number of acres of construction activities, material storage areas, stockpiles, and borrows areas are listed below:

Activity or Material	Acres
Construction Activities (resulting in land disturbance)	2.17
Off-site Material Storage Areas	
Overburden and Stockpiles of Dirt	
Borrow Areas	

5.6 Soil Data

Soil data for each lot is listed on a "Soil Data Sheet". This information includes pre-construction and post-construction runoff coefficient as well as a description of the soil type.

Soil Data Sheet

Pre-construction runoff coefficient: .25

Post-construction runoff coefficient: .25

Runoff Coefficient:

High: 70-100% impervious (example: asphalt, buildings, paved surfaces)
Medium: 40-70% impervious (example: packed soils)
Low: 0-40% impervious (example: grassy areas)

Description of soil: soil name(s), soil mapping unit, erodability, settleability, depth, texture and soil structure: _____

5.7 General Location Map and Site Map

The general location map found in Appendix A shows the location of the site. A detailed site map is also attached.

5.8 Erosion and Sediment Control Site Map

Site maps shall contain a North arrow with sites oriented to the North, with a minimum of five-foot topographical contours. The maps shall include:

- Nearest receiving streams, springs, surface waters to the site;
- Limits of all areas to be disturbed (LOD);
- Existing roads including public roads from which access to the site will be constructed;
- Access roads;
- Drainage patterns during and after construction with the outlet markers depicting the storm water discharge points; **No change to drainage patterns.**
- Slopes prior to constructions and anticipated conditions after grading activities; **No change in slopes**
- Location of topsoil stockpiles; **No stockpile anticipated – put back as backfill during construction**
- Waste areas of 1 acre or greater within or contiguous to the construction site; **No waste areas anticipated**
- Borrow sites of 1 acre or greater within or contiguous to the construction site; **No borrow sites anticipated**
- Locations and identification of sediment control structures;
- Total acreage and location of impervious areas after construction is complete;
- Location of rain gauge provided by the applicant
 - Or a statement the applicant will obtain the precipitation event information from a National Oceanic Atmospheric Administration (NOAA) weather station that is representative of the location and provide the Station ID Number. **Petersburg, Grant County Airport (KW99)**
- Post-development storm water management structures required by local governments
- Final storm water conveyances, including all ditches and pipe systems;
- Property boundaries and easements; and
- A legend, complete with any other information necessary to describe the project in detail.

5.9 Industrial Discharges

This project does/does not (circle one) involve discharges associated with industrial activities other than commercial construction activities.

For construction occurring on an industrial site, reference existing multi-sector SWPPP, if applicable.

There are/are not (circle one) dedicated concrete or asphalt plants associated with this project.

There will be no discharge of process wastewater from concrete or asphalt plants. Water from equipment and vehicle washing, wheel washing, concrete and bituminous washout, and washout from paints, oils, and other construction materials is production waste water and cannot be disposed of on site or discharged without an individual NPDES permit. It must be contained and removed for processing and proper disposal.

5.10 Receiving Waters

The first named water body that receives stormwater discharges from the site is Dry Run, Thorn Run, UT thorn Run, Rocky Run (2). (See Appendix A: General Site Location Map)

The Designated Uses for this water body are:

5.11 WVDEP Construction General Permit, WV0115924

A copy of the WVDEP Construction General Permit, WV0115924 is included in Appendix B.

5.12 Threatened and/or Endangered Species

To be eligible for coverage under the construction stormwater permit, facilities must provide documentation on whether a listed endangered or threatened species, or critical habitat, are found with the proximity of the project. The facility used The Endangered Species Guidance provided in the Notice of Intent to help determine the status of the site. The species that must be considered in the Parish where this site is located are:

A visual inspection of the area indicated (Check One):

- ~~No endangered or threatened species and/or critical habitat located within the proximity of the facility.~~
- The following species and/or critical habitat and findings were noted:

See attached US Fish & Wildlife Comment Letter in Appendix A

NOTE: Include documentation regarding authorization under the Endangered Species Act (ESA), comprehensive site assessments, and/or BMP's that are protective of listed endangered and threatened species and/or critical habitat, where applicable.

5.13 Historical Determination

The adverse effects on historic properties must be considered before a facility can be covered by the construction general permit. The National Register of Historic Places web site was reviewed and revealed the following (Check One):

- ~~None of the listed sites are located in the vicinity of the facility, or listed sites will not be affected by the facility.~~
- The following sites are located in the vicinity of the facility (West Virginia State Historic Preservation written agreement included in Appendix A.)

See attached SHPO Comment Letter in Appendix A

NOTE: Include written agreement with the West Virginia State Historic Preservation Officer (SHPO) that outlines all measures to be undertaken to mitigate or prevent adverse effects to the historic property, where applicable.

5.14 Total Maximum Daily Loading (TMDL)

The WVDEP (Check One)

- Currently, there is no TMDL established for the receiving stream that would regulate potential pollutants from the construction site.
- ~~The enhanced BMP's chosen for this site and discussed in this SWPPP are expected to ensure that storm water discharges are protective of water quality standards.~~

6.0 EROSION AND SEDIMENT CONTROLS

This section includes descriptions of control measures that will be implemented to control pollutants in the storm water discharges. The control measures shall, at a minimum, be designed to effectively minimize

the discharge of pollutants by design, installation, and maintenance, in order to meet effluent limitations required by 40 CFR 450.21. These limitations were incorporated into the reissued WV0115924, effective February 10, 2019.

6.1 Short and Long-Term Goals/Criteria

- Retain sediment on-site to the extent practicable with consideration for local topography, soil type, and rainfall.
- Select, install, and maintain control measures according to the manufacturer or designer's specifications.
- Remove sediment accumulations if sediment escapes the site at a frequency to minimize further negative effects and, whenever feasible, prior to the next storm event.
- Remove sediment from sediment traps and sedimentation ponds no later than the time that the wet storage design capacity has been reduced by 50%.
- Remove sediment from silt fences, silt socks, and straw wattles before reaching 50% of BMP height (above ground).
- Address off-site material storage areas in erosion and sediment control efforts (overburden and dirt stockpiles, borrow areas).

6.2 Best Practicable Technology (BPT)

The chosen controls shall include designs that are effective at minimizing pollutants, and should be installed and maintained to:

- Control storm water volume and velocity in ways that minimize soil erosion.
- Control storm water runoff during peak flow and total storm runoff volume to minimize channel and stream bank erosion and scour around discharge points.
- Minimize exposed soils generated during construction.
- Preserve topsoil where feasible.
- Minimize disturbance of steep slopes on site.
- Minimize sediment discharge with erosion and sediment controls that are designed and installed to address:
 - Duration, amount, frequency and intensity of precipitation,
 - Nature of resulting runoff,
 - Soil characteristics: range of particle sizes present.
- Use natural buffers around waters of the state and direct runoff to these areas, where feasible.
 - Discharges to Outstanding Natural Resource Waters and impaired streams must have a 100-foot buffer zone,

- Explain alternative practices where site constraints limit buffer zones.
- Minimize soil compaction unless dictated by site development
- Utilize outlet structures that withdraw water from the surface of settling basins or impoundments.

6.3 Site-Specific Erosion and Sediment Controls

The erosion and sediment control methods used are listed in the “Erosion and Sediment Control Plan”. The plan for each lot, where applicable, is found in the “Individual Lot Information” section of the appendix. The sediment controls should address all of the requirements in Sections 6.1 and 6.2 of this SWPPP.

7.0 STABILIZATION PRACTICES

The site stabilization practices described in this SWPPP include temporary and permanent stabilization measures that ensure that disturbed portions of the site are stabilized, and that existing vegetation is preserved when possible. Final stabilization measures may include but are not limited to permanent protection such as pavement, compacted gravel, permeable pavements/pavers, buildings, stable waterways (riprap, concrete, grass or pipe), a healthy, vigorous stand of grass or natural vegetation that uniformly covers at least 70 percent of the ground, stable outlet channels with velocity dissipation that directs site runoff to a natural watercourse, and any other approved structure or material.

7.1 Deadline to Initiate Stabilization Measures

The types of activities that constitute the initiation of stabilization include, but are not limited to:

- Prepping soil for vegetative or non-vegetative stabilization
- Applying mulch or other non-vegetative product
- Seeding or planting
- Starting stabilization practices on a portion of the area to be stabilized
- Finalizing arrangements to have stabilization product fully installed.

Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 4 days after the construction activity in that portion of the site has permanently ceased or 4 days for sites required to use enhanced BMP's.

- Where the initiation of stabilization measures by the 4th day, as applicable after construction activity temporarily or permanently ceases is precluded by natural causes, stabilization measures shall be initiated as soon as conditions allow.
- Where construction activity will resume on a portion of the site within 14 days from when activities ceased, (i.e., the total time period that construction activity is temporarily halted is less than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.
- Areas where the seed has failed to germinate adequately (uniform perennial vegetative cover with a density of 70%) within 30 days after seeding and mulching must be reseeded immediately, or as soon as weather conditions allow.

7.2 Deadline to Complete Installation of Stabilization Measures

As soon as practicable, but no later than 4 days after initiation of soil stabilization measures, the site will have completed:

- Vegetative Stabilization – initial seeding or planting, and/or
- Non-Vegetative – installation or application of stabilization measures.

With extenuating circumstances like frozen conditions, stabilization measures will be completed as soon as practicable. Routine inspections will be continued until final stabilization requirements are met.

7.3 Other Deadlines

Where the site is affected by circumstances beyond the control of the Stormwater Permittee, and vegetative stabilization measures are proposed, the following deadlines apply:

- Immediately initiate, and within 4 days complete installation of temporary non-vegetative measures to prevent erosion.
- As soon as conditions allow, the activities required to plant and initially establish vegetation will proceed.

The circumstances that led to the inability to complete the deadlines outlined in sections 7.1 and 7.2 of this SWPPP will be documented, with the outline of a schedule for initiating and completing stabilization.

7.4 Stabilization Records

The stabilization practices implemented will be recorded on the "Stabilization Practice Schedule" found in the appendix. If construction activities temporarily or permanently cease, then it will be noted in the Stabilization Practice Schedule.

8.0 STRUCTURAL CONTROLS

8.1 Structural Control Requirements

Sediment traps and sediment basins may be used to control solids in storm water runoff for drainage locations serving less than ten (10) acres. Sediment basins must utilize outlet structures that release water from the surface, unless infeasible.

At a minimum, super silt fence, belted reinforced silt fence, standard silt fences, 18" silt socks, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction.

8.2 Site Structural Controls

The structural controls used on each lot are listed on the Structural Controls Sheet included in the Site Information Section of the appendix. These controls are used to divert flows away from exposed soils, to limit the contact of runoff with disturbed areas, or to lessen the off-site transport of eroded soils.

Structural Control Sheet

Address: _____

Structural Control Selected	Rational

9.0 STORM WATER MANAGEMENT

If any permanent storm water controls (e.g. detention ponds, catch basin filter inserts, etc.) or velocity dissipation devices are installed during the construction process to control pollutants in storm water discharges and will remain in place after the completion of construction operations will be noted on the Structural Control Sheet found in the Site Information section of the appendix.

10.0 OTHER CONTROLS

10.1 Other Control Requirements

To minimize off-site tracking of sediments and generation of dust, typical controls may include stabilized construction entrances, shoveling and sweeping, watering for dust control, etc.

All construction and waste materials that pose a potential pollutant source to the storm water runoff from the construction site will be stored in such a manner so as to prevent or minimize storm water contact.

To demonstrate that all applicable state and local regulations governing waste disposal, sanitary sewer or septic systems are being obeyed, the following practices are in place:

- The site will have the typical waste lumber, insulation, sheetrock, roofing, used paint supplies, etc. commonly found on a construction site. Either a roll off dumpster or wire fence containment will be provided for storing trash and rubbish until it can be properly disposed of. The dumpster or fence containment will be covered when not in use to prevent storm water from coming into contact with the trash and rubbish.
- Any concrete or asphalt plants associated with the project will be permitted and operated under their appropriate stormwater pollution prevention control plans.
- Any controls required for endangered or threatened species or their habitat, and/or those required by the State Historic Preservation Officer (SHPO) will be installed properly and maintained accordingly.

10.2 Other Controls at the Site:

If any other controls will be used, it will be described on the Other Control Sheet found in the Site Information in the appendix. For complex sites with more comprehensive controls, details are included in Appendix C.

Other Controls Sheet

Controls	Rationale
Dust -	Water as needed
Off-site Tracking -	Shoveling or sweeping as needed
Sewage -	Port-a-toilets for workers; POTW for residence
Construction Litter and Trash -	Covered dumpster to minimize waste materials contact with storm water

11.0 APPROVED LOCAL PLAN

The local requirements for an Erosion and Sediment Control Plan may or may not be met by the information contained in this SWPPP. Additional information may be requested to fully comply with these local requirements.

12.0 MAINTENANCE

All erosion and sediment control measures and other protective measures identified in this SWPPP must be maintained in effective operating condition. If through inspections the permittee determines that BMPs are not operating effectively, maintenance must be performed within 24 hours for active construction sites and before the next anticipated storm event to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or

corrected immediately upon discovery.

13.0 INSPECTIONS OF CONTROLS

The permittee shall ensure site inspections are conducted by a Qualified Person in accordance with this section. The purpose of the inspections is to ensure compliance with the approved plan, and when the approved plan is not effective at protecting water quality, the inspection is to document that plan improvements are needed.

The person(s) inspecting the site may be a staff person or a third party hired to conduct such inspections as long as they meet the definition of a Qualified Person.

The site must be inspected as listed below, unless the site discharges to sensitive waters or the site qualifies for a reduction in the inspection frequency.

- At least once every four (4) calendar days and
- Within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.

An increase in inspection frequency is required for sites discharging to all waters except Tier 1.

For any portion of the site that discharges to a water that is classified as Tier 2 or Tier 3, or listed on the 303(d) list, inspections must be conducted in accordance with the following inspection frequencies:

- Once every four (4) calendar days, and
- Within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.

Reductions in inspection frequency may occur in accordance with the following:

Stabilized areas:

The permittee may reduce the frequency of inspections to twice per month, no more than 14 calendar days apart, in any area of the site where final stabilization has been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required previous to the reduced frequency. The beginning and ending dates of this period must be recorded in the inspection report.

Exceptions:

For “linear projects”, where disturbed portions have undergone final stabilization at the same time active construction continues elsewhere, the permittee may reduce the frequency of inspections to twice per month no more than 14 calendar days apart, in any area of the site where the final stabilization has been completed. Inspect once more within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater. If there are no issues or evidence of stabilization problems, further inspections may be suspended. If “wash-out” of stabilization materials and/or sediment is observed, following re-stabilization, the reduced inspection frequency is suspended. Inspections must continue until final stabilization is visually confirmed following a precipitation event of 0.25 inches or greater.

Frozen conditions:

If the permittee suspends construction activities due to frozen conditions, inspections on the site may be temporarily suspended until thawing conditions begin to occur if:

- Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, the permittee must immediately resume the regular inspection frequency as applicable;
- Land disturbances have been suspended and all disturbed areas of the site have been stabilized.
-

If still conducting construction activities during frozen conditions, the permittee may reduce the inspection frequency to once per month if:

- Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, the permittee must immediately resume the regular inspection frequency; and
- Except for areas undergoing construction activities, disturbed areas of the site have been stabilized, the beginning and ending dates of this period must be documented in the inspection report.

14.0 CONTRACTORS AND SUBCONTRACTORS RESPONSIBILITY

Each control measure implemented on site is identified along with the person responsible for implementing that measure in the Erosion and Sediment Control Plan found in the “Site Information” section of the appendix.

A list of contractors and subcontractors and the control measures their operations impact is listed in the "Site Information" section of the appendix. If the contractor is unknown at this time, this requirement may be waived.

All contractors and subcontractors working at the site are informed of the terms and conditions of the SWPPP and their obligation to follow the plan. In doing so, they agree not to perform their operations counter to the plan without first contacting the Permittee in order that the necessary adjustments to the SWPPP plan can be made to assure that pollutants are not discharged from the site in the storm water runoff.

15.0 UTILITY COMPANIES

Each control measure relating to the installation of utility service, is listed in the "Erosion and Sediment Control Plan" found in the "Site Information" section in the appendix.

16.0 EMERGENCY NOTIFICATION

In the event of an unauthorized discharge that causes an emergency condition, the operator shall notify the hotline (WVDEP 24-hour Elkview Emergency Response Unit) by telephone at 1-(304) 558-5938 or 1-(800) 642-3074 and the National Response Center at 1-(800)-424-8802 no later than one hour after learning of the discharge. Notification will be made regardless of the amount of the discharge. A written notification shall be provided within five (5) calendar days after the telephone notification, in accordance with the general permit requirements. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

17. EMPLOYEE TRAINING

Describe an employee training program for all on-site personnel directly involved with construction activities at all levels of responsibility that reiterates the components and goal of the SWPPP.

- Training should address topics such as spill and leak response and internal reporting, good housekeeping, and routine inspection and maintenance.
- Training shall be on a quarterly basis while construction activities are occurring.
- A list of attendees and topics covered at each training session shall be documented and maintained in the SWPPP.

APPENDIX A

General Location Map

and

Site Map



United States Department of the Interior



FISH AND WILDLIFE SERVICE
West Virginia Ecological Services Field Office
90 Vance Drive
Elkins, WV 26241-9475
Phone: (304) 636-6586 Fax: (304) 636-7824
<http://www.fws.gov/westvirginiafieldoffice/>

In Reply Refer To:

November 10, 2021

Consultation code: 05E2WV00-2022-TA-0235

Event Code: 05E2WV00-2022-E-00607

Project Name: Pendleton County PSD - Sandy Ridge Water Extension

Subject: Verification letter for the 'Pendleton County PSD - Sandy Ridge Water Extension' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear William Wallace:

The U.S. Fish and Wildlife Service (Service) received on November 10, 2021 your effects determination for the 'Pendleton County PSD - Sandy Ridge Water Extension' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"^[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Indiana Bat *Myotis sodalis* Endangered
- Monarch Butterfly *Danaus plexippus* Candidate
- Northeastern Bulrush *Scirpus ancistrochaetus* Endangered
- Virginia Big-eared Bat *Corynorhinus (=Plecotus) townsendii virginianus* Endangered

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

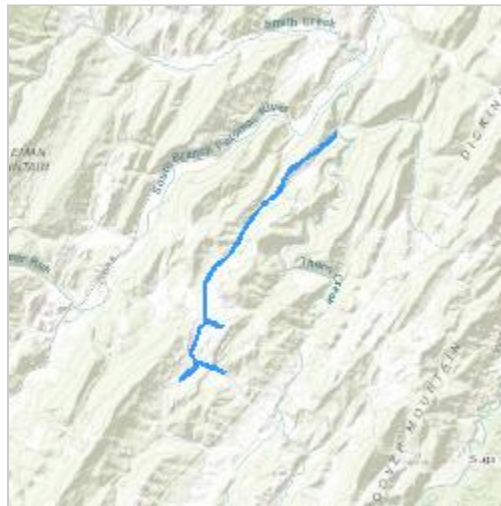
Pendleton County PSD - Sandy Ridge Water Extension

2. Description

The following description was provided for the project 'Pendleton County PSD - Sandy Ridge Water Extension':

Extending waterlines along Sandy Ridge to Moatstown. This project would include a booster station, an inline booster station, and a water storage tank

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.56632385,-79.38898918741583,14z>



Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require

ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

No

3. Will your activity purposefully **Take** northern long-eared bats?

No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

Automatically answered

No

5. [Semantic] Is the project action area located within 0.25 miles of a known northern long-eared bat hibernaculum?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

Automatically answered

No

6. [Semantic] Is the project action area located within 150 feet of a known occupied northern long-eared bat maternity roost tree?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency

Automatically answered

No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0



United States Department of the Interior



FISH AND WILDLIFE SERVICE
West Virginia Ecological Services Field Office
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<http://www.fws.gov/westvirginiafieldoffice/>

In Reply Refer To:

November 10, 2021

Consultation Code: 05E2WV00-2022-SLI-0235

Event Code: 05E2WV00-2022-E-00606

Project Name: Pendleton County PSD - Sandy Ridge Water Extension

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement.

If the official species list you receive identifies any listed, proposed, or candidate species as potentially occurring in the proposed project area, then further section 7 consultation under the ESA is required with the Fish and Wildlife Service. Please submit a project review request to the West Virginia Field Office. To find out what information needs to be submitted with your project review request go to this link: <http://www.fws.gov/westvirginiafieldoffice/projectreview.html>

Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you should submit to our office.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and

implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). For information on bald and golden eagles in your project area please contact the West Virginia Division of Natural Resources, Natural Heritage Program at P.O. Box 67 Elkins, WV 26241, or call 304-637-0245.

Additionally, wind energy projects should follow the Service's wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>; and [http://www.fws.gov/westvirginiafieldoffice/PDF/Communication%20Tower%20Letter%20\(1\).pdf](http://www.fws.gov/westvirginiafieldoffice/PDF/Communication%20Tower%20Letter%20(1).pdf)

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

West Virginia Ecological Services Field Office

90 Vance Drive

Elkins, WV 26241-9475

(304) 636-6586

Project Summary

Consultation Code: 05E2WV00-2022-SLI-0235

Event Code: Some(05E2WV00-2022-E-00606)

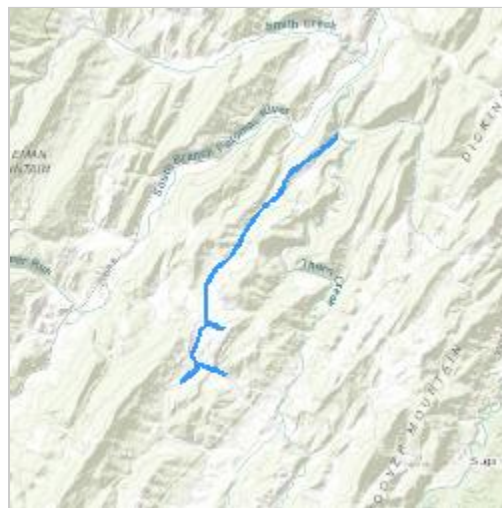
Project Name: Pendleton County PSD - Sandy Ridge Water Extension

Project Type: WATER SUPPLY / DELIVERY

Project Description: Extending waterlines along Sandy Ridge to Moatstown. This project would include a booster station, an inline booster station, and a water storage tank

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.56632385,-79.38898918741583,14z>



Counties: Pendleton County, West Virginia

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
<p>Indiana Bat <i>Myotis sodalis</i></p> <p>There is final critical habitat for this species. Your location overlaps the critical habitat. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ All activities in this location should consider potential effects to this species. This project is within known swarming, roosting, and foraging zones (10 miles) around a priority 1 or 2 winter hibernaculum. Please contact the WVFO. ▪ All activities in this location should consider potential effects to this species. This project is within known swarming, roosting, and foraging zones (5 miles) of a priority 3 or 4 winter hibernaculum. Please contact the WVFO. <p>Species profile: https://ecos.fws.gov/ecp/species/5949</p>	Endangered
<p>Northern Long-eared Bat <i>Myotis septentrionalis</i></p> <p>No critical habitat has been designated for this species. This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> ▪ No known hibernacula or maternity roost trees occur within the action area. Any 'take' that may occur incidental to this project is not prohibited under the final 4(d) rule. Please submit a Streamlined 4(d) Rule Consultation form to the WVFO. ▪ All activities in this location should consider potential effects to this species. A known hibernaculum occurs within a portion of the action area. Please contact the WVFO for additional consultation. <p>Species profile: https://ecos.fws.gov/ecp/species/9045</p>	Threatened
<p>Virginia Big-eared Bat <i>Corynorhinus (=Plecotus) townsendii virginianus</i></p> <p>There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8369</p>	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Northeastern Bulrush <i>Scirpus ancistrochaetus</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6715	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> https://ecos.fws.gov/ecp/species/5949#crithab	Final

Pendleton County PSD - Sandy Ridge Water Extension

Species Survey Guidelines (1 Species)

Generated November 12, 2021 07:04 AM MST, IPaC v5.66.1

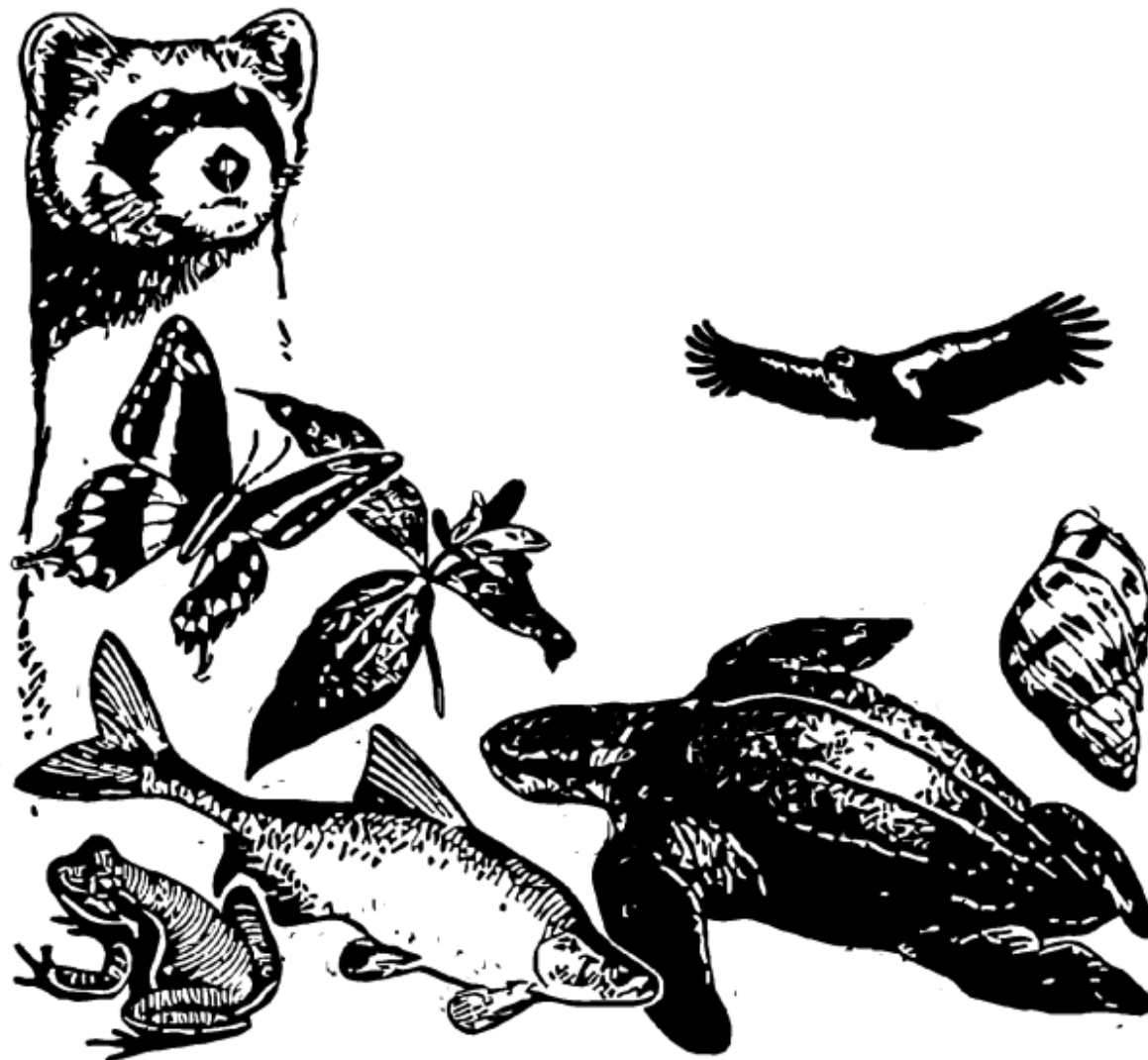


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Northeastern Bulrush - West Virginia Ecological Services Field Office	2

Species Document Availability

Species with survey guidelines

Northeastern Bulrush *Scirpus ancistrochaetus*

Species without survey guidelines available

Indiana Bat *Myotis sodalis*

Monarch Butterfly *Danaus plexippus*

Northern Long-eared Bat *Myotis septentrionalis*

Virginia Big-eared Bat *Corynorhinus (=Plecotus) townsendii virginianus*

Species Survey Guidelines - Indiana Bat and 4 more species

Published by West Virginia Ecological Services Field Office - Publication Date: May 21, 2019 for the following species included in your project

Indiana Bat *Myotis sodalis*

Monarch Butterfly *Danaus plexippus*

Northeastern Bulrush *Scirpus ancistrochaetus*

Virginia Big-eared Bat *Corynorhinus (=Plecotus) townsendii virginianus*

Northern Long-eared Bat *Myotis septentrionalis*

Procedures for Conducting Surveys for Federally Threatened or Endangered Plants in West Virginia

To assist in the review process for proposed actions that may affect federally listed threatened and endangered plants, the U.S. Fish and Wildlife Service (Service), West Virginia Field Office (WVFO) and the West Virginia Division of Natural Resources (WVDNR) have developed the following recommendations for conducting surveys for federally listed threatened and endangered plants, and for reporting of results.

Field botanists or biologists experienced in conducting surveys for rare or federally listed plant species, and who have had training or experience in locating and identifying the specific federally listed species that may be present within a project area, should conduct surveys. A qualified surveyor should be present in the field at all times during the investigation. The WVFO and WVDNR maintain a list of qualified surveyors. Surveyors not on this list may be qualified, but should provide a resume and supporting information sufficient to document their qualifications to the WVFO and WVDNR prior to conducting the survey. The required documentation and process for this is described in [How to Apply to Be Added to the List of Qualified Surveyors of Federally Listed Threatened and Endangered Plant Species in West Virginia](#).

The qualified surveyor should coordinate with the WVDNR and WVFO to discuss survey plans prior to conducting the survey. Surveys should cover the entire area affected by the proposed project including areas outside the immediate area of direct impact that may be affected by project activities (changes in water levels, shading, or moisture; increased erosion or sedimentation, etc.).

Survey Periods

The acceptable survey periods for identifying threatened and endangered plants that occur in West Virginia are listed below. Surveys conducted during these periods by qualified surveyors should produce reliable results acceptable for environmental review. Surveys conducted outside of these periods are not sufficient to confirm that these species are absent within suitable habitat.

Negative surveys will be considered valid for two full survey periods from the year of the survey. For example, a survey conducted on July 31, 2012, would be valid through September 30, 2014. If work was to be conducted in a surveyed area after that date, additional surveys may be required.

Scientific Name	Common Name	Status	Survey Period
<i>Arabis serotina</i>	Shale barren rock cress	Endangered	August 1 – September 30
<i>Isotria medeoloides</i>	Small whorled pogonia	Threatened	May 1 – September 30
<i>Ptilimnium nodosum</i>	Harperella	Endangered	July 1 – September 30*
<i>Scirpus ancistrocheatus</i>	Northeastern bulrush	Endangered	August 1 – September 30
<i>Spiraea virginiana</i>	Virginia spiraea	Threatened	June 1 – September 30
<i>Trifolium stoloniferum</i>	Running buffalo clover	Endangered	May 1 – September 30

* Surveys should be conducted during periods of low water.

Procedures for Reporting Results and Potential Detections of Federally Listed Species

If a threatened and endangered plant is found during a survey, the surveyor should do the following:

1. Demarcate and delineate each location with GPS coordinates. This means to 1) mark the population centroid with a point, and 2) to delineate the boundaries of each sub-population with a polygon.
2. Photo-document the species. This should include pictures sufficient to confirm the identification, and give context of habitat. The photo-documentation needed will vary from species to species, so surveyors should refer to keys in standard floristic manuals (such as *Flora of West Virginia* by P. D. Strausbaugh and Earl L. Core, *Flora of the Southern and Mid-Atlantic States* by Alan S. Weakley <http://www.herbarium.unc.edu/flora.htm>, and *The Flora of Virginia* <https://floraofvirginia.org/>).
3. Describe habitat conditions in writing. A standard simple form for gathering rare plant element field data can be found at the West Virginia Division of Natural Resources website at <http://www.wvdnr.gov/Wildlife/RepRareSpec.shtm>
4. Describe the size of each population (i.e., number of rooted crowns, and aerial extent).
5. Contact the representatives from the WVDNR and WVFO listed below within 48 hours.
6. Coordinate with the project proponent, and State and Federal Wildlife agencies to determine if additional areas need surveyed and to address alternatives and avoidance measures.
7. Submit written reports of results, providing a description of the proposed project, GIS shape files, and printed maps of populations. Reports should also include the date that surveys were conducted, who conducted the surveys, and information regarding items 1-4 above.

Even if no listed species are found, still send a report of negative results to the biologists from the WVDNR and USFWS that are coordinating the environmental review of the project.

1. The report of negative results should include the name of the surveyor who conducted the work, a description of the proposed project, plus the dates the work was conducted. It should also include the methods used to conduct the survey, a delineation and map of the areas covered with GIS shape files, a description of the habitats present on the site, and the species encountered during the survey.
2. Provide photo documentation of each habitat-type within the survey area, and photo documentation of any species in the same genus as the target listed species that were encountered during the survey.

Digital and written reports should be sent to the contacts at WVDNR and WVFO below, **as well as any biologists from those agencies coordinating the specific project.**

Please contact:

WVDNR
Paul J. Harmon, Rare and Endangered Plant Botanist
Elkins Operation Center
P.O. Box 67
Elkins, WV 26241
(304) 637-0245
paul.j.harmon@wv.gov

USFWS, WVFO
Barbara Douglas
Senior Endangered Species Biologist
90 Vance Drive
(304) 636-6586 x19
Elkins, WV 26241
barbara_douglas@fws.gov



West Virginia Department of
**ARTS, CULTURE
AND HISTORY**

April 2, 2021

Mr. William J. Wallace
Project Manager
Cerrone Associates, Inc.
97 14th Street
Wheeling, WV 26003
Via email: wwallace@cerrone1.com

RE: Pendleton County PSD – Sandy Ridge Water Extension
Cerrone Project No. PE40-10W
FR#: 21-433-PD

Dear Mr. Wallace:

We have reviewed the above referenced project to determine potential effects on cultural resources. As required by Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations, 36 CFR 800: “Protection of Historic Properties,” we submit our comments.

According to the submitted information, the Pendleton County Public Service District proposes to undertake a water extension project in the Sandy Ridge area of Pendleton County, West Virginia. The work will involve the installation of 2-inch and 4-inch diameter water lines, two new booster stations, one new 20 MG water storage tank, and other necessary appurtenances. The water tank will measure 11-feet in diameter and 28-feet in height. The booster stations will consist of 10-feet by 12-feet buildings.

Architectural Resources:

We have reviewed the submitted information and determined that no architectural properties eligible for or included in the National Register of Historic Places are located within the proposed project’s direct or indirect Area of Potential Effects (APE). Work is confined to the roadway’s right of way, no structures will be impacted according to the submitted plans. No further consultation is necessary regarding architectural resources; however, we ask that you contact our office if your project should change.

Archaeological Resources:

A search of our records indicates that there are no previously documented archaeological resources located within the proposed project area. Available information suggests that a vast majority of the proposed ground disturbing activities will be confined to previously disturbed areas, including rights-of-way, and/or sloped terrain. Therefore, it is unlikely that significant intact deposits will be encountered during the project’s proposed ground disturbing activities. In our opinion, the proposed water extension project will have no effect on

The Culture Center
1900 Kanawha Blvd., E.
Charleston, WV 25305-0300

Randall Reid-Smith, Curator
Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

April 2, 2021
Mr. Wallace
FR#: 21-433-PD
Page 2

archaeological historic properties. No further consultation is necessary regarding archaeological resources. However, if intact cultural materials are encountered during construction, cease all activity within the area of discovery and contact this office immediately.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Stephen L. Gifford, Structural Historian, or Carolyn M. Kender, Archaeologist, at (304) 558-0240.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/SLG/CMK

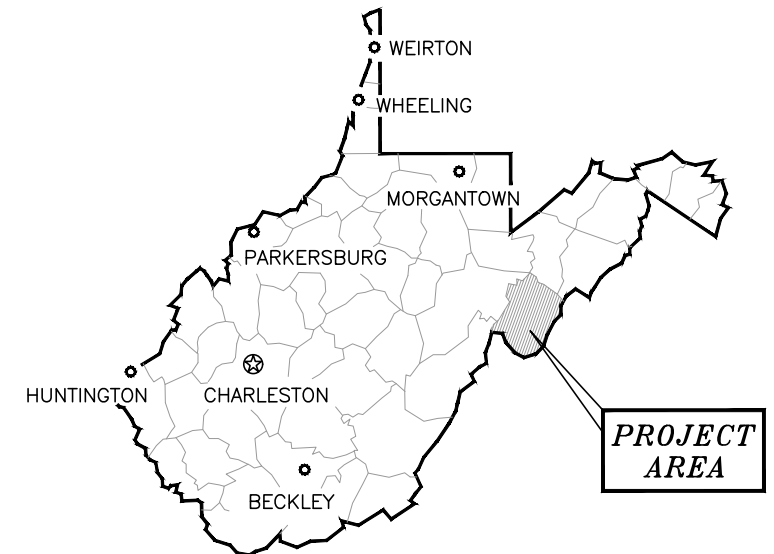
PENDLETON COUNTY PSD

PENDLETON COUNTY, WEST VIRGINIA

SANDY RIDGE WATER EXTENSION

CONTRACT #1: WATERLINES AND BOOSTER STATIONS

CONTRACT #2: WATER STORAGE TANK

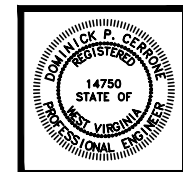


CONSTRUCTION DRAWINGS

UPDATED
10-31-2023



CERRONE ASSOCIATES, INC.
CONSULTING ENGINEERS • WHEELING, WV



APPROVED

DATE: 5/1/22

THIS DRAWING REPRESENTS THE DESIGN AND ENGINEERING EFFORTS
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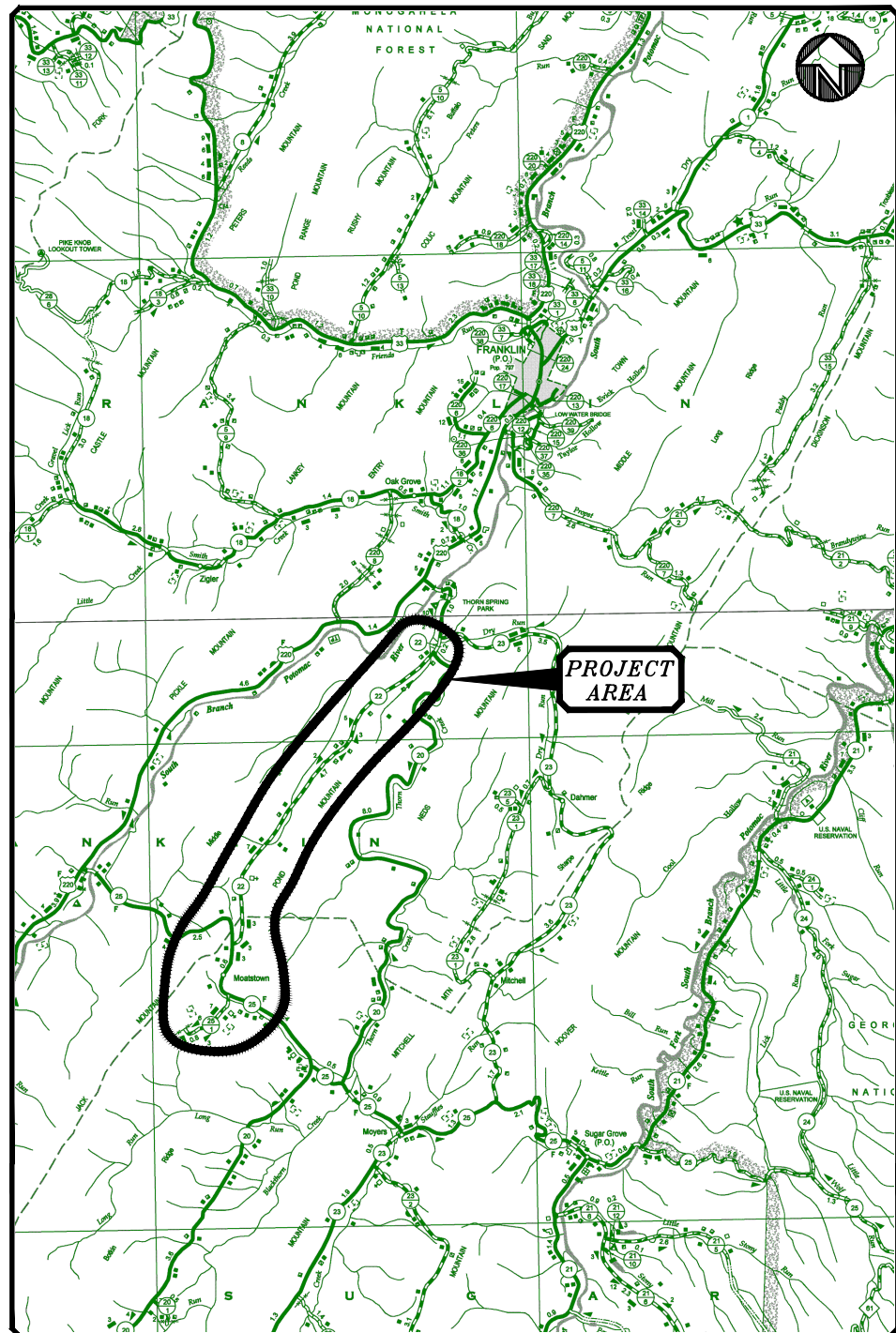
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PENDLETON COUNTY PSD

PENDLETON COUNTY, WEST VIRGINIA

SANDY RIDGE WATER EXTENSION

PROJECT AREA MAP



DRAWING LEGEND

EXISTING LEGEND		NEW LEGEND	
— W —	EXISTING WATER	— W —	WATER
— WV —	WATER VALVE	— S —	SEWER
— FH —	FIRE HYDRANT W/WATCH VALVE	— STM —	STORM DRAIN
— FO —	FLUSH OUT	— G —	GATE VALVE
— SAN —	SANITARY SEWER	— PRV —	PRESSURE REDUCING VALVE (PRV)
— GAS —	GAS	— FO —	FLUSH OUT
— HPG —	HIGH PRESSURE GAS	— AR —	AIR RELEASE (LOCATE AT HIGH POINT)
— OE —	OVERHEAD ELECTRIC	— FH —	FIRE HYDRANT W/WATCH VALVE
— UE —	UNDERGROUND ELECTRIC	— OC —	OPEN CUT W/CASING
— OT —	OVERHEAD TELEPHONE	— RB —	ROAD BORING W/CASING
— UT —	UNDERGROUND TELEPHONE	— SC —	SERVED CUSTOMER
— OC —	OVERHEAD CABLE	— EC —	EXISTING CUSTOMER TO BE RECONNECTED
— UC —	UNDERGROUND CABLE	H	HOUSE
— STEAM —	STEAM LINE	T	TRAILER
— WASTE —	WASTE LINE	B	BARN
		S	SHED
○ BCM	BURIED CABLE MARKER	#	CUSTOMER NUMBER
○	SEPTIC TANK	TR	TANDEM SETTER W/PE SERVICE PIPE
○	UTILITY POLE	TRS	TANDEM SETTER W/HIGH PRESSURE SERVICE PIPE
○	UTILITY POLE W/LIGHT	E-E	EASEMENT DESIGNATION
○	UTILITY POLE W/ANCHOR WIRE	FGL	FIBERGLASS
• MB	MAIL BOX	CMP	CORRUGATED METAL PIPE
• GM	GAS MARKER / GAS METER	RCP	REINFORCED CONCRETE PIPE
• WM	WATER MARKER / WATER METER	CPP	CORRUGATED PLASTIC PIPE
• GV	GAS VENT PIPE	PVC	POLYVINYL CHLORIDE PIPE
• TP	TELEPHONE PEDESTAL	DIP	DUCTILE IRON PIPE
• PP	PROPERTY PIN	CIP	CAST IRON PIPE
• GV	GAS VALVE		
• GP	GATE POST		
• EP	ELECTRIC POST		
* ALL ROAD OFFSETS TAKEN FROM CENTER LINE			
* REPLACEMENTS ORIGINATE AT END OF LEADER			

LIST OF DRAWINGS

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1-C	DRAWING INDEX MAP
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1-03	LINES 3 & 4 - PRIVATE DRIVE/CROSS COUNTRY
1-04	LINES 4A & 5 - SANDY RIDGE ROAD (CR 22)
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1-11	LINES 11 & 12 MOYERS GAP ROAD (CR 25) & CHAPEL LANE
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1-12	LINES 14 & 15 - MOATSTOWN ROAD (CR 25/1)
BS 1-01	THORN CREEK HYDRO-CONSTANT BOOSTER STATION ~ SITE PLAN
BS 1-02	THORN CREEK HYDRO-CONSTANT BOOSTER STATION ~ PLAN
BS 1-03	THORN CREEK HYDRO-CONSTANT BOOSTER STATION ~ ELEVATIONS
BS 1-04	THORN CREEK HYDRO-CONSTANT BOOSTER STATION ~ SECTIONS
BS 1-05	THORN CREEK HYDRO-CONSTANT BOOSTER STATION ~ ELECTRICAL SCHEMATIC
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BS 1-07	SANDY RIDGE BOOSTER STATION ~ PLAN
BS 1-08	SANDY RIDGE BOOSTER STATION ~ ELEVATIONS
BS 1-09	SANDY RIDGE BOOSTER STATION ~ SECTIONS
BS 1-10	SANDY RIDGE BOOSTER STATION ~ SECTIONS
BS 1-11	SANDY RIDGE BOOSTER STATION ~ ELECTRICAL SCHEMATIC
PD1-01	PROJECT DETAILS
SD1-01	STANDARD DETAILS
SD1-02	STANDARD DETAILS
SD1-03	STANDARD DETAILS
SD1-04	STANDARD DETAILS

No.	DATE	DESCRIPTION	BY
1	08-2025	DRAWING CREATED	RLR

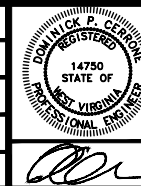
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CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5/1/22



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE	NO SCALE
DRAWING TITLE	TITLE SHEET	PROJECT NO.	PE40-10W
		DRAWING NO.	1-A

GENERAL NOTES

SITE RESTORATION

- CUT OR SCORE CONTINUALLY ALONG A STRAIGHT LINE ALL PAVED AREAS OVER THE LINE OF THE TRENCH WHICH ARE TO BE REMOVED.
- MAINTAIN ALL TEMPORARY SURFACE REPAIRS UNTIL PERMANENT SURFACE RESTORATION IS COMPLETED.
- RESTORE CONTOURS OF DISTURBED AREAS WITH STEEP SLOPES THAT ARE SUBJECT TO EROSION. STABILIZE, RESEED, AND COVER WITH SPECIFIED MATERIAL.
- PROMPTLY RESTORE ALL SURFACES AS SOON AS EXCAVATION AND TESTING WORK IS COMPLETE.

ESTIMATED QUANTITIES

- QUANTITIES INDICATED ON THE BID PROPOSAL ARE ESTIMATES. COMPUTATIONS OF QUANTITIES THAT ARE THE BASIS FOR PAYMENTS WILL BE MADE BY THE ENGINEER BASED ON THE DAILY FIELD RECORDS REPORTING THE ACTUAL UNITS INSTALLED.
- THE ABSENCE FROM THE BID PROPOSAL OF BID ITEMS SPECIFICALLY DESCRIBED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE INTERPRETED AS MEANING THAT THE COST OF SUCH WORK SHALL BE INCLUDED IN THE PRICES BID FOR RELATED ITEMS, PIPE, ETC., FOR WHICH PAY ITEMS AND QUANTITIES HAVE BEEN ESTABLISHED.

TRAFFIC CONTROL

- THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE "WEST VIRGINIA TRAFFIC CONTROL MANUAL" FOR STREET & HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
- STATE ROADWAYS SHALL NOT BE CLOSED DURING THIS PROJECT.
- MAINTAIN ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
- MAINTAIN ACCESS TO PRIVATE PROPERTY WHEN AT ALL POSSIBLE.
- TO ENSURE SAFETY OF TRAVELING PUBLIC KEEP ALL PAVEMENTS FREE OF EXCAVATED MATERIAL AND DITCHES OPEN TO FLOW.

EASEMENTS

- ALL WORK OF THIS PROJECT SHALL BE PERFORMED WITHIN DESIGNATED WORK AREAS.
- CONSTRUCTION AND PERMANENT EASEMENTS HAVE BEEN OBTAINED WHERE WORK OF THE PROJECT IS ON PRIVATE PROPERTY.
- EASEMENT CENTERLINES ARE THE PIPE LOCATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS, OR REVISED PIPE LOCATIONS AS INDICATED BY ENGINEER'S FIELD STAKEOUT.
- UNLESS NOTED OTHERWISE CONSTRUCTION EASEMENT WIDTH IS GENERALLY 30 FEET (15 FEET EITHER SIDE OF THE PIPE). PERMANENT EASEMENT WIDTH IS 15 FEET (7 1/2 FEET EITHER SIDE OF PIPE).
- PROTECT AND PRESERVE IN AN APPROVED MANNER ALL TREES AND SHRUBBERY UNLESS DESIGNATED FOR REMOVAL.
- PROTECT AND PRESERVE ALL MONUMENTS, PROPERTY PINS, STAKES, ETC., OR BEAR THE COST TO RESET LOST OR DESTROYED MARKERS BY A REGISTERED OR LICENSED LAND SURVEYOR.

ENVIRONMENTAL CONCERNS

- RESTRICT EXCAVATION AND GRADING WORK TO PERIODS WITH DRY WORKING CONDITIONS.
- LIMIT AREAS OF EXPOSED SOIL TO IMMEDIATE WORK SITES.
- SWEEP ROADWAYS IN CONSTRUCTION AREA ON A DAILY BASIS.
- PROVIDE TEMPORARY EROSION CONTROL MEASURES AS NECESSARY TO PREVENT OR CONTAIN EROSION AND SEDIMENTATION. PROTECT STOCKPILES OR ERODABLE MATERIALS.
- CONTROL FLOWS FROM DEWATERING ACTIVITIES TO REMOVE SILT PRIOR TO RELEASE.
- PROVIDE SILT BARRIERS IN FRONT OF STORM DRAINS AND ALONG PRIVATE PROPERTY TO PREVENT SILT RUNOFF WHEN EXCAVATIONS HAVE COMMENCED.

EXISTING UTILITIES

- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS THE EXISTENCE OF WHICH WAS NOT KNOWN OR REVEALED TO US WHEN THESE DOCUMENTS WERE PREPARED.
- EXISTING UTILITIES SHALL CONTINUE WITH UNINTERRUPTED SERVICE DURING ENTIRE CONSTRUCTION PERIOD. PROTECT ACTIVE UTILITY SERVICES UNCOVERED BY EXCAVATION.
- UNIDENTIFIED PRIVATE UTILITIES EXIST THROUGHOUT THE PROJECT. CONTACT PROPERTY OWNERS TO LOCATE AND PROVIDE TIME TO MARK BURIED UTILITIES.
- CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO EXISTING UTILITIES DISTURBED BY CONSTRUCTION ACTIVITIES. REPAIRS SHALL BE IN ACCORDANCE WITH UTILITY OWNER'S STANDARDS.
- BEFORE STARTING EXCAVATION, ESTABLISH THE LOCATION AND EXTENT OF UNDERGROUND UTILITIES OCCURRING IN THE WORK AREA. CALL BEFORE YOU DIG UNDERGROUND-- MISS UTILITY OF WEST VIRGINIA 811.
- THE RISK OF LOCATING AND PROTECTING ALL UTILITIES RESTS WITH THE CONTRACTOR AND APPROPRIATE ALLOWANCE SHALL BE MADE WHEN BIDDING THE WORK TO REFLECT THIS FACTOR.
- THE FOLLOWING ARE THE UTILITY OWNERS IN THE PROJECT AREA:

WATER

PENDLETON COUNTY P.S.D. P.O. BOX 861 FRANKLIN, WV 26807-0861 (304) 358-3027	TOWN OF FRANKLIN P.O. BOX 483 FRANKLIN, WV 26807-0861 (304) 358-7525
--	---



MISCELLANEOUS

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD. REPORT DISCREPANCIES TO THE ENGINEER FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE LAW AND THE RULES OF THE WEST VIRGINIA STATE FIRE MARSHAL.
- ALL MATERIALS SHALL BE NEW AND CONFORM WITH THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC. IN EVERY CASE FOR THE PARTICULAR.
- THE WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BOARD OF FIRE UNDERWRITER'S PUBLIC SERVICE COMPANY.
- PROVIDE SUITABLE BLOCKING IN STUD WALLS FOR ALL WALL MOUNTED OBJECTS.
- WATER LINES GO AROUND CULVERTS UNLESS OTHERWISE STATED.
- THE CONSTRUCTION PLANS AND SPECIFICATIONS DEFINE A MINIMUM QUALITY OF MATERIALS AND EQUIPMENT TO BE INCORPORATED INTO THIS PROJECT. GENERALLY, THIS MEANS THAT ALL BRASS GOODS, DUCTILE IRON FITTINGS AND METAL CASTINGS ARE TO BE FROM REPUTABLE MANUFACTURERS AND MADE IN THE USA. THE ENGINEER OR OWNER RESERVES THE RIGHT TO REJECT ANY AND ALL MATERIAL AND EQUIPMENT FROM FOREIGN MANUFACTURERS DEEMED TO BE OF INFERIOR QUALITY.

WVDOHROWORK

- ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE WVDOH UTILITY ACCOMMODATION MANUAL.
- ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE AT THE END OF EACH WEEK.
- CONTRACTOR TO COORDINATE PLACEMENT LOCATION OF ALL VALVES, FIRE HYDRANTS, MANHOLES, FACILITY APPURTENANCES, ETC., WITH ON SITE ENGINEER / OWNER AND WVDOH REPRESENTATIVES.

PIPE PRESSURE TESTING

PIPE CLASS	TEST PRESSURE	
DUCTILE IRON	1.5 TIMES THE WORKING PRESSURE (150psi MIN)	
CLASS 200 (DR 14)	325PSI	
CLASS 150 (DR 18)	250PSI	
CLASS 315 (SDR13.5)	315PSI	
CLASS 250 (SDR 17)	250PSI	
CLASS 200 (SDR 21)	200PSI	

SIZE	MAXIMUM TESTING LENGTH	MAXIMUM ALLOWABLE LEAKAGE
12"	3,000ft	0.95gph/1000ft
10"	4,000ft	0.79gph/1000ft
8"	6,000ft	0.63gph/1000ft
6"	10,000ft	0.47gph/1000ft
4"	10,000ft	0.32gph/1000ft
3"	10,000ft	0.24gph/1000ft
2"	10,000ft	0.16gph/1000ft

- MAXIMUM LENGTH OF TEST SHALL BE AS LISTED ABOVE
 - ALL BRANCH LINES TO BE TESTED SEPARATELY FROM MAIN LINE
 - PIPES OF DIFFERENT SIZES TO BE TESTED SEPARATELY
 - PIPES OF DIFFERENT CLASSES TO BE TESTED SEPARATELY
 - MINIMUM LENGTH OF TEST SHALL BE BETWEEN VALVES

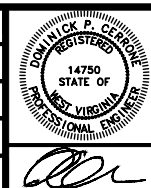
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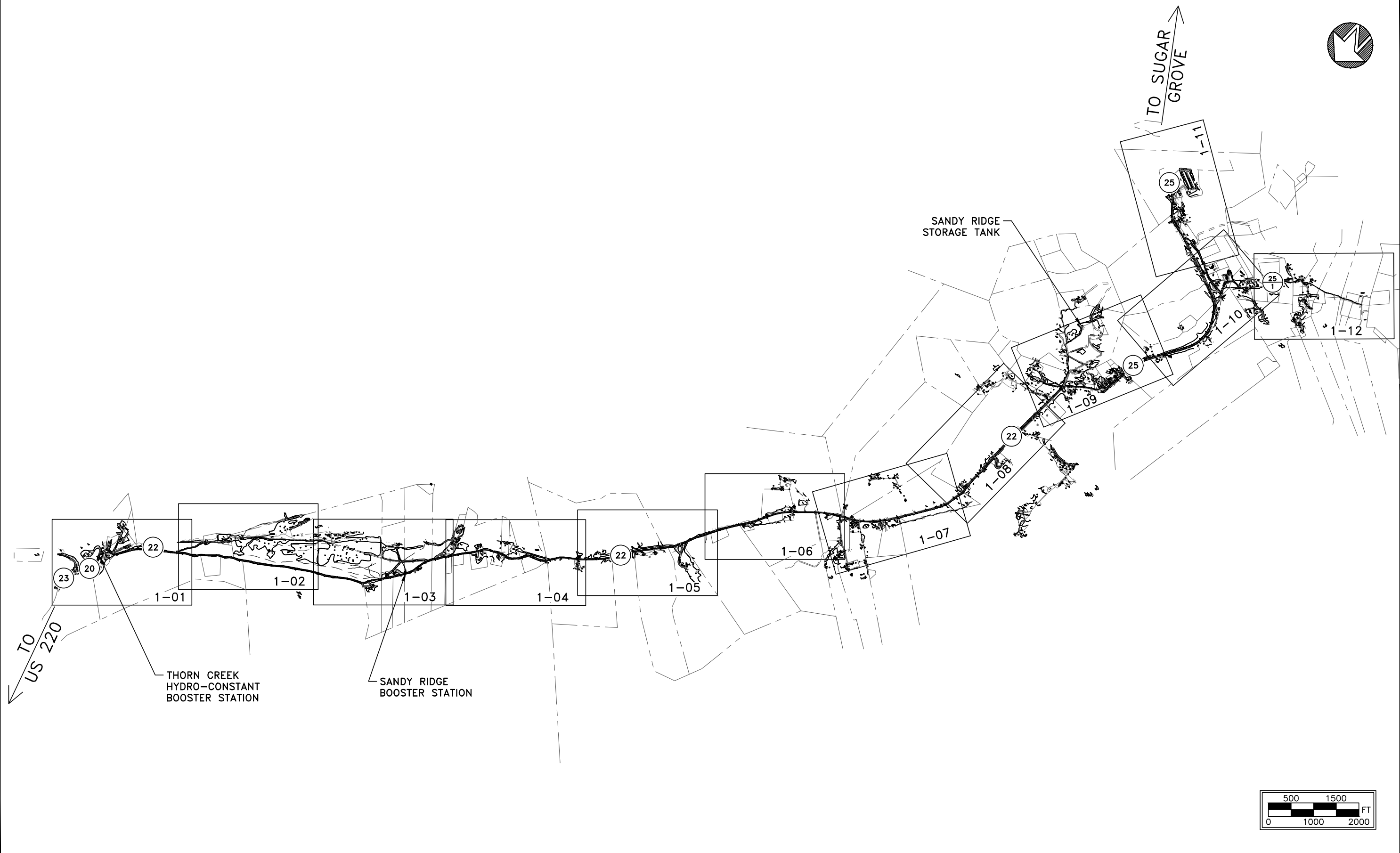
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CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5-1-22



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	GENERAL NOTES

SCALE	NO SCALE
PROJECT NO.	PE40-10W
DRAWING NO.	1-B



No.	DATE	DESCRIPTION	BY
1	04/2023	CREATED	BLP

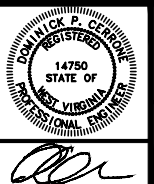
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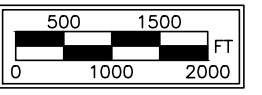
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FIELD LAYOUT
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RECORD CHECKED BY
ISSUE DATE

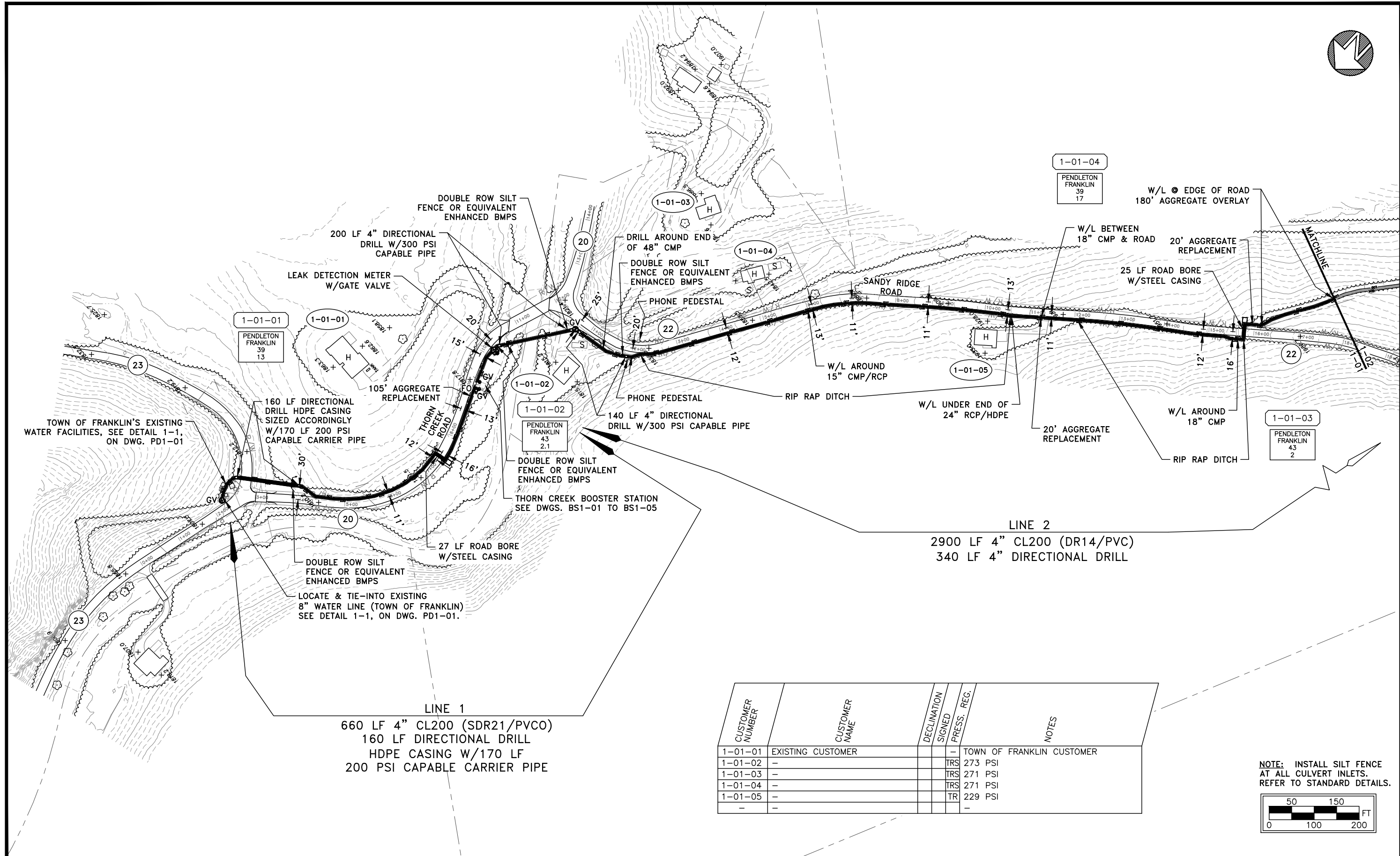


PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	DRAWING INDEX MAP

SCALE	GRAPHIC
PROJECT NO.	PE40-10W
DRAWING NO.	1-C



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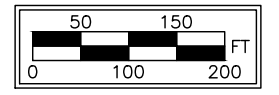


LINE 1
 660 LF 4" CL200 (SDR21/PVCO)
 160 LF DIRECTIONAL DRILL
 HDPE CASING W/170 LF
 200 PSI CAPABLE CARRIER PIPE

LINE 2
 2900 LF 4" CL200 (DR14/PVC)
 340 LF 4" DIRECTIONAL DRILL

CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION	SIGNED	PRESS. REG.	NOTES
1-01-01	EXISTING CUSTOMER			-	TOWN OF FRANKLIN CUSTOMER
1-01-02				TRS	273 PSI
1-01-03				TRS	271 PSI
1-01-04				TRS	271 PSI
1-01-05				TR	229 PSI
-	-			-	-

NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.

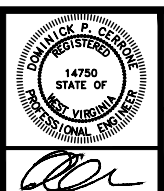


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 CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
 97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
 DRAWN BY: BLP
 CONST CHECKED BY:
 RECORD CHECKED BY:
 ISSUE DATE: 5/2/22



PROJECT TITLE: **PENDLETON COUNTY PSD**
 PENDLETON COUNTY, WEST VIRGINIA
 SANDY RIDGE WATER EXTENSION

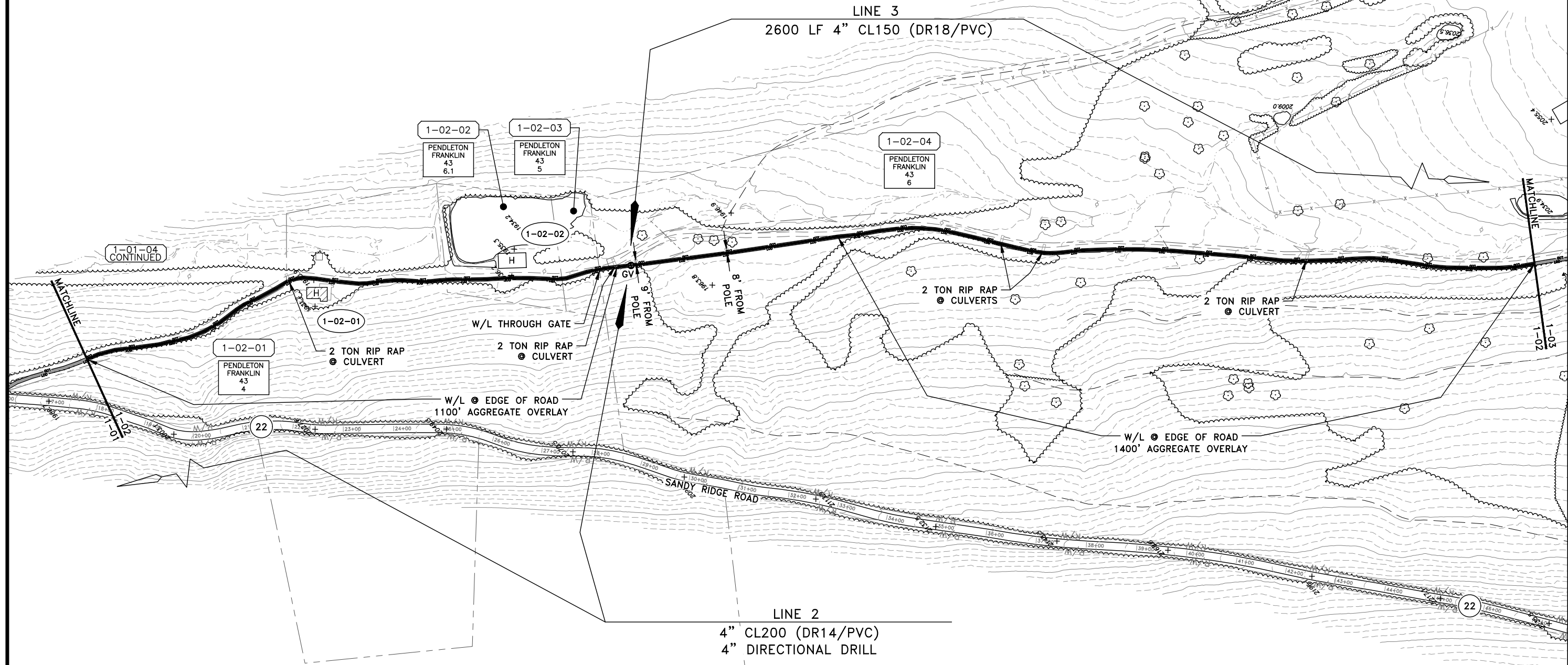
DRAWING TITLE: **LINES 1 & 2 - THORN CREEK ROAD (CR 20) & SANDY RIDGE ROAD (CR 22)**

SCALE: GRAPHIC
 PROJECT NO.: PE40-10W
 DRAWING NO.: **1-01**

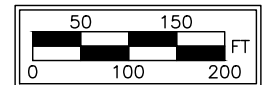
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CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION	SIGNED	PRESS. REG.	NOTES
1-02-01	LAURALEE WARD		●	TR	229 PSI
1-02-02	-		-	TR	223 PSI
-	-		-	-	-



NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.



No.	DATE	DESCRIPTION	BY
1	04/1/2023	DRAWING CREATED	BLP

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97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT

DRAWN BY: BLP

CONST CHECKED BY:

RECORD CHECKED BY:

ISSUE DATE: 9/1/22

PROJECT TITLE: **PENDLETON COUNTY PSD**
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

DRAWING TITLE: **LINES 2 & 3 - PRIVATE DRIVE**

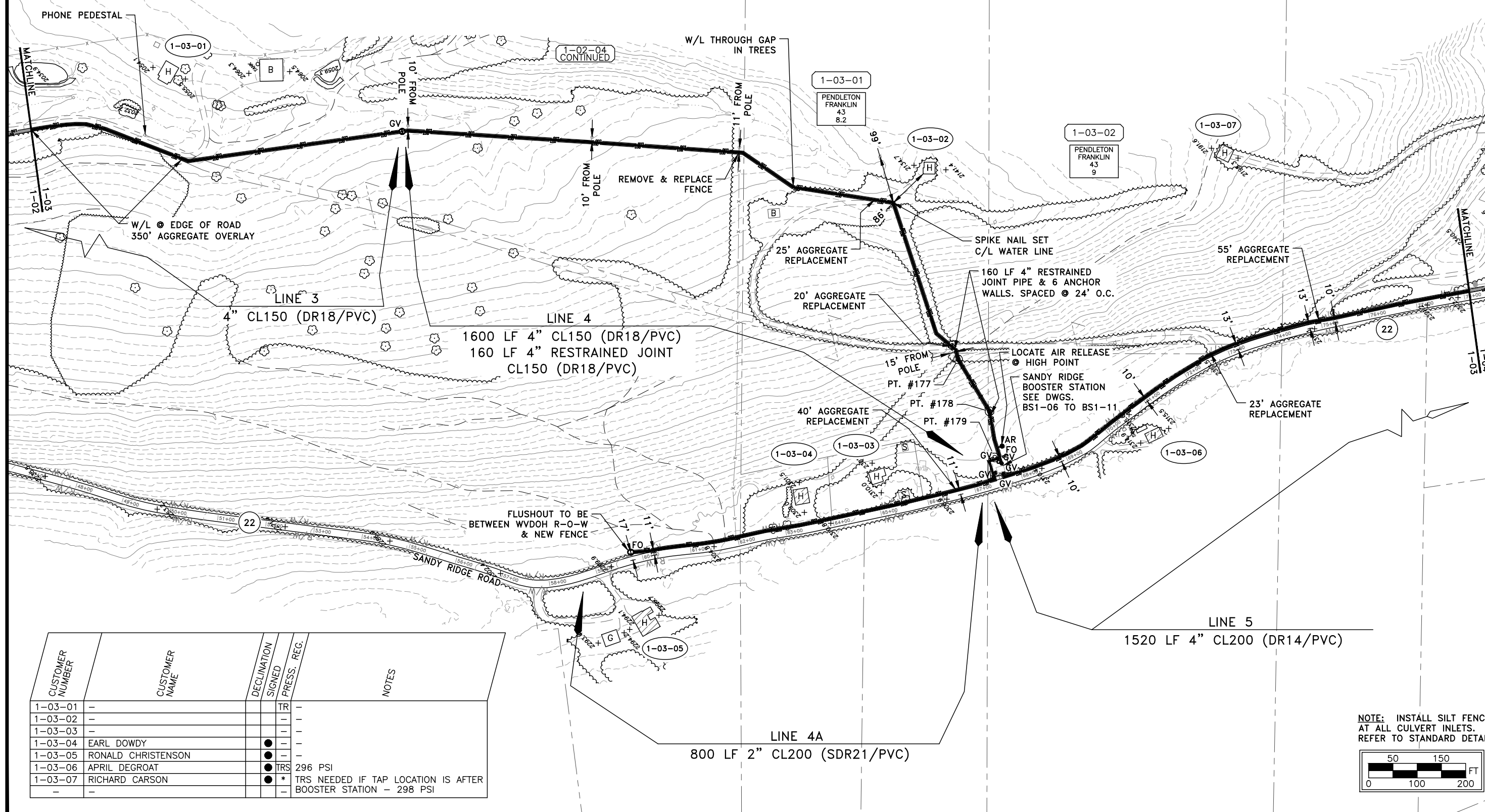
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PROJECT NO.: PE40-10W

DRAWING NO.: **1-02**

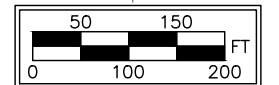
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LIST COORDINATES ~ WATER LINE				
PT.	NORTHING	EASTING	ELEV.	DESCRIPTION
LINE 2 (4" WATER LINE) - COORDINATE LIST				
177	581583.09870	2434475.34140	2258.407	SPIKE NAIL (C/L WATERLINE)
178	581604.74860	2434350.34770	2290.470	SPIKE NAIL (C/L WATERLINE)
179	581659.19300	2434271.11520	2312.430	SPIKE NAIL (C/L WATERLINE)



CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION SIGNED	PRESS. REG.	NOTES
1-03-01	-		TR	
1-03-02	-		-	
1-03-03	-		-	
1-03-04	EARL DOWDY	●	-	
1-03-05	RONALD CHRISTENSON	●	-	
1-03-06	APRIL DEGROAT	●	TRS 296 PSI	
1-03-07	RICHARD CARSON	●	* TRS NEEDED IF TAP LOCATION IS AFTER BOOSTER STATION - 298 PSI	

NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.



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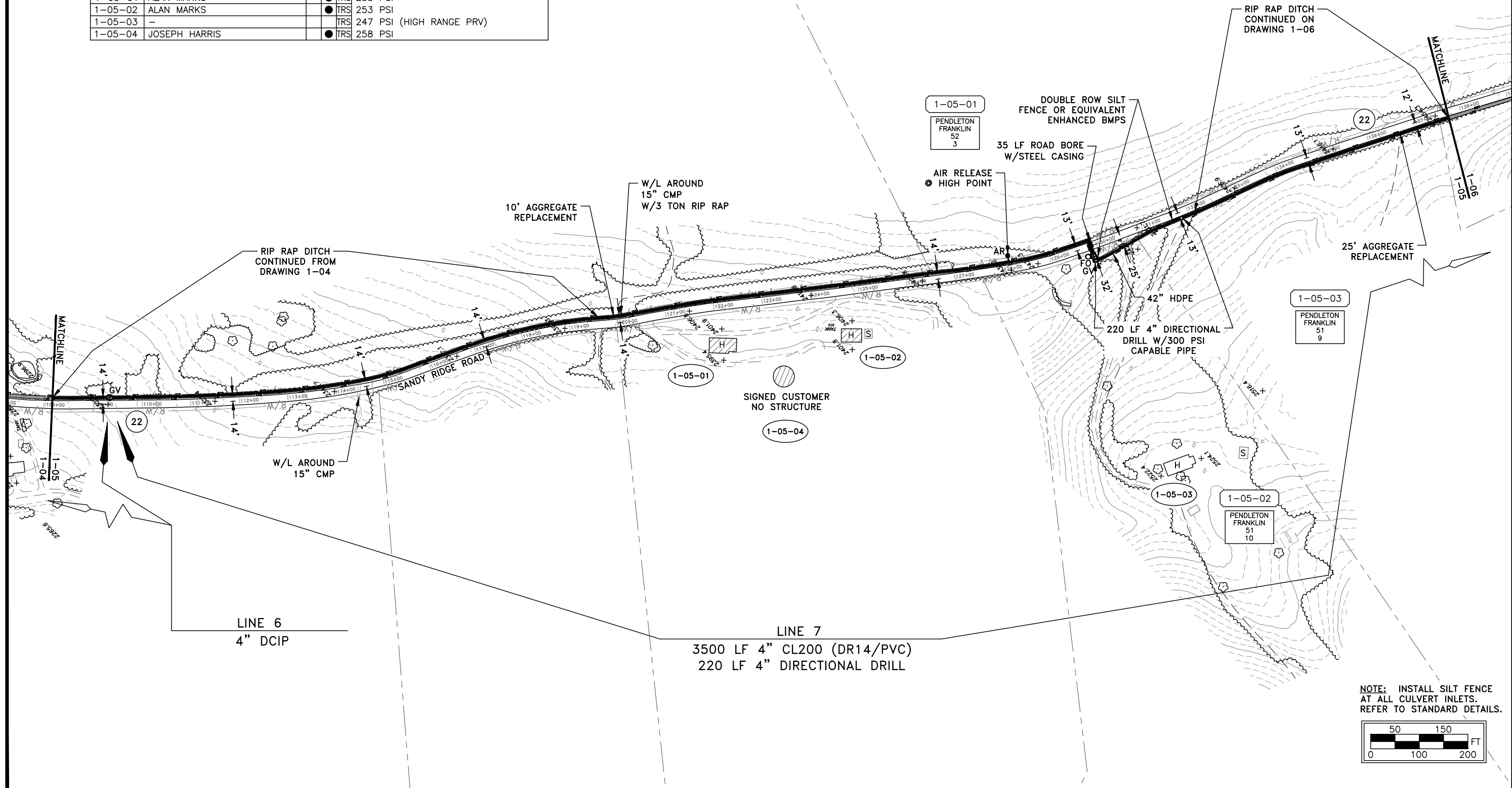
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97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT		PROJECT TITLE
DRAWN BY		PENDLETON COUNTY PSD
CONST CHECKED BY		PENDLETON COUNTY, WEST VIRGINIA
RECORD CHECKED BY		SANDY RIDGE WATER EXTENSION
ISSUE DATE		DRAWING TITLE
		LINES 3 & 4 - PRIVATE DRIVE/CROSS COUNTRY
		LINES 4A & 5 - SANDY RIDGE ROAD (CR 22)

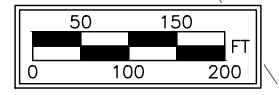
SCALE	GRAPHIC
PROJECT NO.	PE40-10W
DRAWING NO.	1-03



CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION SIGNED	PRESS. REG.	NOTES
1-05-01	ALAN MARKS	● TRS	258 PSI	
1-05-02	ALAN MARKS	● TRS	253 PSI	
1-05-03	-	● TRS	247 PSI (HIGH RANGE PRV)	
1-05-04	JOSEPH HARRIS	● TRS	258 PSI	



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1	04/2023	DRAWING CREATED	BLP

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97-14TH STREET, WHEELING, WV 26003-2497

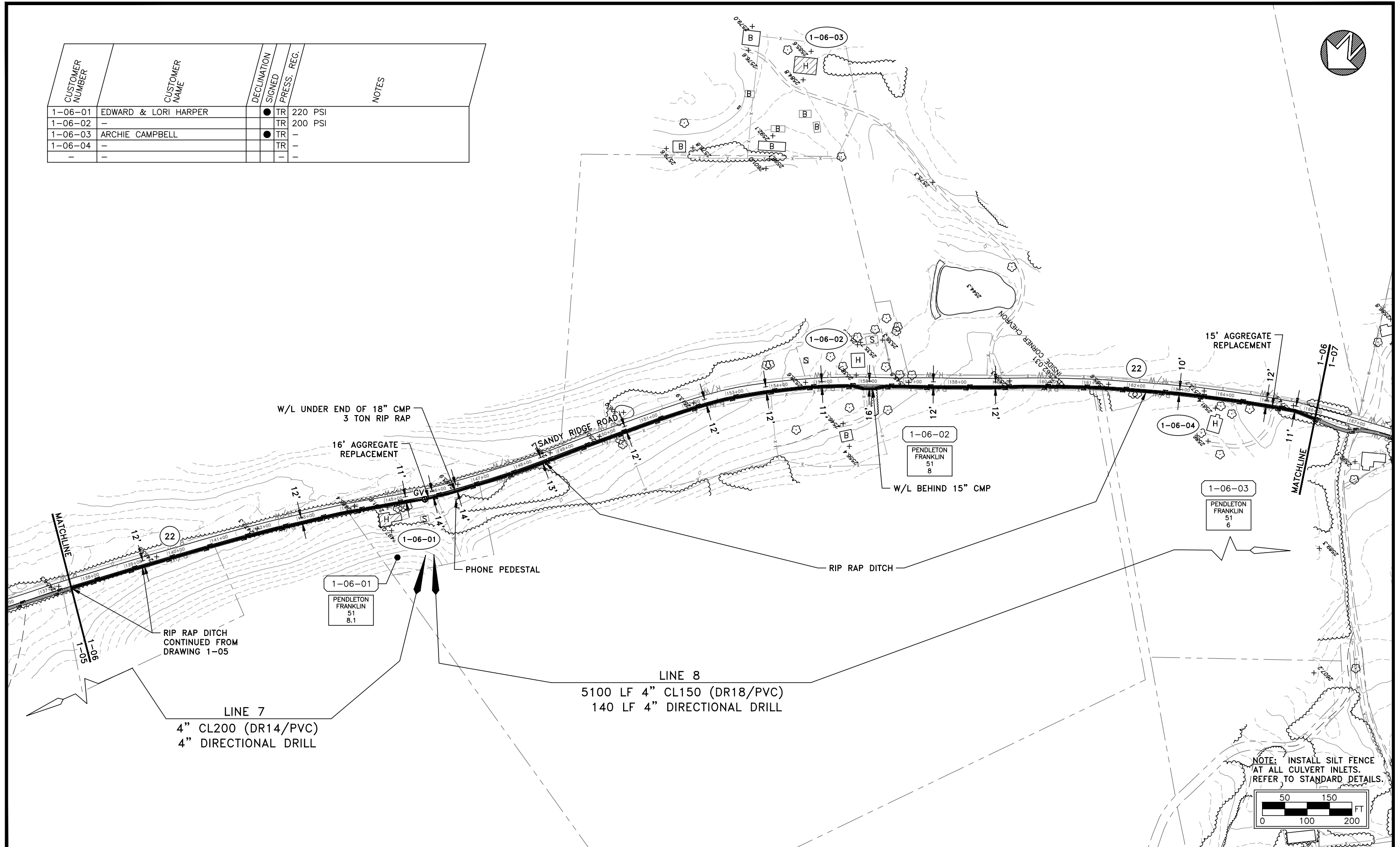
FIELD LAYOUT
DRAWN BY: B.P.
CONST CHECKED BY:
RECORD CHECKED BY:
ISSUE DATE: 9/1/22

PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	LINES 6 & 7 - SANDY RIDGE ROAD (CR 22)

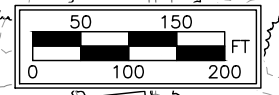
SCALE	GRAPHIC
PROJECT NO.	PE40-10W
DRAWING NO.	1-05

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CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION	SIGNED	PRESS. REG.	NOTES
1-06-01	EDWARD & LORI HARPER		●	TR	220 PSI
1-06-02				TR	200 PSI
1-06-03	ARCHIE CAMPBELL		●	TR	-
1-06-04				TR	-
-	-			-	-



NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.



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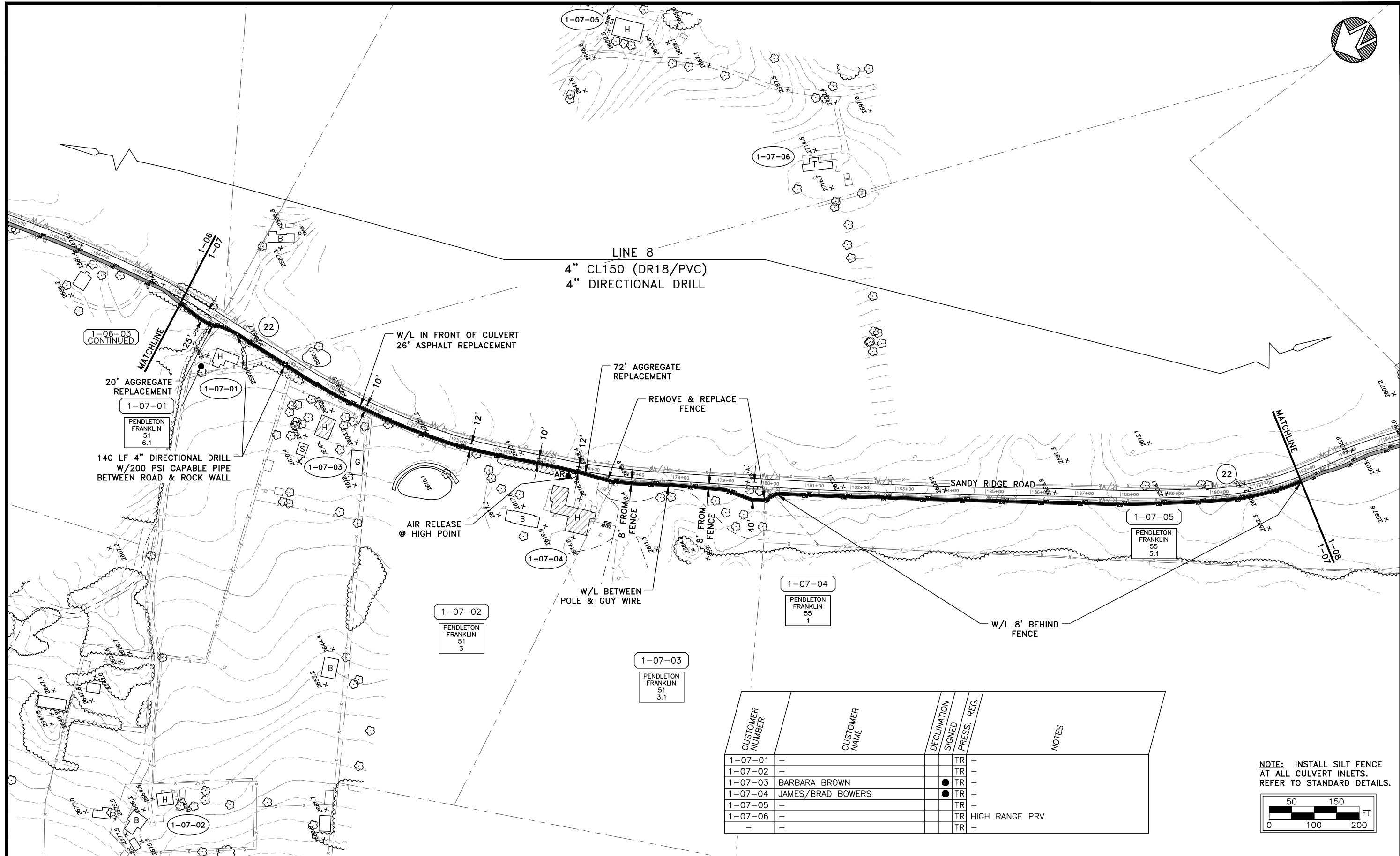
CERRONE ASSOCIATES, INC.
CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
DRAWN BY: BLP
CONST CHECKED BY:
RECORD CHECKED BY:
ISSUE DATE: 9/1/22

PROJECT TITLE: **PENDLETON COUNTY PSD**
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

DRAWING TITLE: **LINES 7 & 8 - SANDY RIDGE ROAD (CR 22)**

SCALE: GRAPHIC
PROJECT NO.: PE40-10W
DRAWING NO.: **1-06**



CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION SIGNED	PRESS. REC.	NOTES
1-07-01	-		TR	-
1-07-02	-		TR	-
1-07-03	BARBARA BROWN	●	TR	-
1-07-04	JAMES/BRAD BOWERS	●	TR	-
1-07-05	-		TR	-
1-07-06	-		TR	HIGH RANGE PRV
-	-		TR	-

NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.

No.	DATE	DESCRIPTION	BY
	04/2023	DRAWING CREATED	BLP

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97-14TH STREET, WHEELING, WV 26003-2497

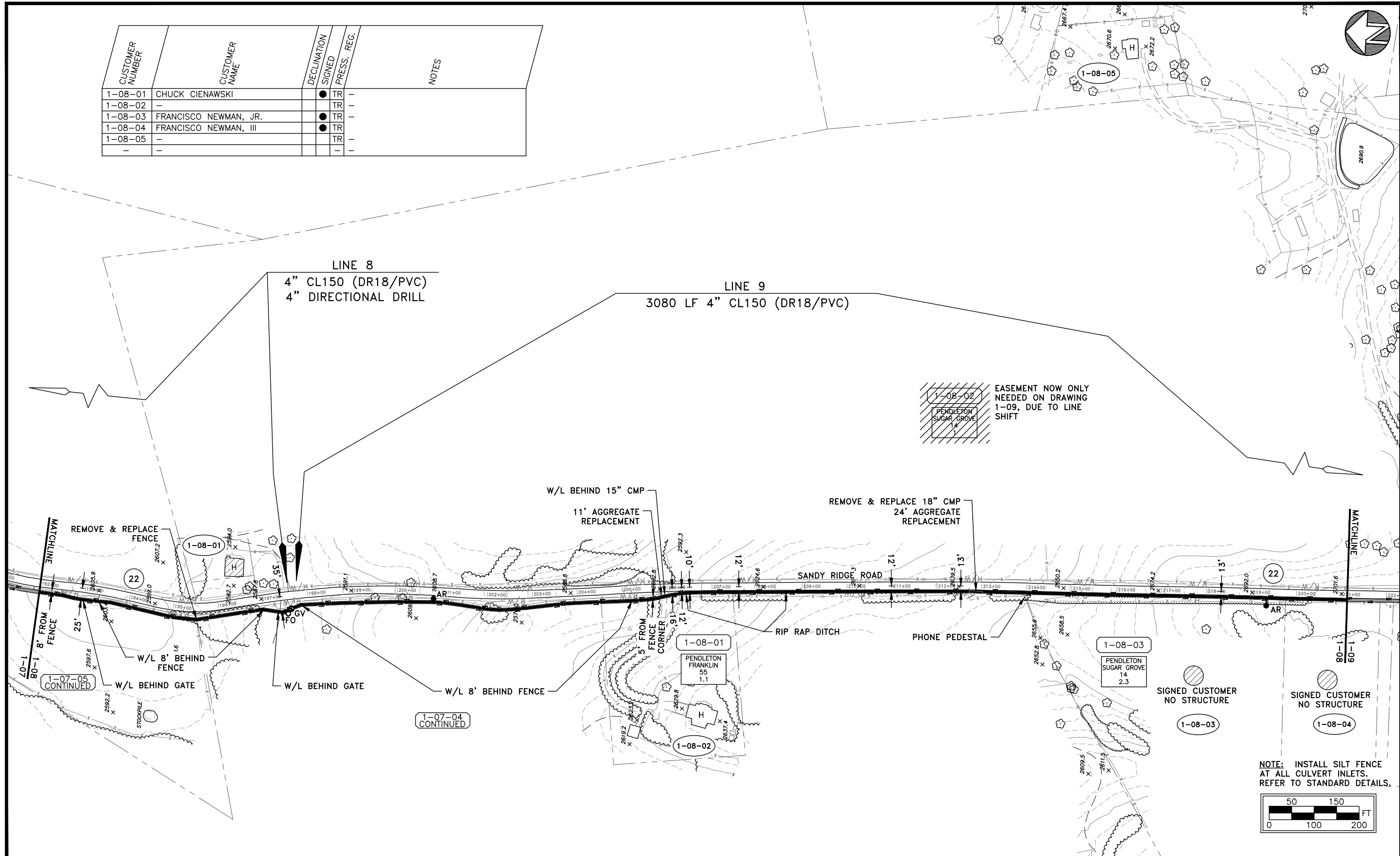
FIELD LAYOUT
DRAWN BY: BLP
CONST CHECKED BY:
RECORD CHECKED BY:
ISSUE DATE: 8/1/22

PROJECT TITLE: **PENDLETON COUNTY PSD**
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

DRAWING TITLE: **LINE 8 - SANDY RIDGE ROAD (CR 22)**

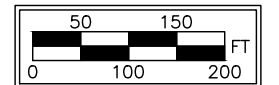
SCALE: GRAPHIC
PROJECT NO.: PE40-10W
DRAWING NO.: **1-07**

CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION	SIGNED	PRESS. REG.	NOTES
1-08-01	CHUCK CIENAWSKI		●	TR	
1-08-02	-			TR	
1-08-03	FRANCISCO NEWMAN, JR.		●	TR	
1-08-04	FRANCISCO NEWMAN, III		●	TR	
1-08-05	-			TR	
-	-			-	



1-08-02
PENDLETON SUGAR GROVE
14
1
EASEMENT NOW ONLY NEEDED ON DRAWING 1-09, DUE TO LINE SHIFT

NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.



No.	DATE	DESCRIPTION	BY
2	10/2023	MOVED LINE OFF OF EASEMENT 1-08-02/ ADDED EASEMENT 1-08-03 FOR AR	BLP
1	04/2023	DRAWING CREATED	BLP

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97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT	
DRAWN BY R.P.	
CONST CHECKED BY	
RECORD CHECKED BY	
ISSUE DATE 9/1/22	

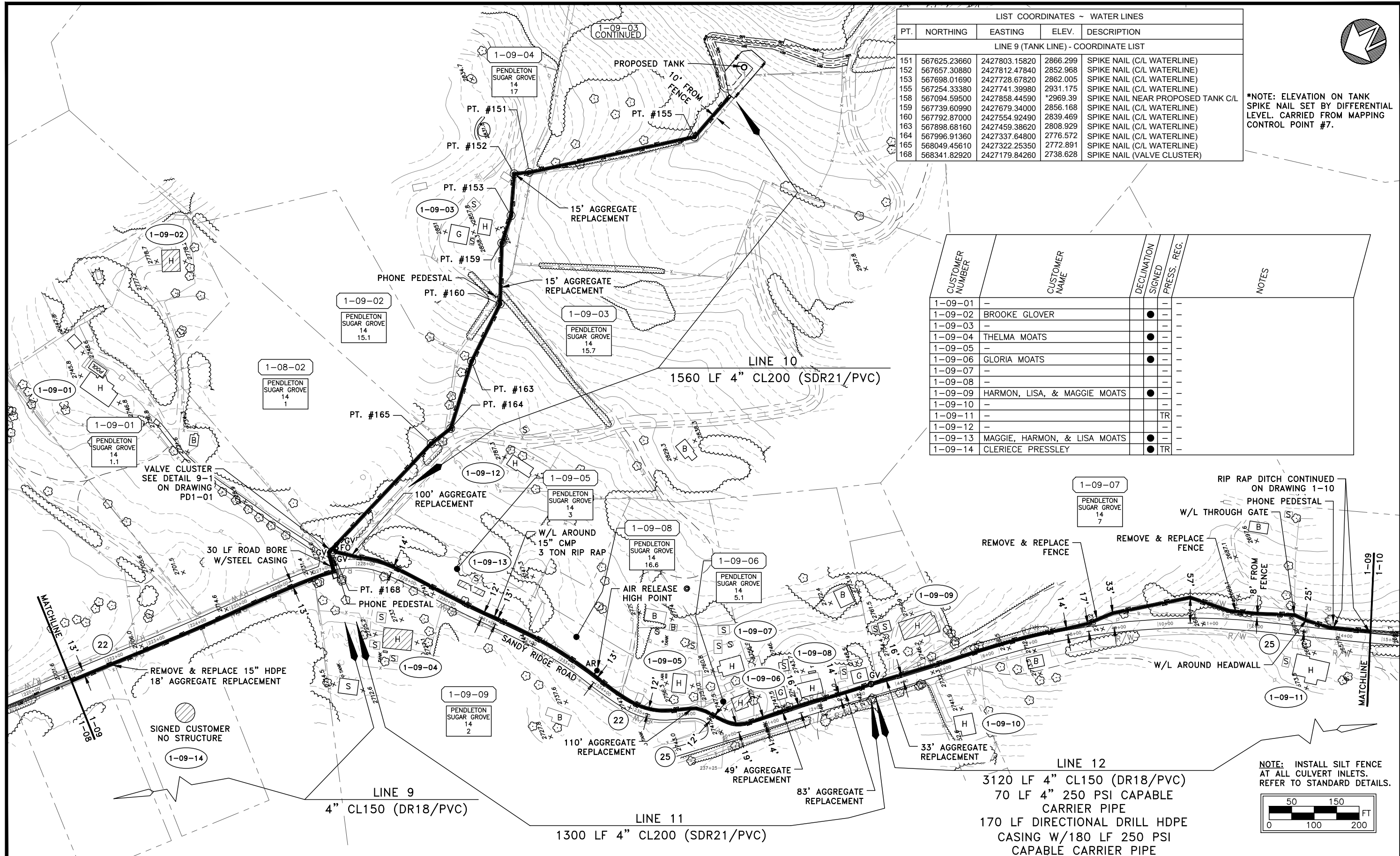
PROJECT TITLE PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE GRAPHIC PROJECT NO. PE40-10W
DRAWING TITLE LINES 8 & 9 - SANDY RIDGE ROAD (CR 22)	DRAWING NO. 1-08



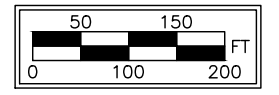
LIST COORDINATES ~ WATER LINES				
PT.	NORTHING	EASTING	ELEV.	DESCRIPTION
LINE 9 (TANK LINE) - COORDINATE LIST				
151	567625.23660	2427803.15820	2866.299	SPIKE NAIL (C/L WATERLINE)
152	567657.30880	2427812.47840	2852.968	SPIKE NAIL (C/L WATERLINE)
153	567698.01690	2427728.67820	2862.005	SPIKE NAIL (C/L WATERLINE)
155	567254.33380	2427741.39980	2931.175	SPIKE NAIL (C/L WATERLINE)
158	567094.59500	2427858.44590	*2969.39	SPIKE NAIL NEAR PROPOSED TANK C/L
159	567739.60990	2427679.34000	2856.168	SPIKE NAIL (C/L WATERLINE)
160	567792.87000	2427554.92490	2839.469	SPIKE NAIL (C/L WATERLINE)
163	567898.68160	2427459.38620	2808.929	SPIKE NAIL (C/L WATERLINE)
164	567996.91360	2427337.64800	2776.572	SPIKE NAIL (C/L WATERLINE)
165	568049.45610	2427322.25350	2772.891	SPIKE NAIL (C/L WATERLINE)
168	568341.82920	2427179.84260	2738.628	SPIKE NAIL (VALVE CLUSTER)

*NOTE: ELEVATION ON TANK SPIKE NAIL SET BY DIFFERENTIAL LEVEL. CARRIED FROM MAPPING CONTROL POINT #7.

CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION SIGNED	PRESS. REG.	NOTES
1-09-01	-			
1-09-02	BROOKE GLOVER	●	-	
1-09-03	-			
1-09-04	THELMA MOATS	●	-	
1-09-05	-			
1-09-06	GLORIA MOATS	●	-	
1-09-07	-			
1-09-08	-			
1-09-09	HARMON, LISA, & MAGGIE MOATS	●	-	
1-09-10	-			
1-09-11	-		TR	
1-09-12	-			
1-09-13	MAGGIE, HARMON, & LISA MOATS	●	-	
1-09-14	CLERIECE PRESSLEY	●	TR	



NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.



No.	DATE	DESCRIPTION	BY
2	10/2023	CONTINUED LINE SHIFTS FROM DWG. 1-08/ ADDED EASEMENT 1-09-09 FOR ROAD BORE/ DELETED 2" LINE - 9A	BLR
1	08/2023	DRAWING CREATED	BLP

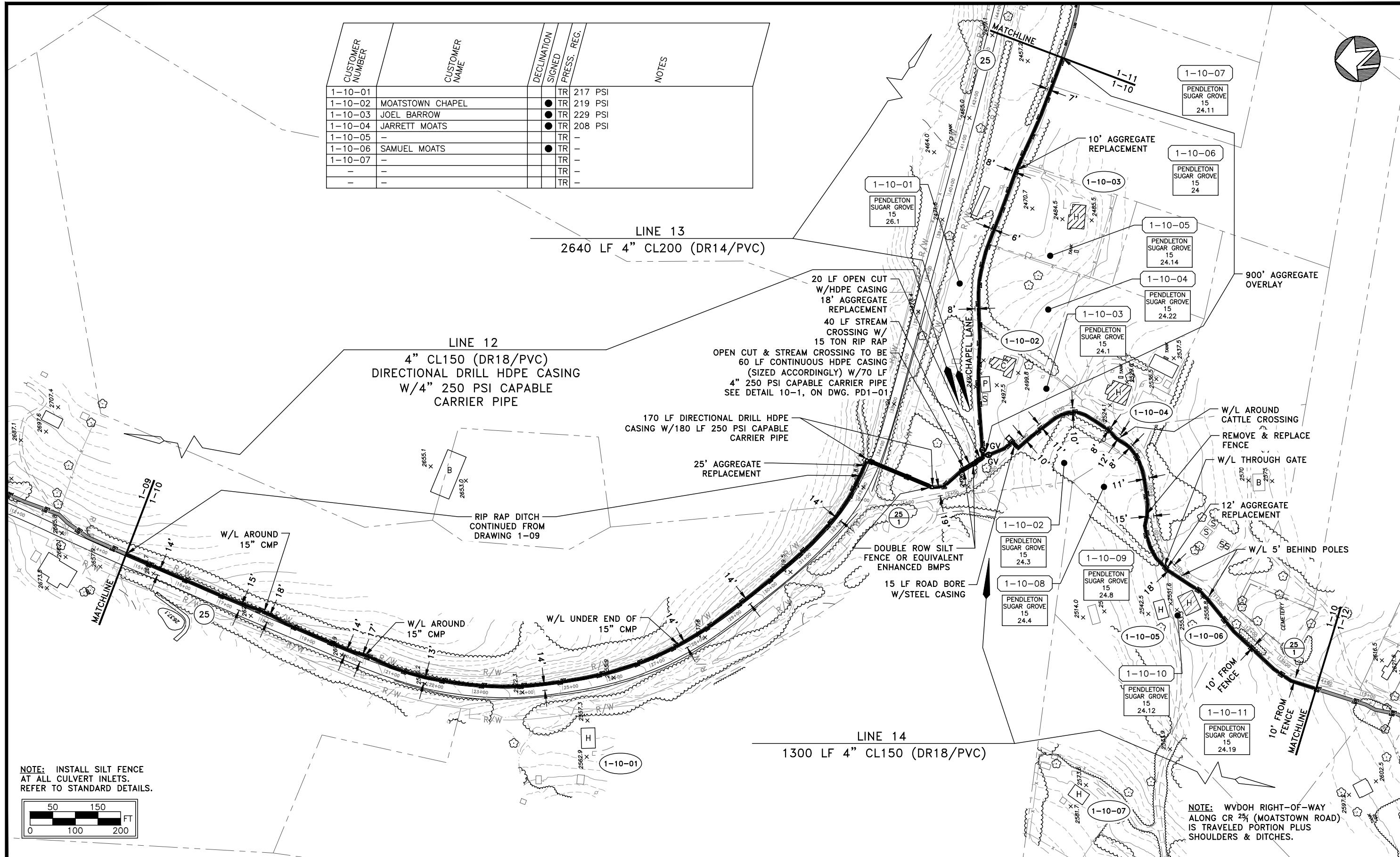
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CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
DRAWN BY: R.P.
CONST. CHECKED BY:
RECORD CHECKED BY:
ISSUE DATE: 8/1/22

PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE	GRAPHIC
DRAWING TITLE	LINES 9, 9A, 10, & 11 SANDY RIDGE ROAD (CR 22) & MOYERS GAP ROAD (CR 25) LINE 13 - TANK LINE	PROJECT NO.	PE40-10W
		DRAWING NO.	1-09

CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION	SIGNED	PRESS. REG.	NOTES
1-10-01				TR	217 PSI
1-10-02	MOATSTOWN CHAPEL		●	TR	219 PSI
1-10-03	JOEL BARROW		●	TR	229 PSI
1-10-04	JARRETT MOATS		●	TR	208 PSI
1-10-05	-			TR	-
1-10-06	SAMUEL MOATS		●	TR	-
1-10-07	-			TR	-
-	-			TR	-
-	-			TR	-



NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.

No.	DATE	DESCRIPTION	BY
2	10/1/2023	CHANGED OPEN CUT ON LINE 14 TO ROAD BORE AS PER WVDOH REQUEST	BLP
1	05/1/2023	DRAWING CREATED	BLP

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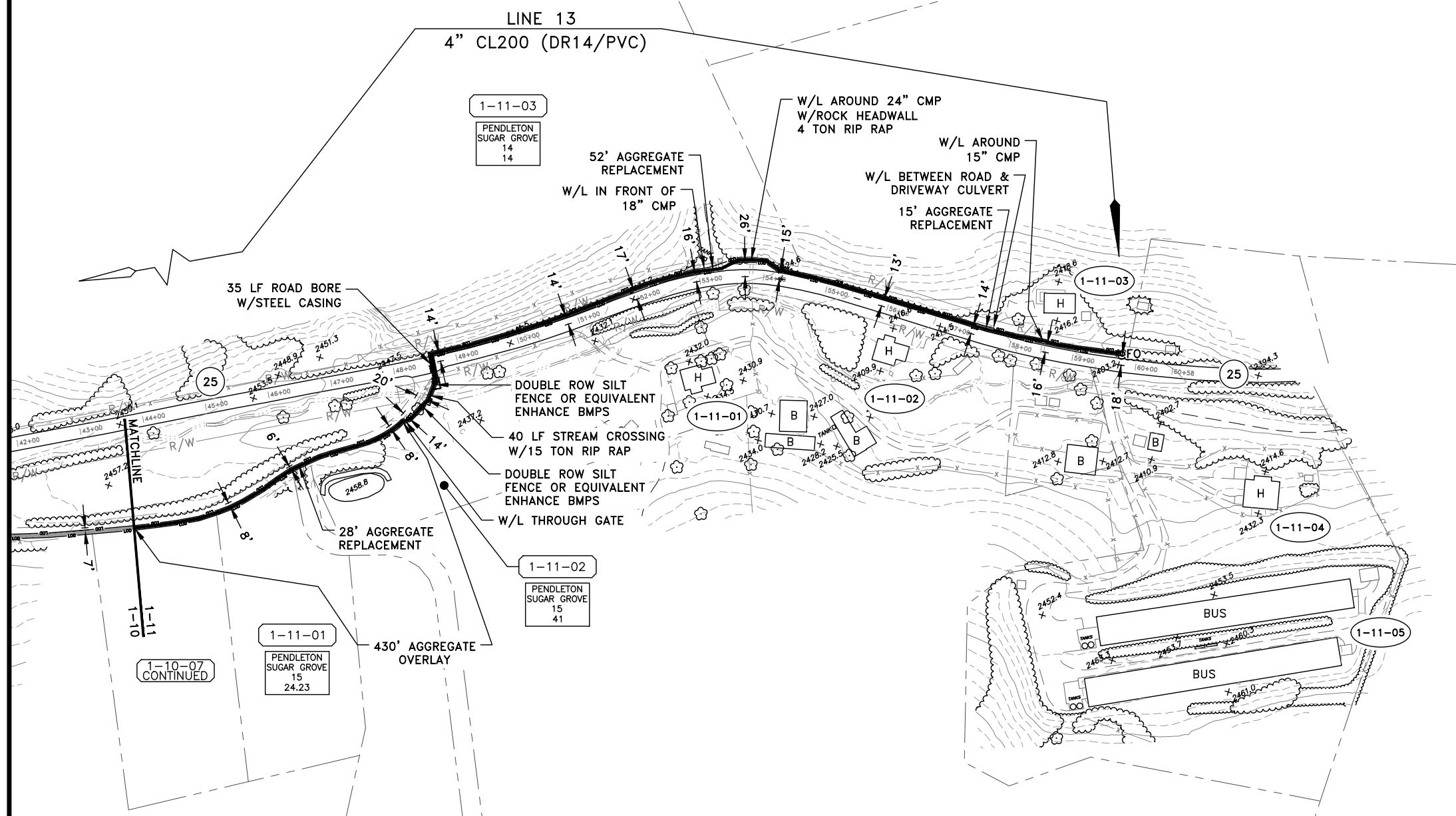
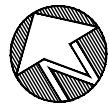
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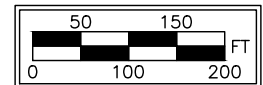
FIELD LAYOUT	
DRAWN BY	BLP
CONST CHECKED BY	
RECORD CHECKED BY	
ISSUE DATE	9/1/22

PROJECT TITLE PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE GRAPHIC
DRAWING TITLE LINES 11 & 12 MOYERS GAP ROAD (CR25) & CHAPEL LANE LINE 14 - MOATSTOWN ROAD (CR 25)	PROJECT NO. PE40-10W
	DRAWING NO. 1-10



CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION	SIGNED	PRESS. REC.	NOTES
1-11-01			TRS	249 PSI	
1-11-02			TRS	253 PSI	
1-11-03			TRS	256 PSI	
1-11-04			TRS	260 PSI	
1-11-05			TRS	260 PSI	
-			-	-	

NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.



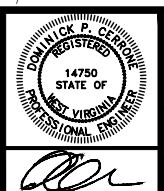
No.	DATE	DESCRIPTION	BY
1	05/1/2023	DRAWING CREATED	BLP

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FIELD LAYOUT
DRAWN BY: BLP
CONST CHECKED BY:
RECORD CHECKED BY:
ISSUE DATE: 5/1/23



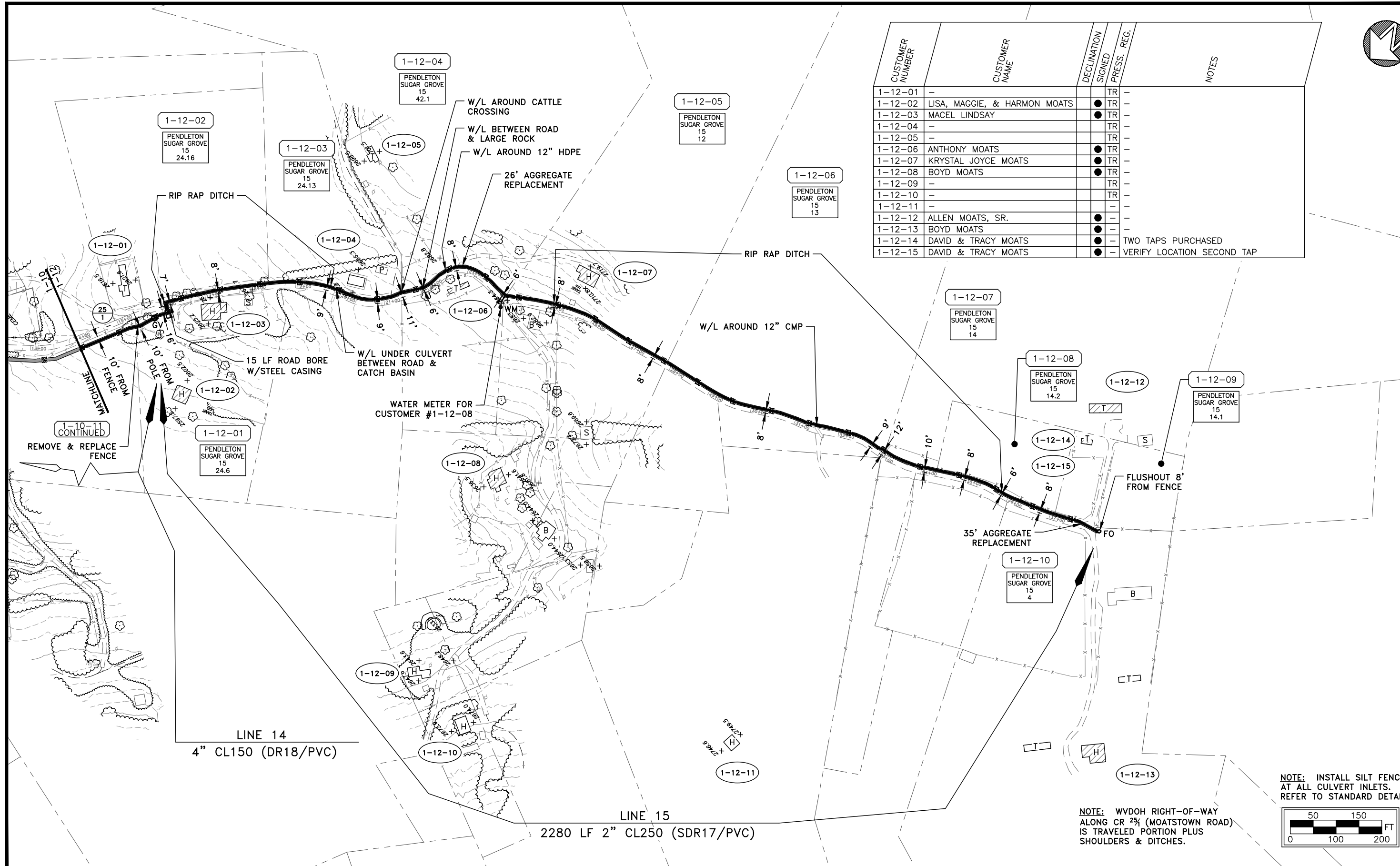
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PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION
DRAWING TITLE: **LINE 12**
CHAPEL LANE & MOYERS GAP ROAD (CR25)

SCALE: GRAPHIC
PROJECT NO.: PE40-10W
DRAWING NO.: **1-11**

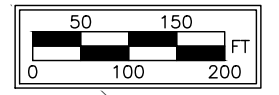
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CUSTOMER NUMBER	CUSTOMER NAME	DECLINATION	SIGNED	PRESS. REG.	NOTES
1-12-01	-			TR	
1-12-02	LISA, MAGGIE, & HARMON MOATS		●	TR	
1-12-03	MACEL LINDSAY		●	TR	
1-12-04	-			TR	
1-12-05	-			TR	
1-12-06	ANTHONY MOATS		●	TR	
1-12-07	KRYSTAL JOYCE MOATS		●	TR	
1-12-08	BOYD MOATS		●	TR	
1-12-09	-			TR	
1-12-10	-			TR	
1-12-11	-			-	
1-12-12	ALLEN MOATS, SR.		●	-	
1-12-13	BOYD MOATS		●	-	
1-12-14	DAVID & TRACY MOATS		●	-	TWO TAPS PURCHASED
1-12-15	DAVID & TRACY MOATS		●	-	VERIFY LOCATION SECOND TAP



NOTE: INSTALL SILT FENCE AT ALL CULVERT INLETS. REFER TO STANDARD DETAILS.



NOTE: WVDOH RIGHT-OF-WAY ALONG CR 25 1/4 (MOATSTOWN ROAD) IS TRAVELED PORTION PLUS SHOULDERS & DITCHES.

No.	DATE	DESCRIPTION	BY
1	05/1/2023	DRAWING CREATED	BLP
2	09/1/2023	CHANGED LINE 15 FROM 3" TO 2" AS PER WDDPH & OWNER PREFERENCE	BLP
3	10/1/2023	CHANGED OPEN CUT TO ROAD BORE AS PER WDDPH REQUEST	BLP

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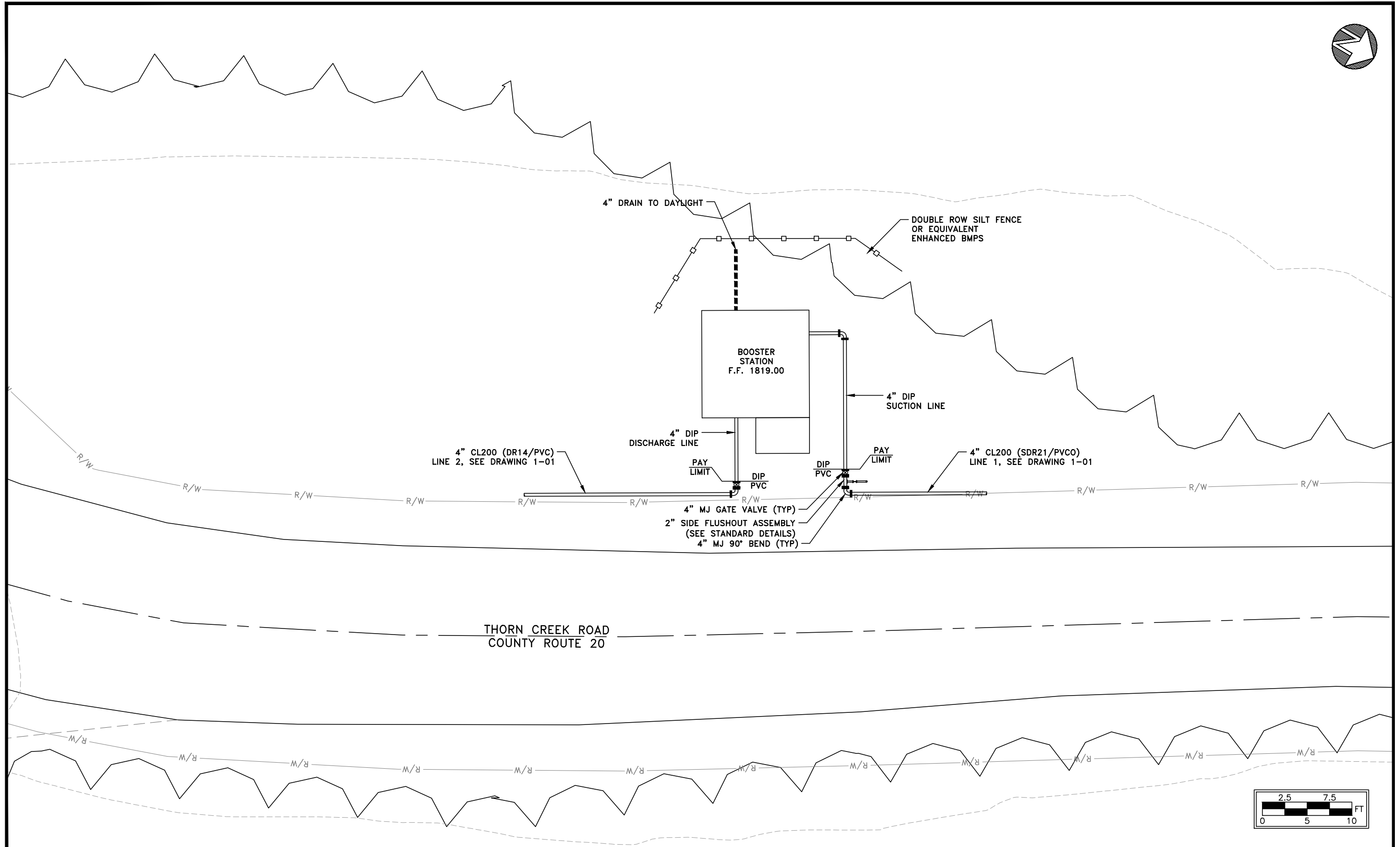
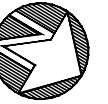
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97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
DRAWN BY: BLP
CONST CHECKED BY:
RECORD CHECKED BY:
ISSUE DATE: 9/1/22

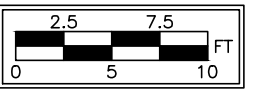
PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	LINES 14 & 15 - MOATSTOWN ROAD (CR 25 1/4)

SCALE	GRAPHIC
PROJECT NO.	PE40-10W
DRAWING NO.	1-12

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THORN CREEK ROAD
COUNTY ROUTE 20



No.	DATE	DESCRIPTION	BY
1	3/1/2021	CREATED	PCB

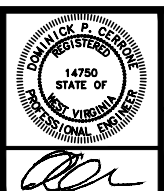
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FIELD LAYOUT	14750
DRAWN BY	1233
CONST CHECKED BY	
RECORD CHECKED BY	
ISSUE DATE	3/8/21



PROJECT TITLE
PENDLETON COUNTY PSD
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

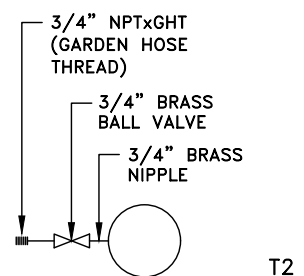
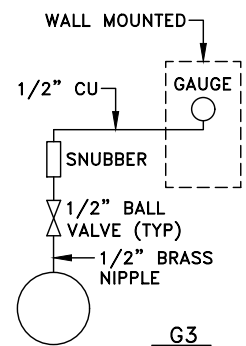
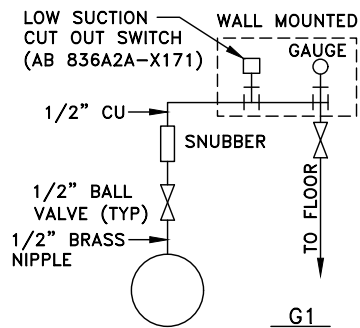
DRAWING TITLE
THORN CREEK
HYDRO-CONSTANT BOOSTER STATION
SITE PLAN

SCALE
GRAPHIC

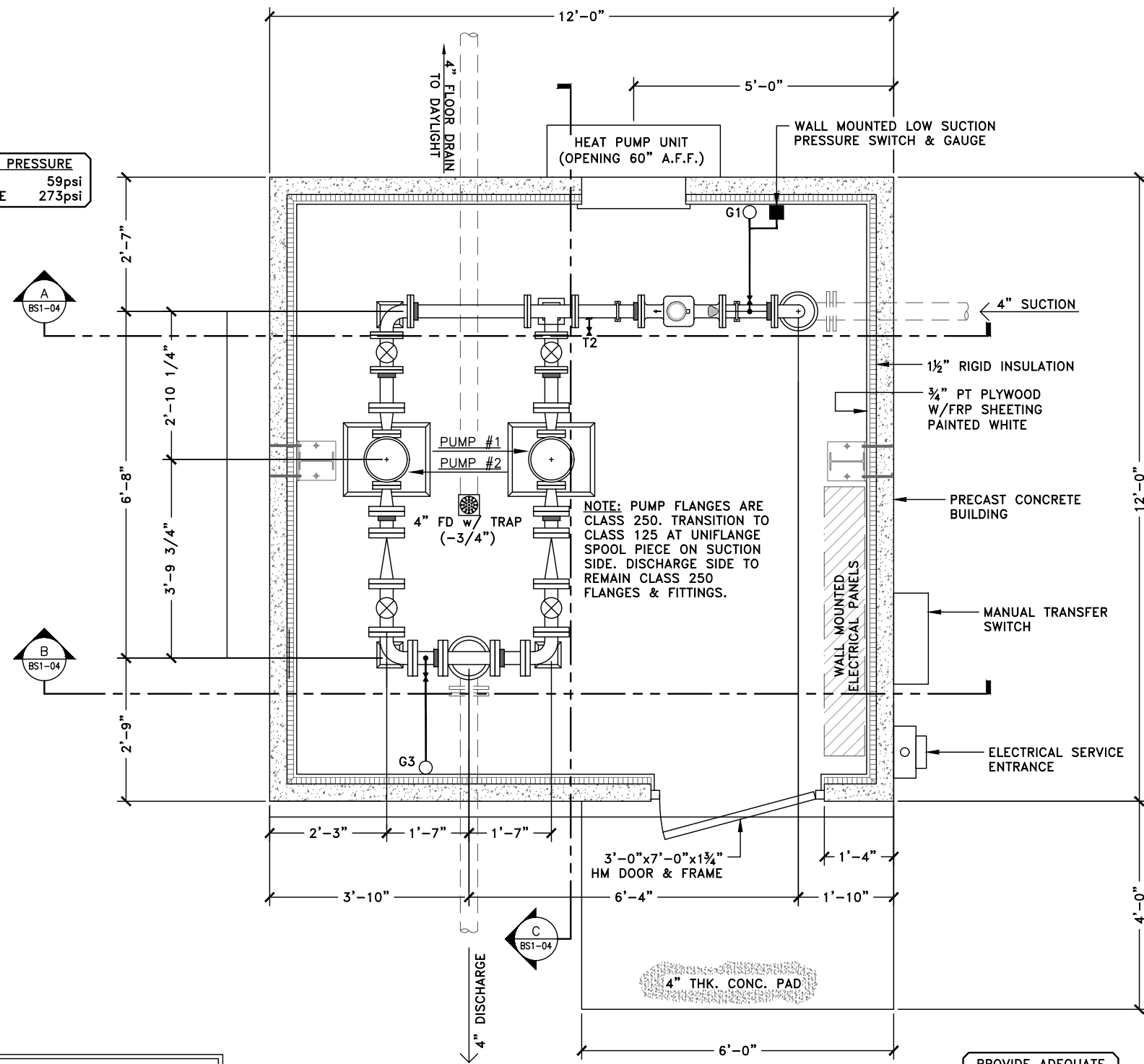
PROJECT NO.
PE40-10W

DRAWING NO.
BS1-01

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NORMAL PRESSURE
 SUCTION 59psi
 DISCHARGE 273psi



NOTE: PUMP FLANGES ARE CLASS 250. TRANSITION TO CLASS 125 AT UNIFLANGE SPOOL PIECE ON SUCTION SIDE. DISCHARGE SIDE TO REMAIN CLASS 250 FLANGES & FITTINGS.

PROVIDE ADEQUATE THRUST BLOCKING AT ALL FITTINGS

FLOOR PLAN
 3/4" = 1'-0"

PUMP SCHEDULE				
PUMP	HEAD (FT)	GPM	HP	SPEED
#1	543	80	20	3497 RPM
#2	543	80	20	3497 RPM

PUMPS DESC. ~ GRUNDFOS CR 15-10 OR EQUAL

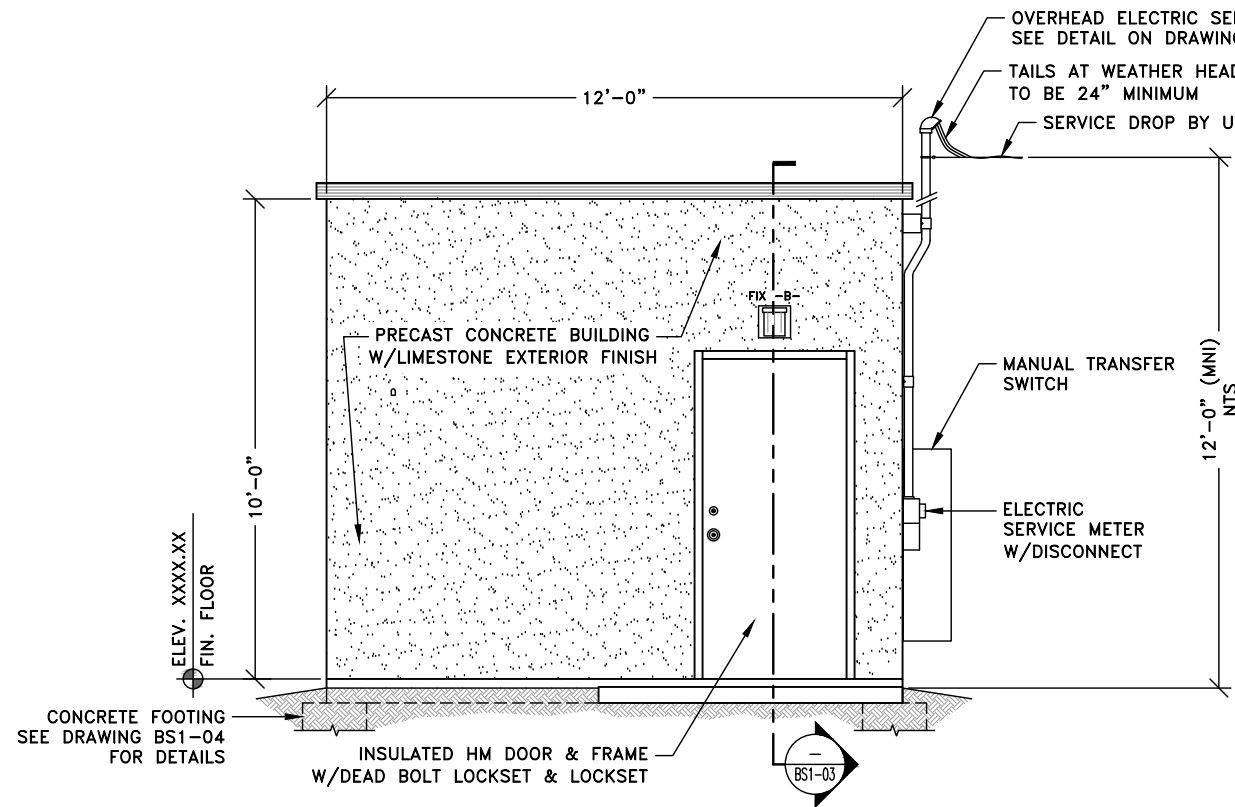
NO.	DATE	REVISION	BY
1	06/2025	DRAWING CREATED	R.R.

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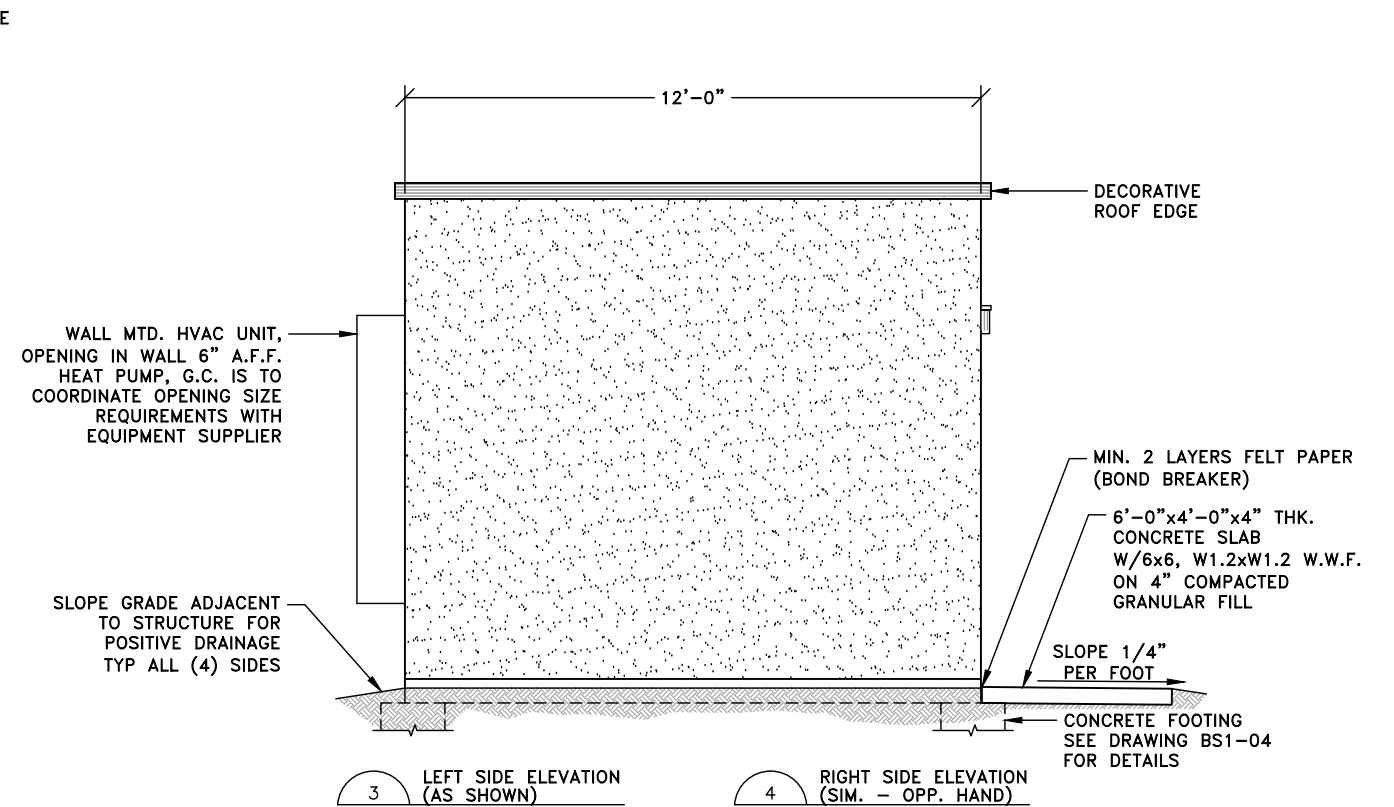
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FIELD LAYOUT		PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWN BY		DRAWING TITLE	
CONST. CHECKED BY		THORN CREEK HYDRO-CONSTANT BOOSTER STATION PLAN	
RECORD CHECKED BY			
ISSUE DATE	5-1-2022		

SCALE	AS SHOWN
PROJECT NO.	PE40-10W
DRAWING NO.	BS1-02

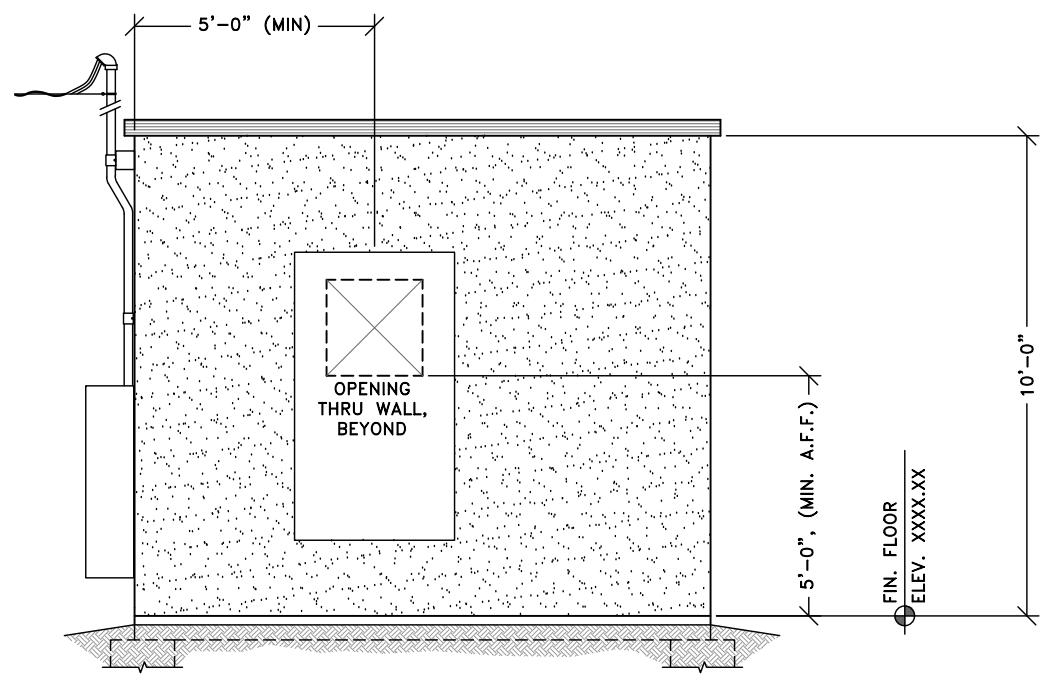


1 FRONT ELEVATION
BS1-03 1/2" = 1'-0"

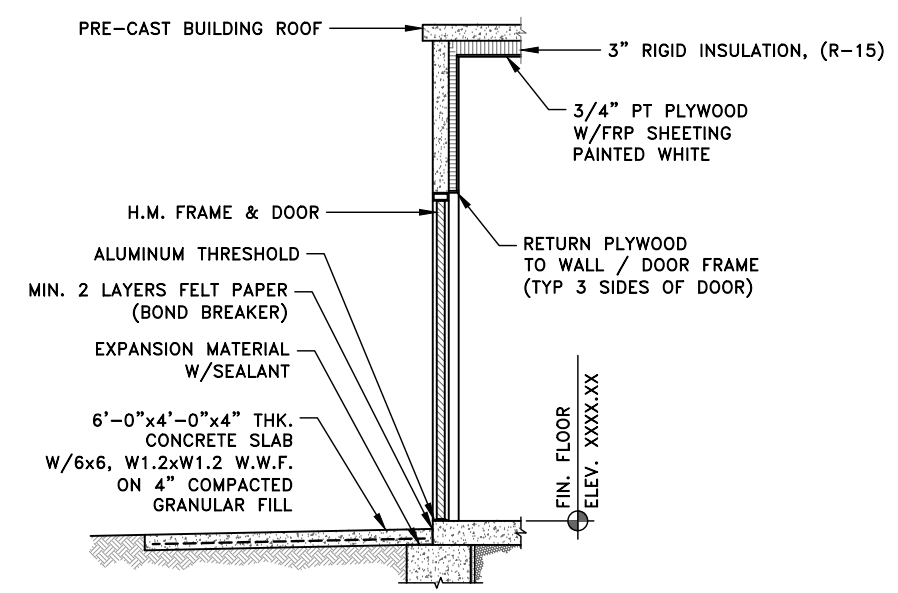


3 LEFT SIDE ELEVATION (AS SHOWN)
BS1-03 1/2" = 1'-0"

4 RIGHT SIDE ELEVATION (SIM. - OPP. HAND)
BS1-03 1/2" = 1'-0"



2 REAR ELEVATION
BS1-03 1/2" = 1'-0"



DOOR SECTION
BS1-03 1/2" = 1'-0"

NO.	DATE	REVISION	BY
1	06/1/2023	DRAWING CREATED	RLR

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97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT -
DRAWN BY RLR
CONST CHECKED BY -
RECORD CHECKED BY -
ISSUE DATE 5-1-2022

PROJECT TITLE
PENDLETON COUNTY PSD
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

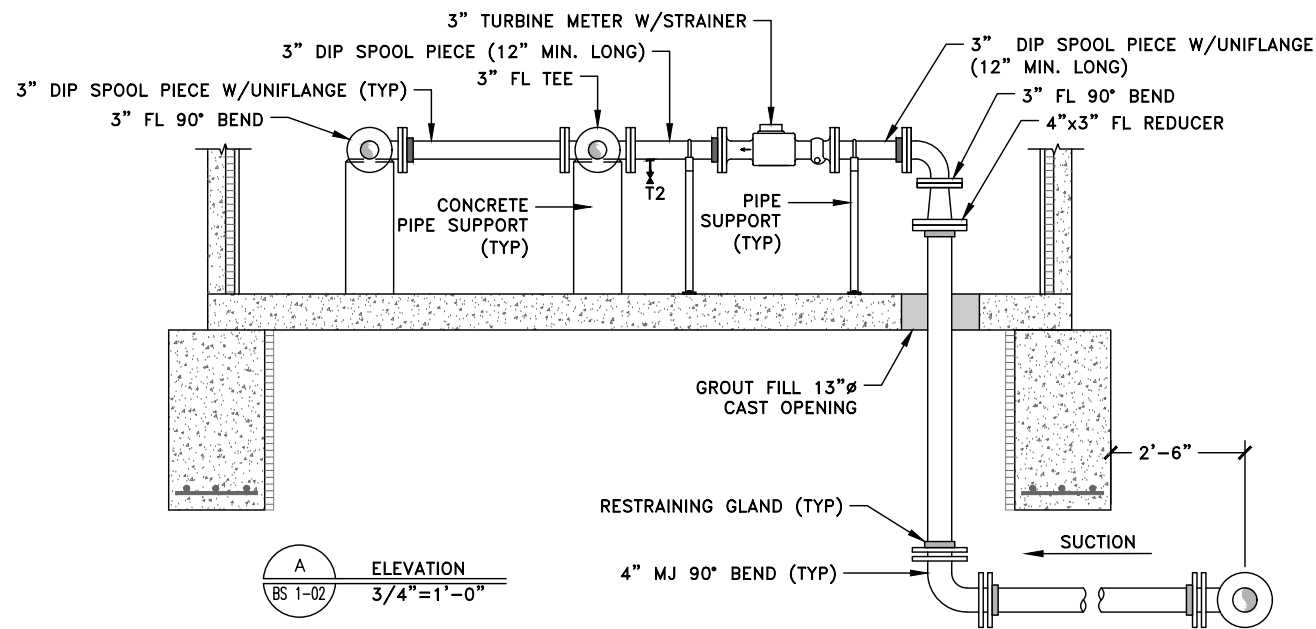
DRAWING TITLE
THORN CREEK
HYDRO-CONSTANT BOOSTER STATION
ELEVATIONS

SCALE
AS SHOWN

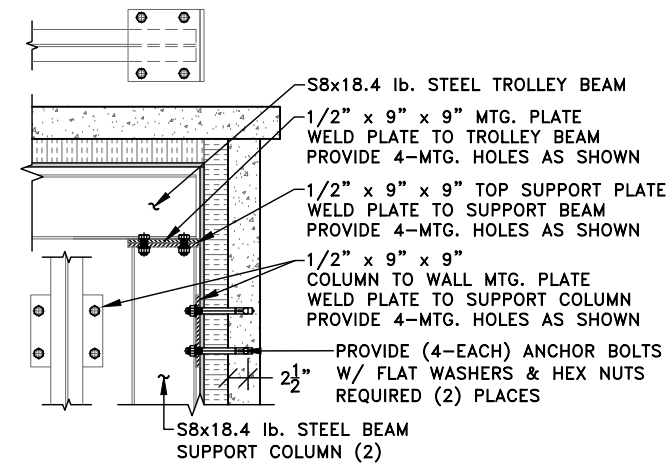
PROJECT NO.
PE40-10W

DRAWING NO.
BS1-03

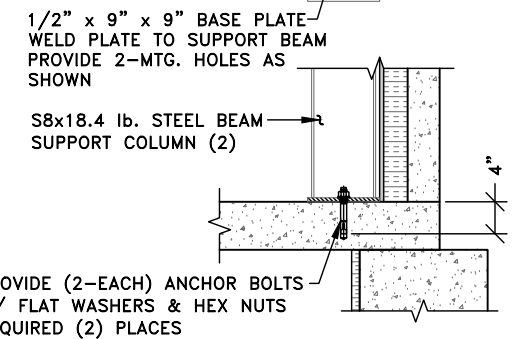
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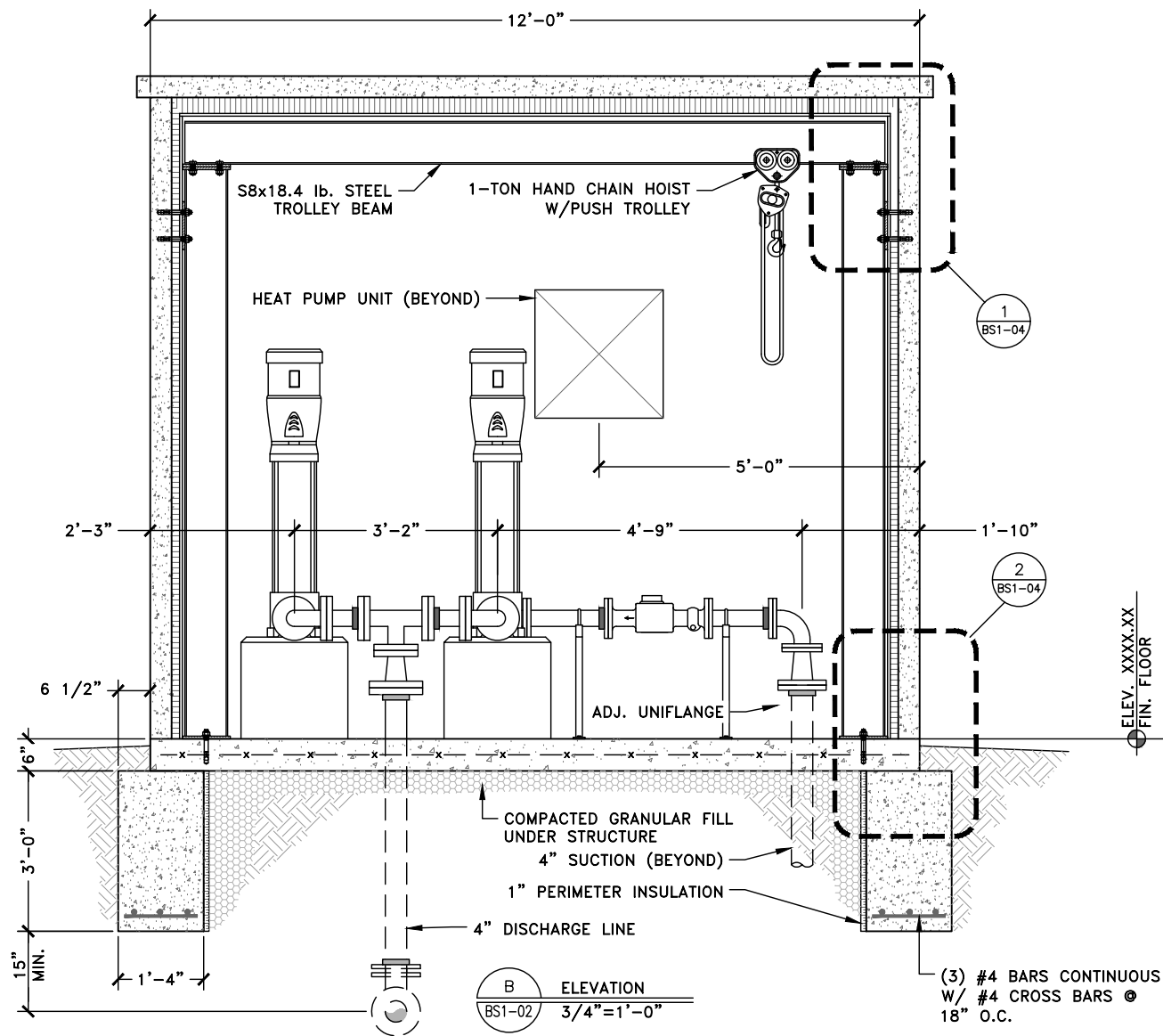
A ELEVATION
BS 1-02 3/4" = 1'-0"



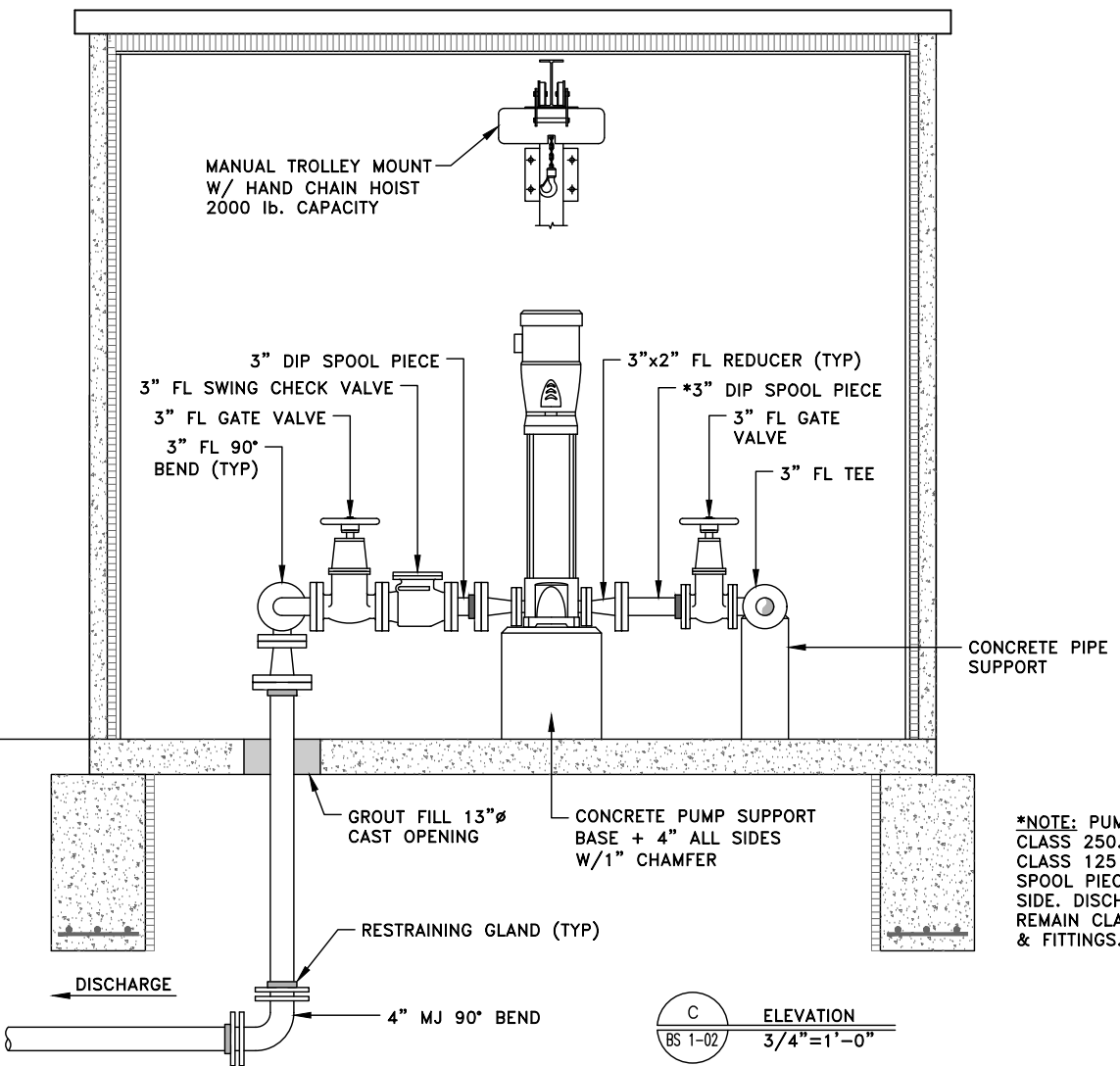
1 SUPPORT ANCHOR DETAIL
BS1-04 1" = 1'-0"



2 SUPPORT ANCHOR DETAIL
BS1-04 1" = 1'-0"



B ELEVATION
BS1-02 3/4" = 1'-0"



C ELEVATION
BS 1-02 3/4" = 1'-0"

*NOTE: PUMP FLANGES ARE CLASS 250. TRANSITION TO CLASS 125 AT UNIFLANGE SPOOL PIECE ON SUCTION SIDE. DISCHARGE SIDE TO REMAIN CLASS 250 FLANGES & FITTINGS.

Z:\Project Data\Water\Station\Drawings\Construction\BS1-04.dwg 8/17/2023 11:24:11 PM

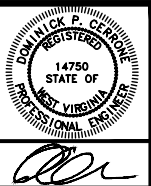
NO.	DATE	REVISION	BY
1	06/1/2023	DRAWING CREATED	RLR

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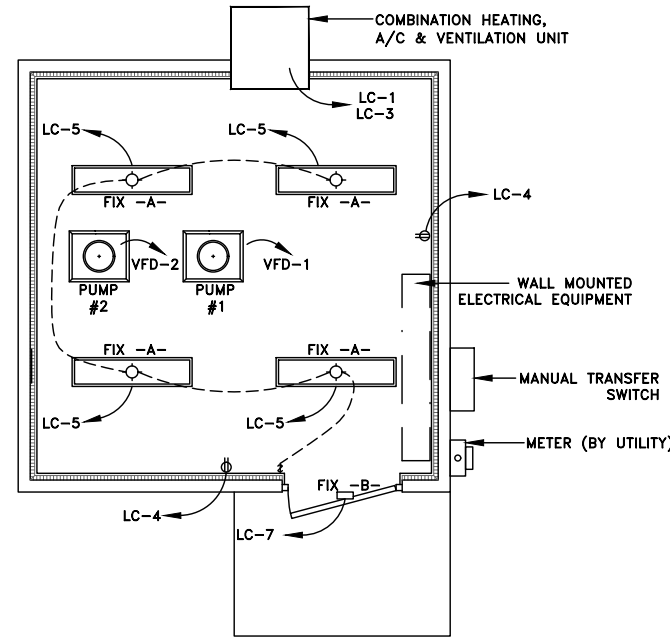
CERRONE ASSOCIATES, INC.
CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5-1-2022

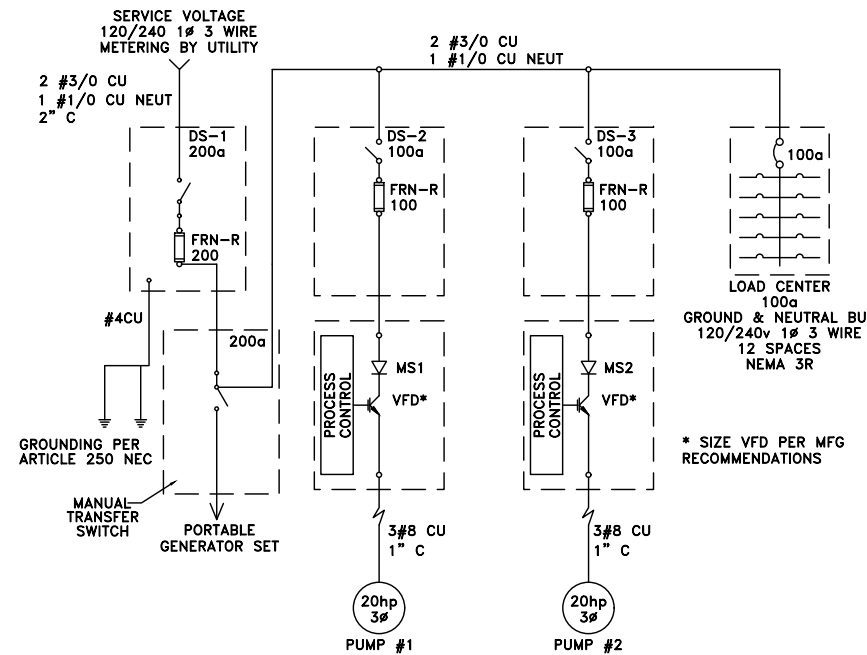


PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	THORN CREEK HYDRO-CONSTANT BOOSTER STATION SECTIONS

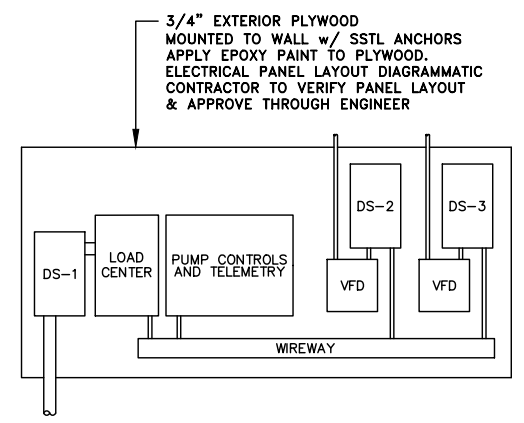
SCALE	AS SHOWN
PROJECT NO.	PE40-10W
DRAWING NO.	BS1-04



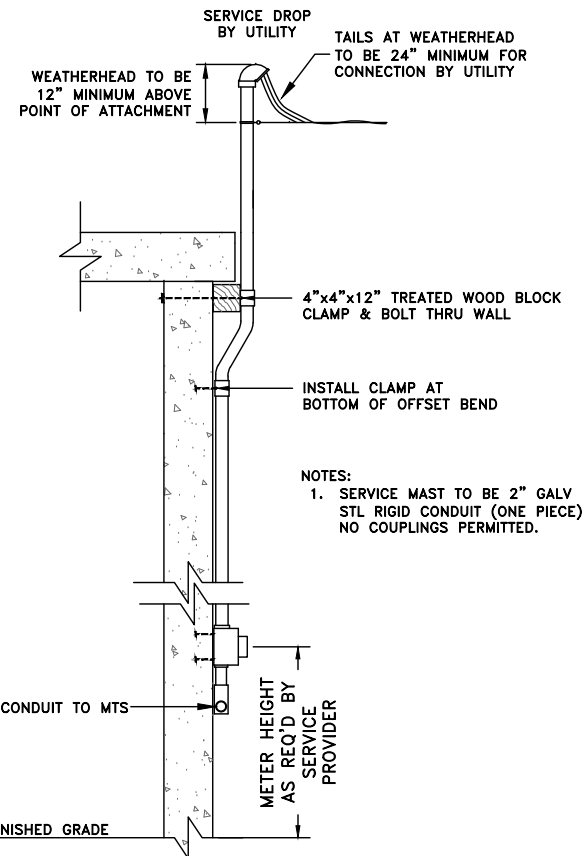
ELECTRICAL FLOOR PLAN
NO SCALE



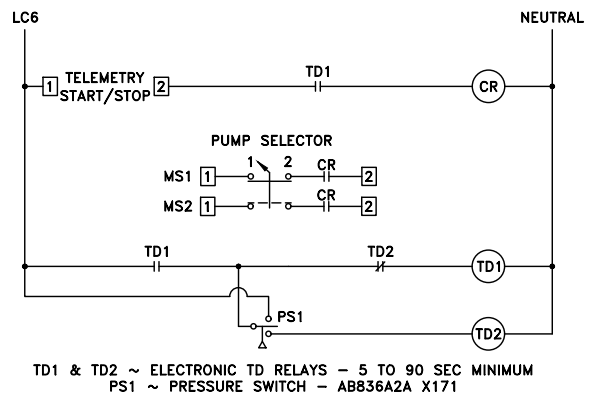
ELECTRICAL ONE-LINE SCHEMATIC
NO SCALE



PHYSICAL LAYOUT
NO SCALE



SERVICE ENTRANCE
NO SCALE



CONTROL SCHEMATIC
NO SCALE

LOAD CENTER					
LC1	30A	HEAT A/C	LC2	15A	CONTROL PANEL
LC3			LC4	15A	WALL RECEPTACLE (GF1)
LC5	15A	INTERIOR LIGHTING	LC6	15A	SCADA
LC7	15A	DUSK-TO-DAWN	LC8	15A	SPARE
LC9		SPACE	LC10		SPACE
LC11		SPACE	LC12		SPACE

FIXTURE SCHEDULE				
ITEM	MANUFACTURER	CATALOG/DESCRIPTION	LAMP	REMARKS
FIX -A-	COLUMBIA LIGHTING	LAW4-40ML-EU NARROW WRAP AROUND LED	51W LED	CEILING SURFACE MOUNT, 4,400 LUMENS
FIX -B-	HUBBELL LIGHTING	NRG-312LU-5K-BZ-PC PERIMETER WALL PACK	18W LED	WALL MOUNT DUSK-TO-DAWN W/PHOTOCELL, 1,120 LUMENS

HEATING VENTILATION SCHEDULE				
ITEM	MANUFACTURER	MODEL	TYPE	REMARKS
HEAT A/C	BARD	WA182	COOL HEAT	18,300 BTU COOL 17,065 BTU HEAT 5KW

NO.	DATE	REVISION	BY
1	06/1/2023	DRAWING CREATED	RLR

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FIELD LAYOUT
DRAWN BY RLR
CONST CHECKED BY
RECORD CHECKED BY
ISSUE DATE 5-1-2022

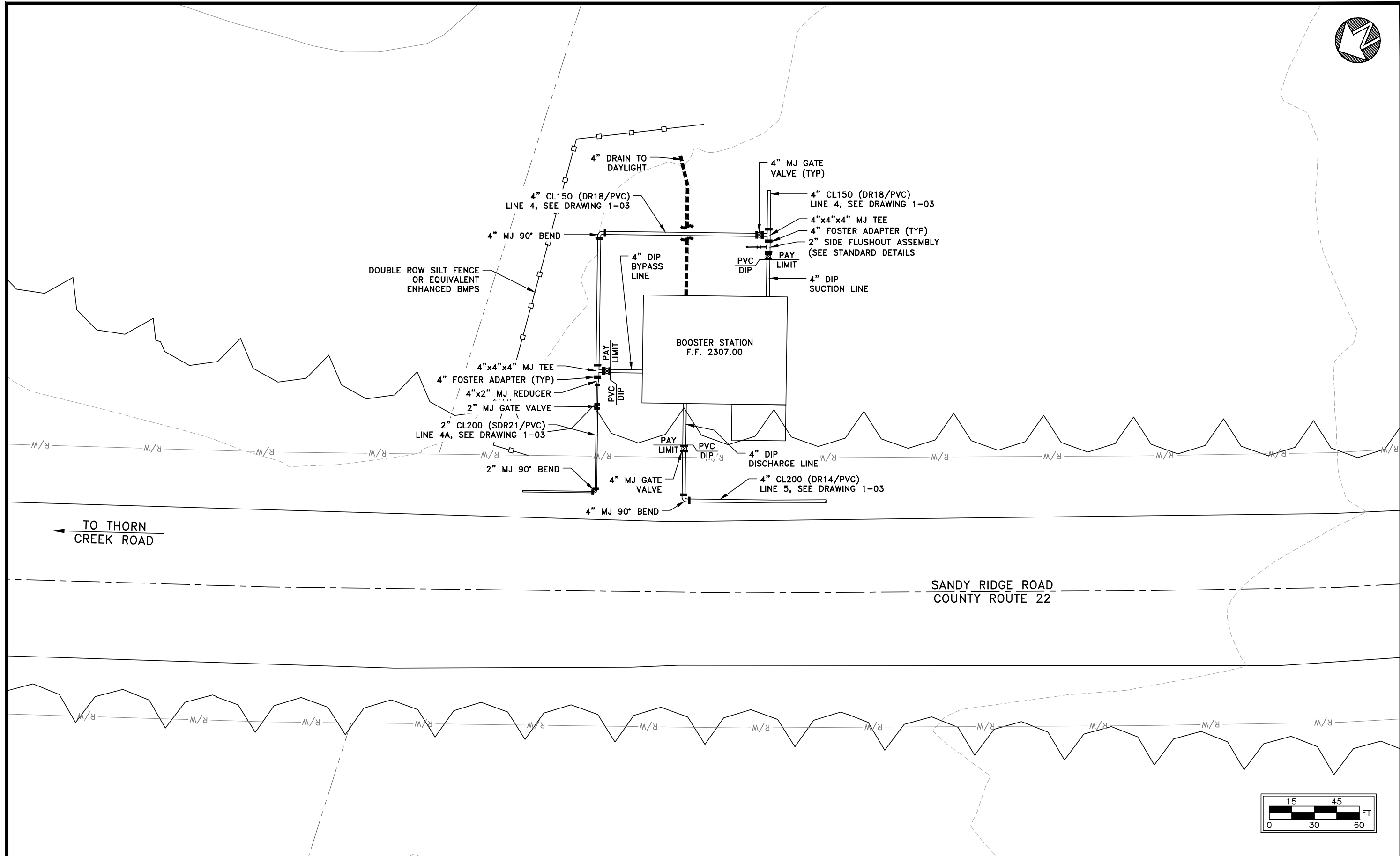
PROJECT TITLE
PENDLETON COUNTY PSD
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

DRAWING TITLE
THORN CREEK
HYDRO-CONSTANT BOOSTER STATION
ELECTRICAL SCHEMATIC

SCALE
NO SCALE

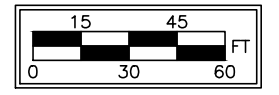
PROJECT NO.
PE40-10W

DRAWING NO.
BS1-05



← TO THORN CREEK ROAD

SANDY RIDGE ROAD
COUNTY ROUTE 22



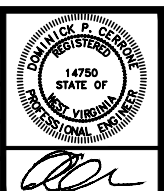
No.	DATE	DESCRIPTION	BY
1	3/1/2021	CREATED	EBB

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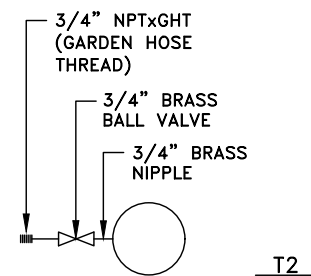
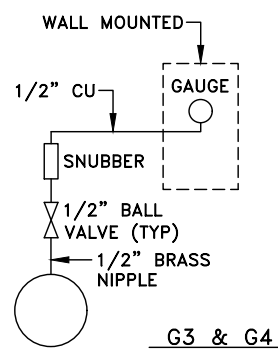
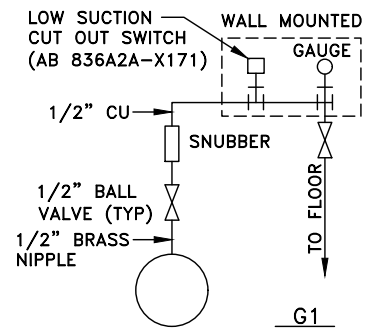
FIELD LAYOUT	
DRAWN BY	EBB
CONST CHECKED BY	
RECORD CHECKED BY	
ISSUE DATE	3/8/21



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	SANDY RIDGE BOOSTER STATION SITE PLAN

SCALE	GRAPHIC
PROJECT NO.	PE40-10W
DRAWING NO.	BS1-06

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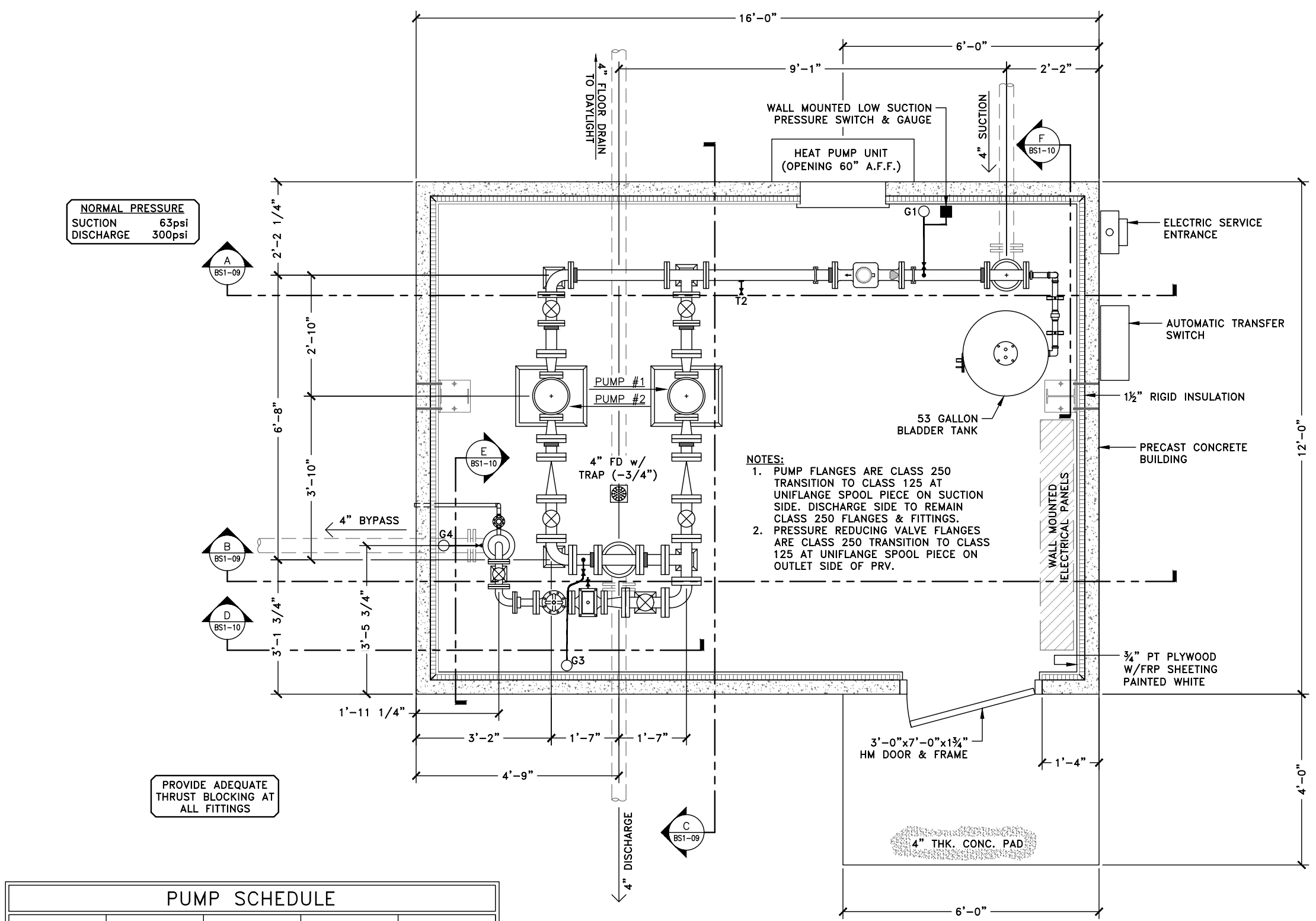
NORMAL PRESSURE
 SUCTION 63psi
 DISCHARGE 300psi

PROVIDE ADEQUATE THRUST BLOCKING AT ALL FITTINGS

PUMP SCHEDULE				
PUMP	HEAD (FT)	GPM	HP	SPEED
#1	642	50	15	3444 RPM
#2	642	50	15	3444 RPM

PUMPS DESC. ~ GRUNDFOS CR 10-17, OR EQUAL

FLOOR PLAN
 3/4" = 1'-0"



- NOTES:**
- PUMP FLANGES ARE CLASS 250 TRANSITION TO CLASS 125 AT UNIFLANGE SPOOL PIECE ON SUCTION SIDE. DISCHARGE SIDE TO REMAIN CLASS 250 FLANGES & FITTINGS.
 - PRESSURE REDUCING VALVE FLANGES ARE CLASS 250 TRANSITION TO CLASS 125 AT UNIFLANGE SPOOL PIECE ON OUTLET SIDE OF PRV.

NO.	DATE	REVISION	BY
1	06/1/2023	DRAWING CREATED	RLR

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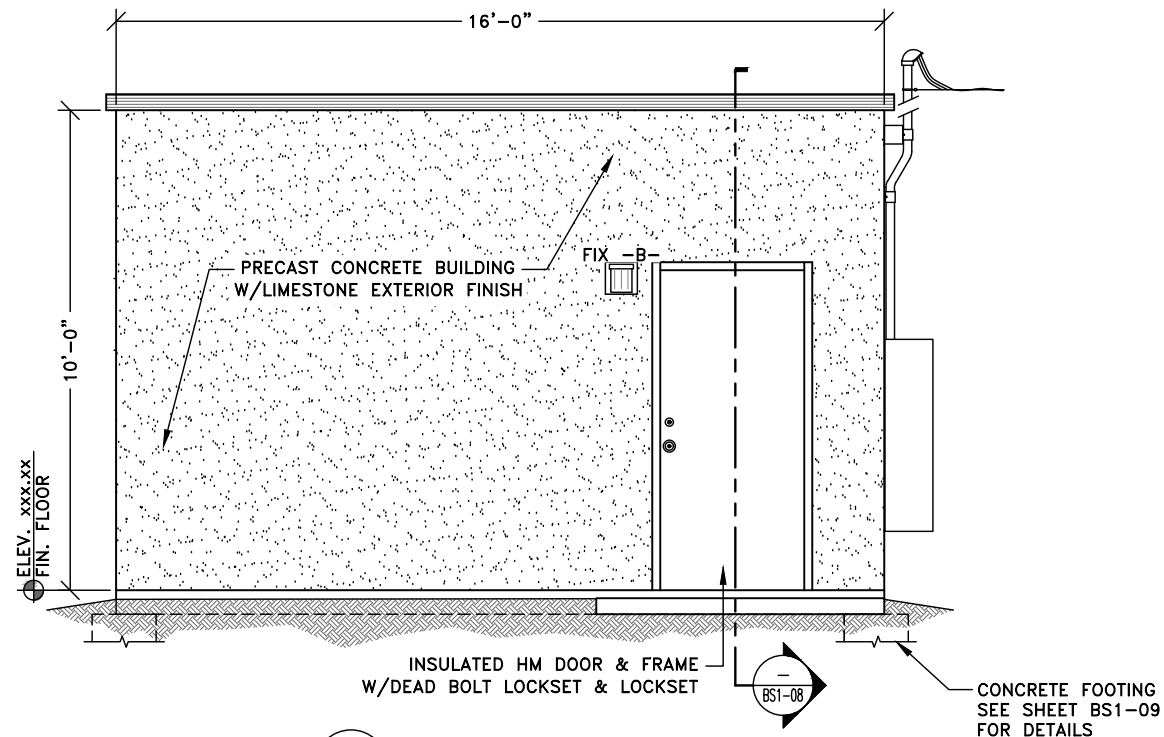


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FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5-1-2022

PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	SANDY RIDGE BOOSTER STATION PLAN

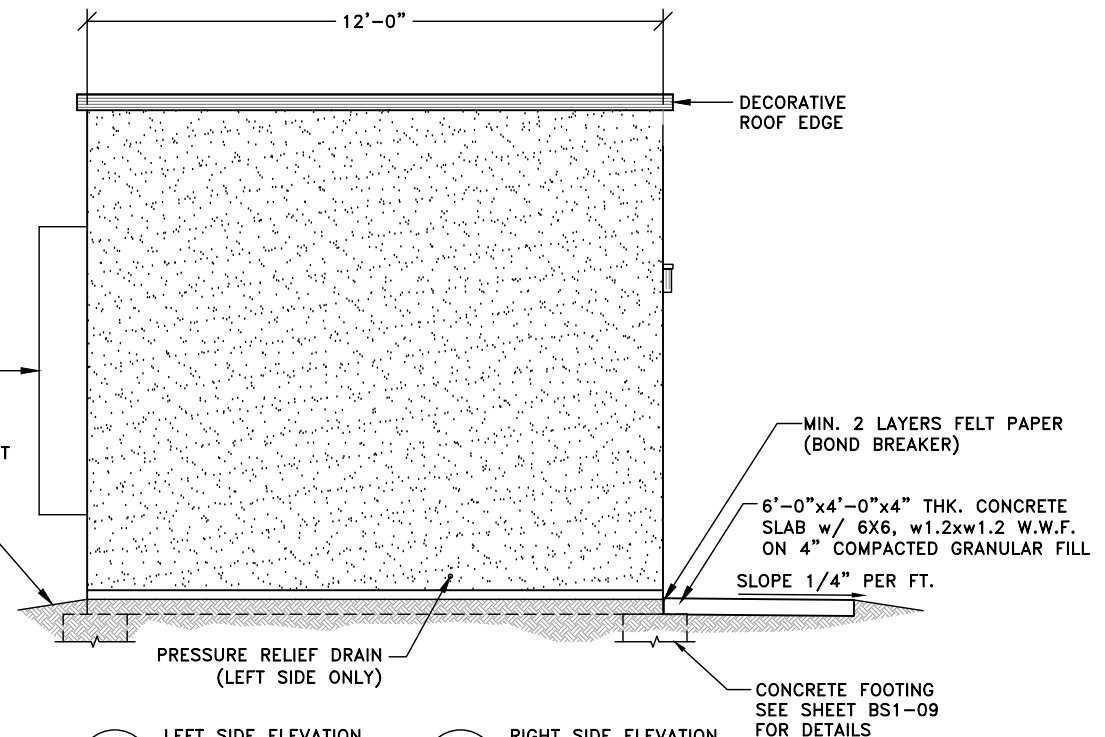
SCALE	AS SHOWN
PROJECT NO.	PE40-10W
DRAWING NO.	BS1-07



1 FRONT ELEVATION
BS1-08 1/2" = 1'-0"

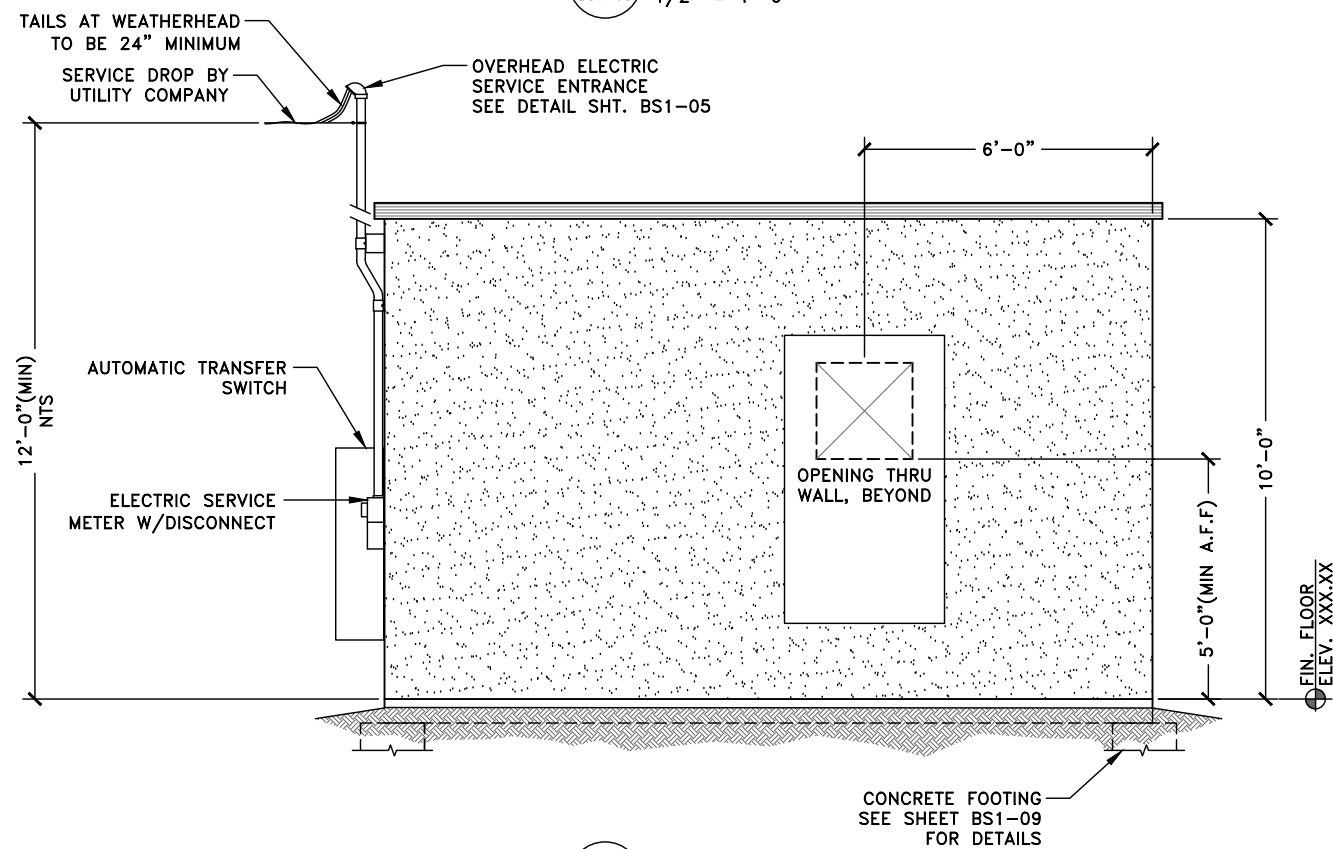
WALL MTD. HVAC UNIT,
OPENING IN WALL 60" A.F.F.
HEAT PUMP, G.C. IS TO
COORDINATE OPENING SIZE
REQUIREMENTS WITH EQUIPMENT
SUPPLIER

SLOPE GRADE ADJACENT
TO STRUCTURE
FOR POSITIVE DRAINAGE
ALL (4) SIDES

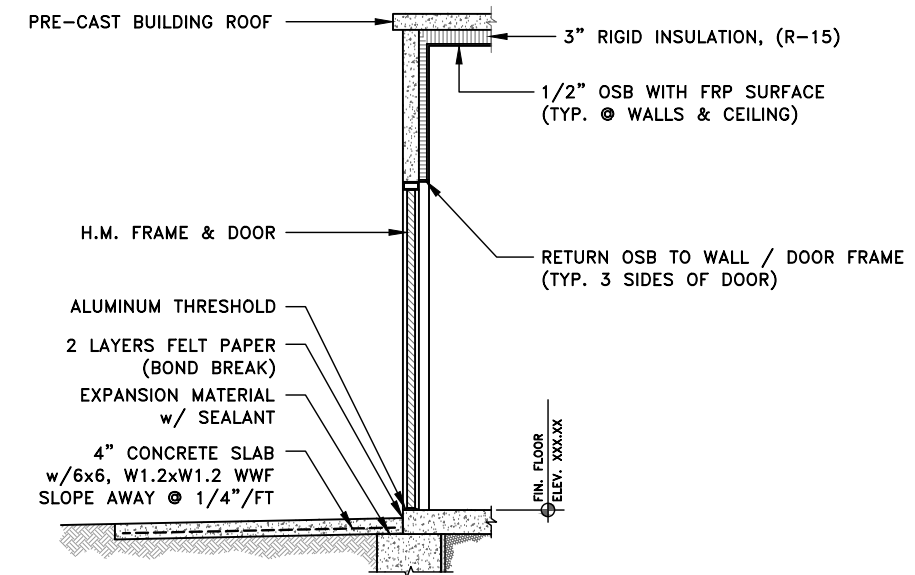


3 LEFT SIDE ELEVATION
(AS SHOWN)
BS1-08 1/2" = 1'-0"

4 RIGHT SIDE ELEVATION
(SIM. - OPP. HAND)
BS1-08 1/2" = 1'-0"



2 REAR ELEVATION
BS1-08 1/2" = 1'-0"



DOOR SECTION
BS1-08 1/2" = 1'-0"

NO.	DATE	REVISION	BY
1	06/1/2023	DRAWING CREATED	RLR

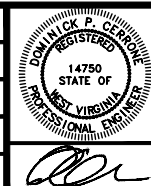
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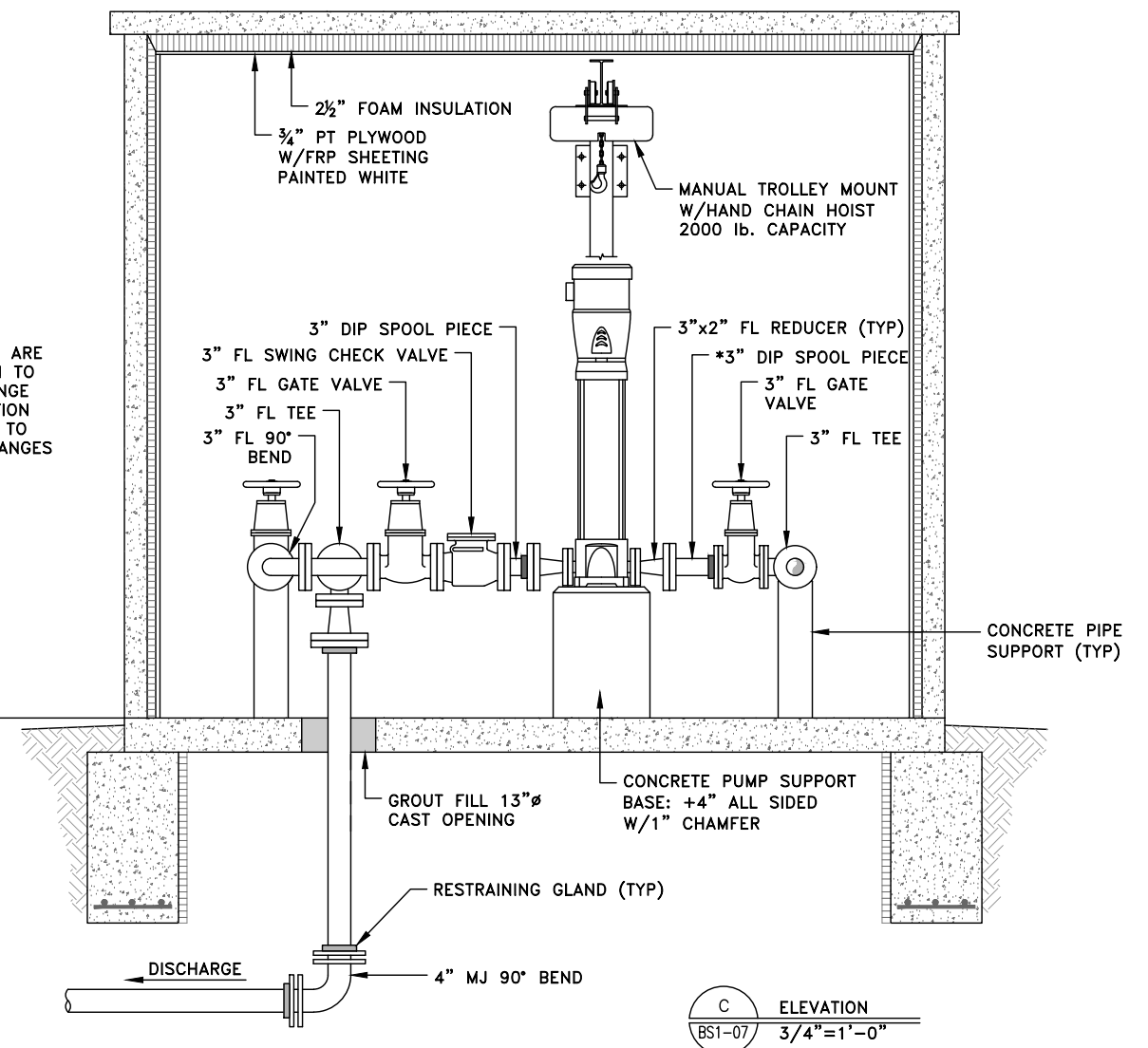
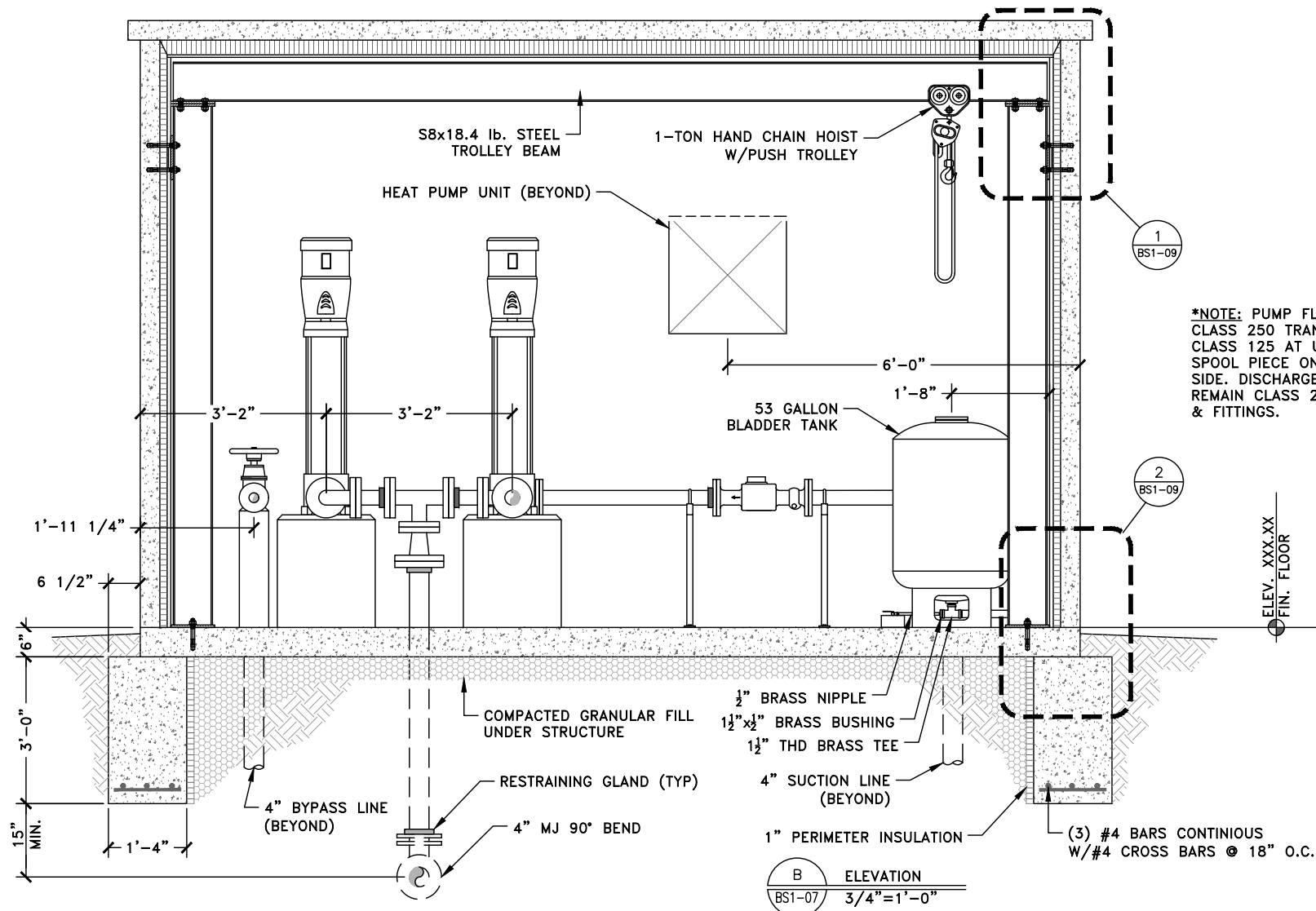
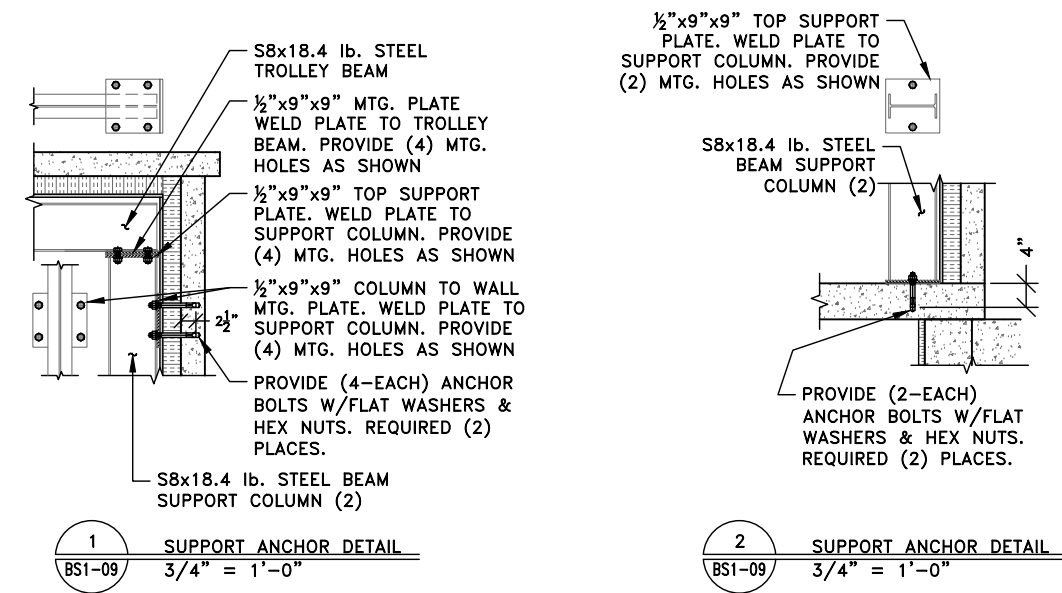
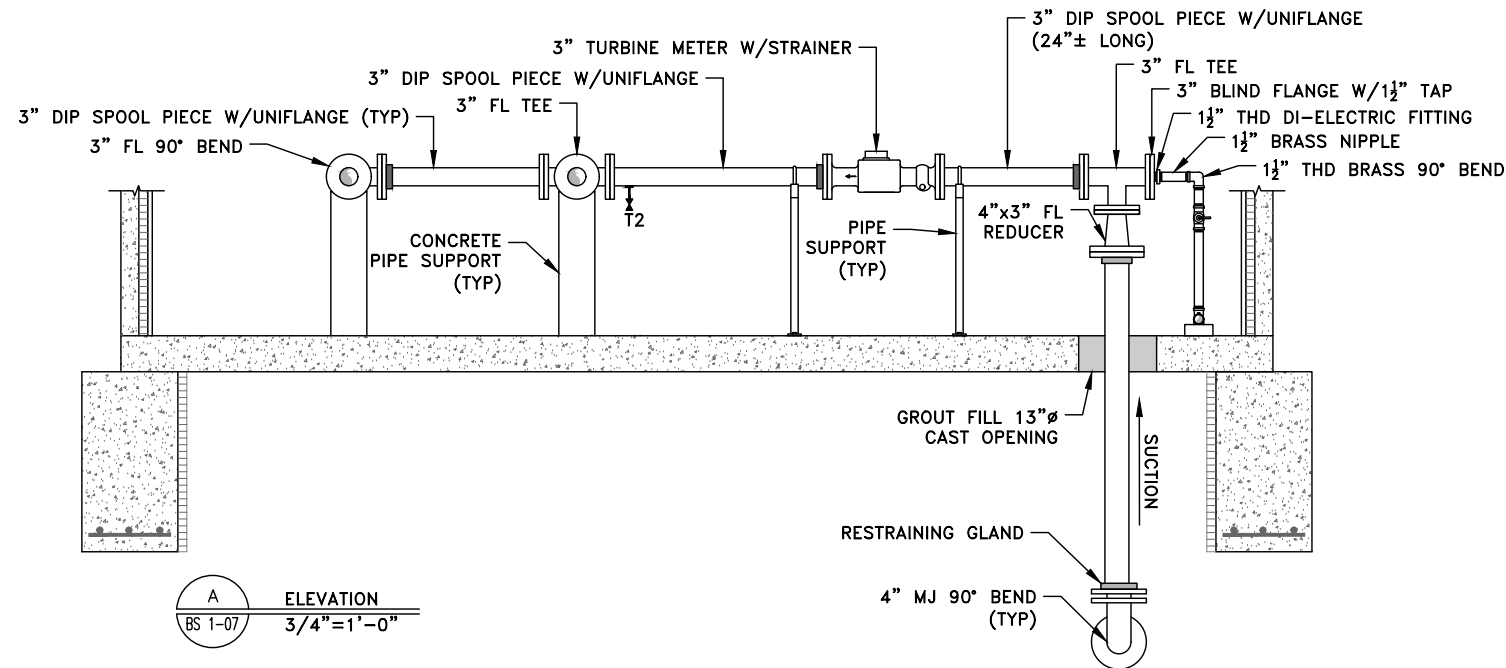
CERRONE ASSOCIATES, INC.
CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5-1-2022



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	SANDY RIDGE BOOSTER STATION ELEVATIONS

SCALE	AS SHOWN
PROJECT NO.	PE40-10W
DRAWING NO.	BS1-08



NO.	DATE	REVISION	BY
1	06/2023	DRAWING CREATED	RLR

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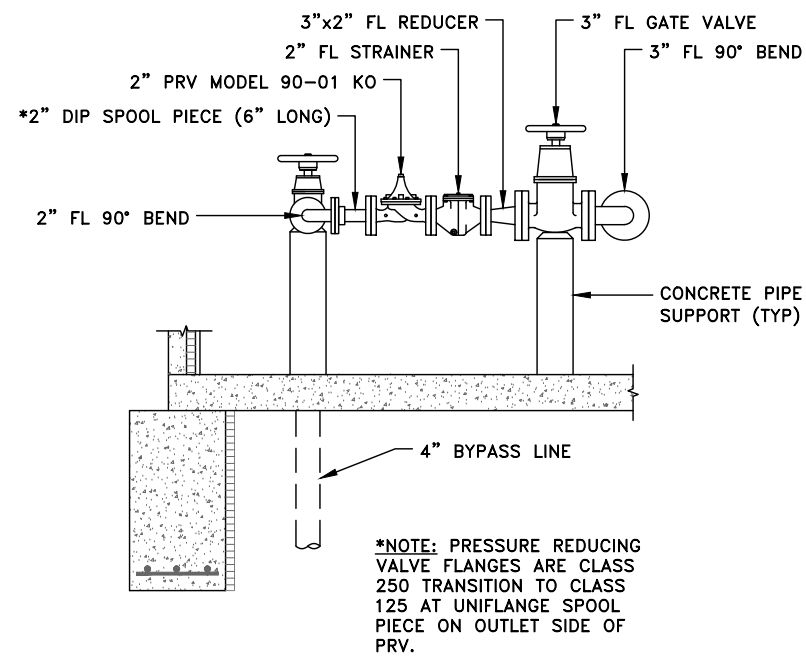
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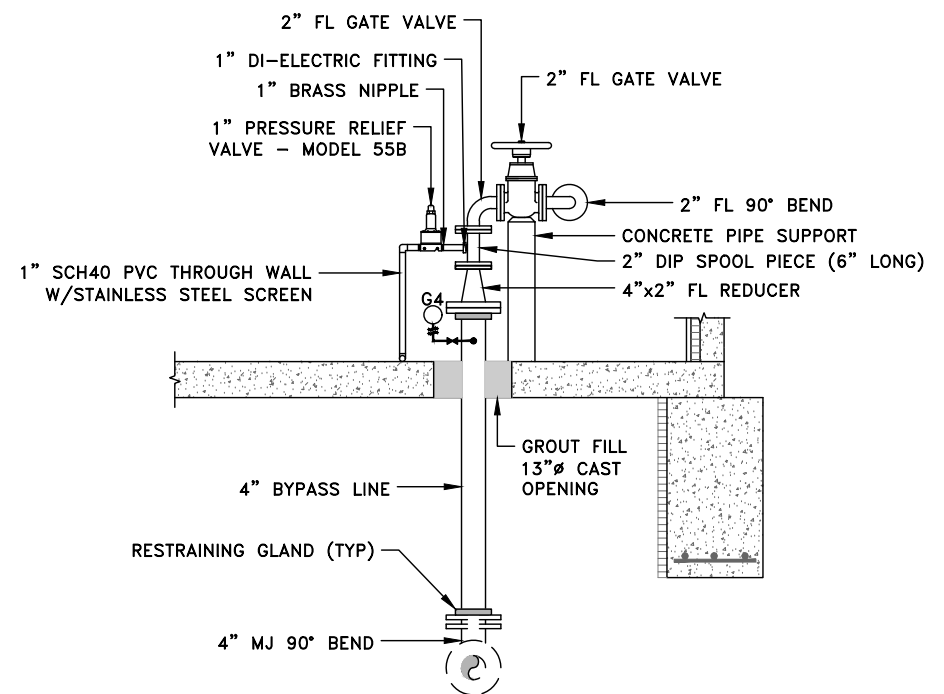
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RECORD CHECKED BY	-
ISSUE DATE	5-1-2022

PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	SANDY RIDGE BOOSTER STATION SECTIONS

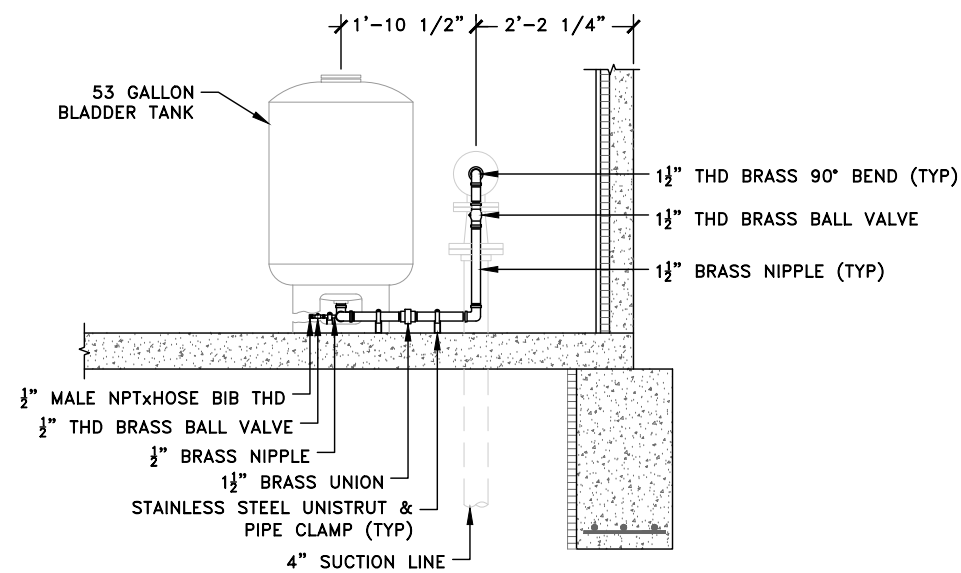
SCALE	AS SHOWN
PROJECT NO.	PE40-10W
DRAWING NO.	BS1-09



D ELEVATION
BS1-07 3/4"=1'-0"



E ELEVATION
BS1-07 3/4"=1'-0"



F ELEVATION
BS1-07 3/4"=1'-0"

NO.	DATE	REVISION	BY
1	07/2023	DRAWING CREATED	RLR

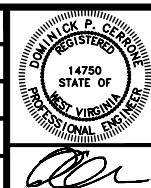
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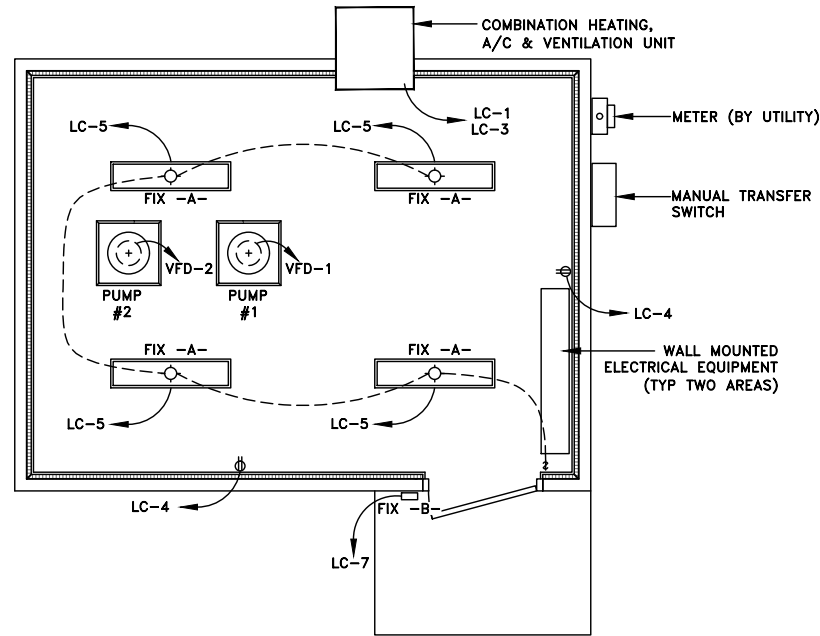
CERRONE ASSOCIATES, INC.
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FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5-1-2022

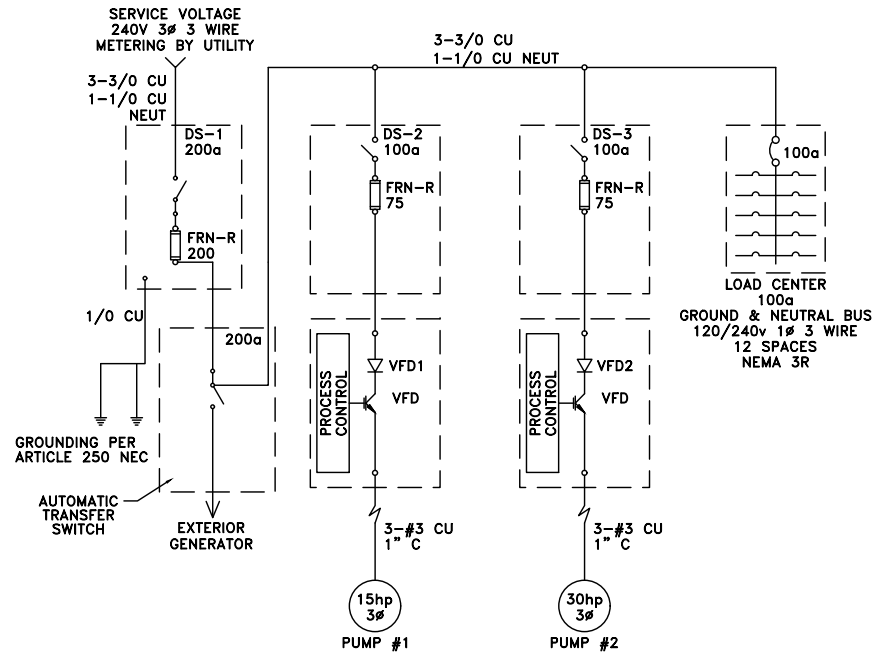


PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	SANDY RIDGE BOOSTER STATION SECTIONS

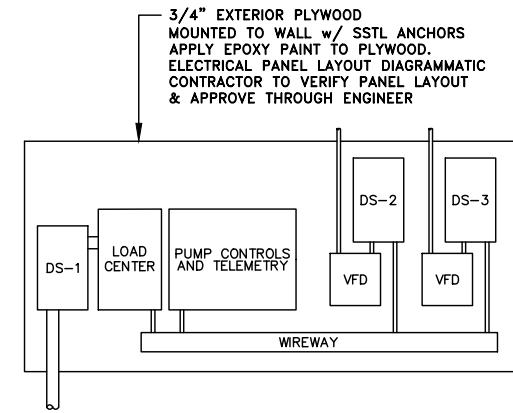
SCALE	AS SHOWN
PROJECT NO.	PE40-10W
DRAWING NO.	BS1-10



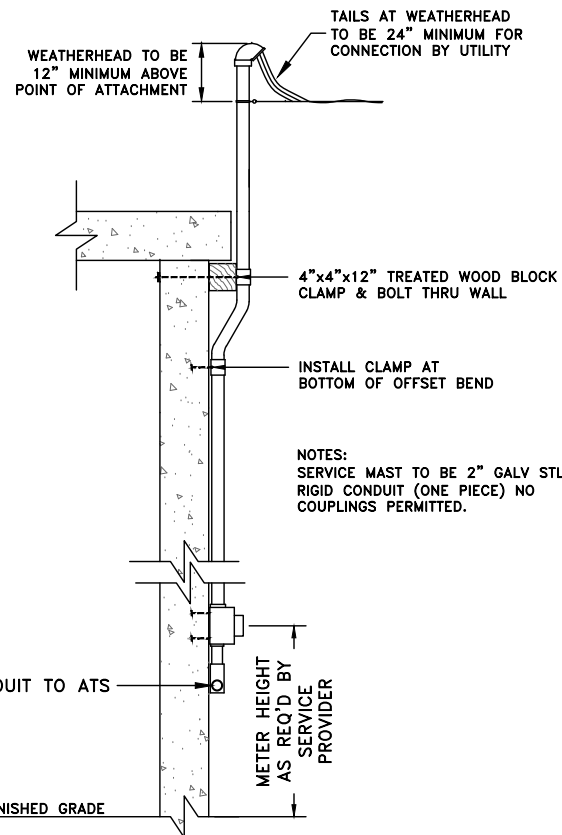
ELECTRICAL FLOOR PLAN
NO SCALE



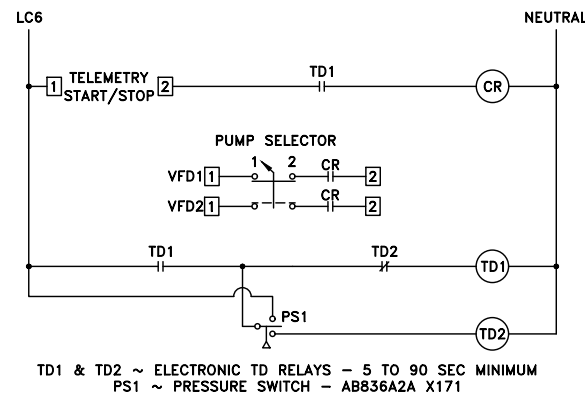
ELECTRICAL ONE-LINE SCHEMATIC
NO SCALE



PHYSICAL LAYOUT
NO SCALE



SERVICE ENTRANCE
NO SCALE



CONTROL SCHEMATIC
NO SCALE

LOAD CENTER					
LC1	30A	HEAT A/C	LC2	15A	CONTROL PANEL
LC3			LC4	15A	WALL RECEPTACLE (GF1)
LC5	15A	INTERIOR LIGHTING	LC6	15A	SCADA
LC7	15A	DUSK-TO-DAWN	LC8	15A	SPARE
LC9		SPACE	LC10		SPACE
LC11		SPACE	LC12		SPACE

FIXTURE SCHEDULE				
ITEM	MANUFACTURER	CATALOG/DESCRIPTION	LAMP	REMARKS
FIX -A-	COLUMBIA LIGHTING	LAW4-40ML-EU NARROW WRAP AROUND LED	51W LED	CEILING SURFACE MOUNT, 4,400 LUMENS
FIX -B-	HUBBELL LIGHTING	NRG-312LU-5K-BZ-PC PERIMETER WALL PACK	18W LED	WALL MOUNT DUSK-TO-DAWN W/PHOTOCELL, 1,120 LUMENS

HEATING VENTILATION SCHEDULE				
ITEM	MANUFACTURER	MODEL	TYPE	REMARKS
HEAT A/C	BARD	WA182	COOL HEAT	18,300 BTU COOL 17,065 BTU HEAT 5KW

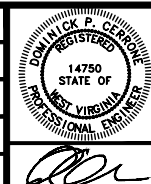
NO.	DATE	REVISION	BY
1	06/2023	DRAWING CREATED	RLR

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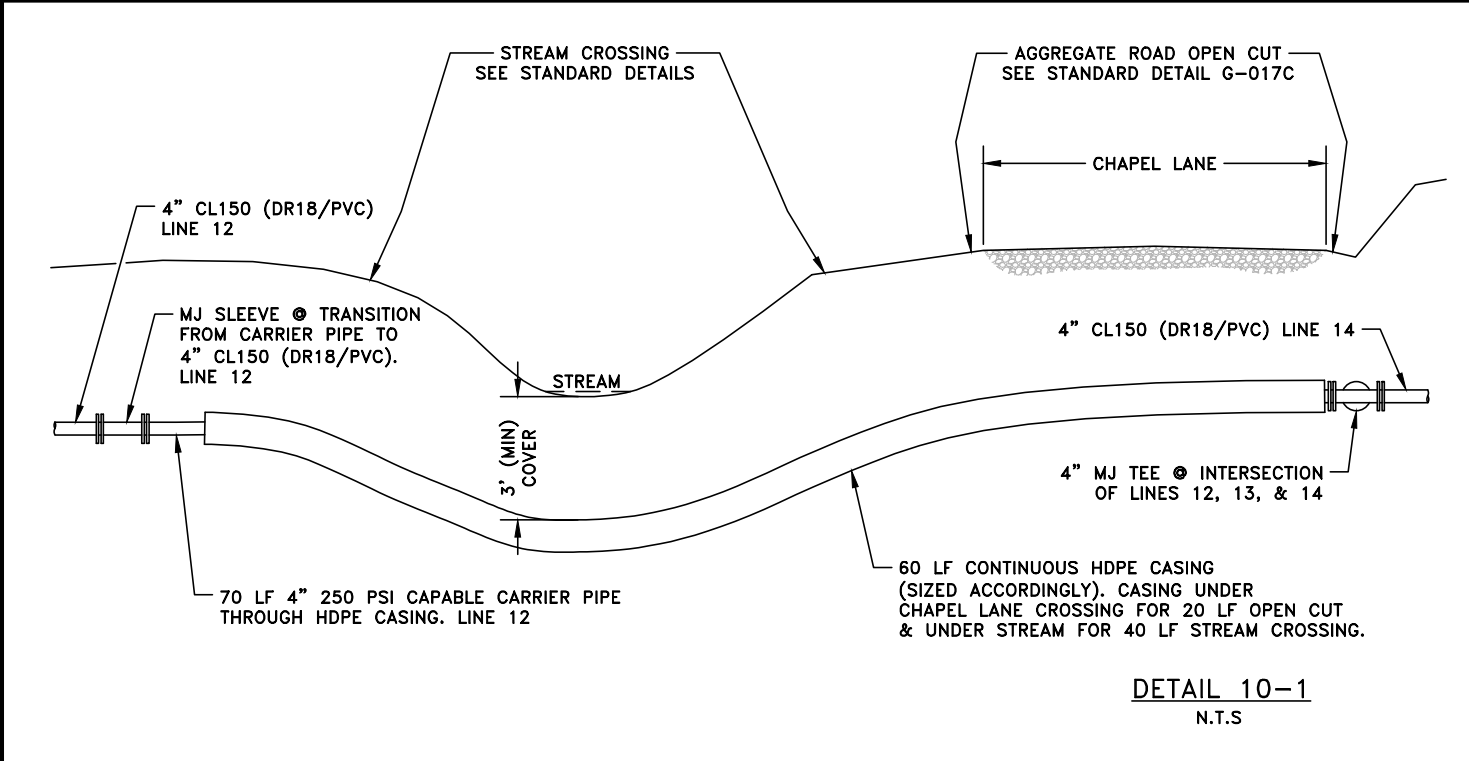
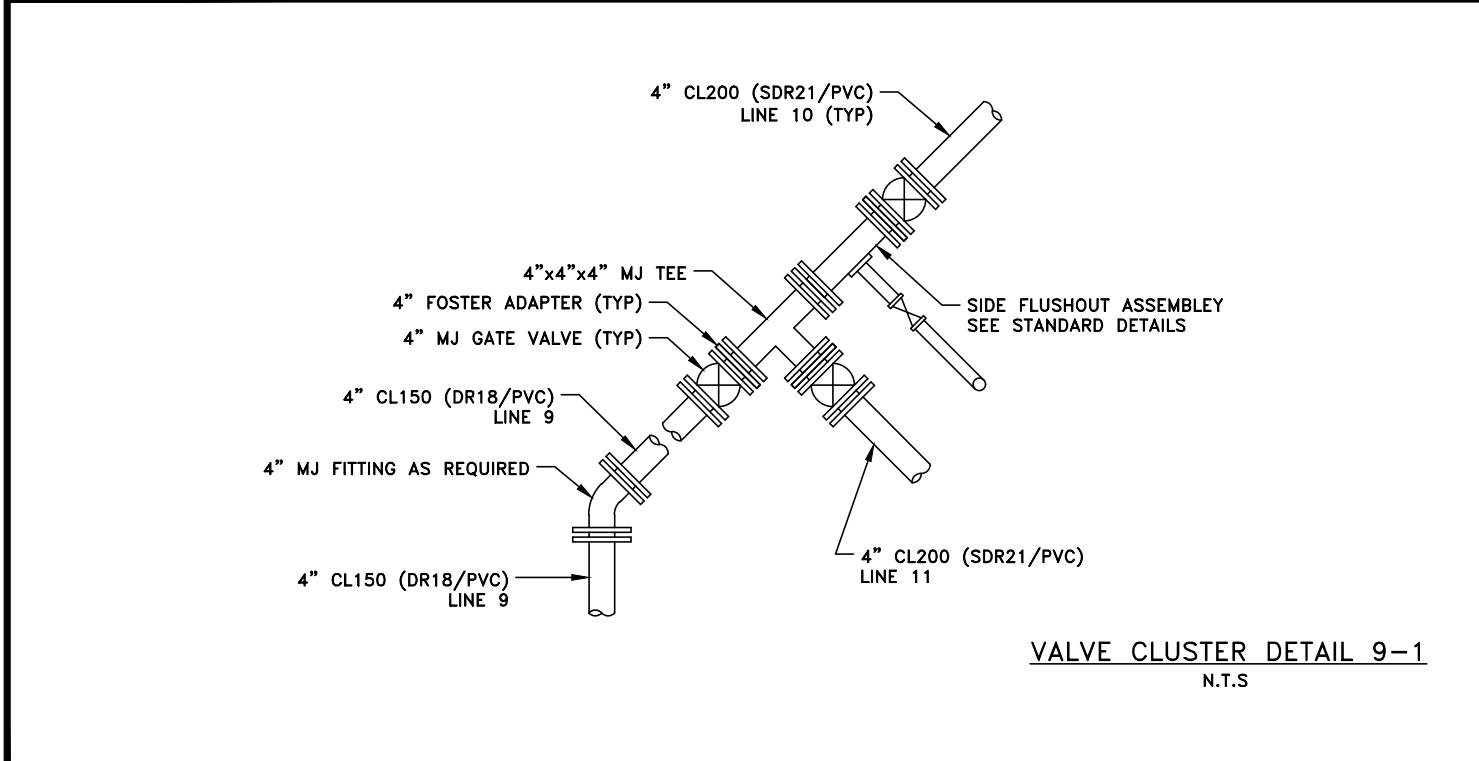
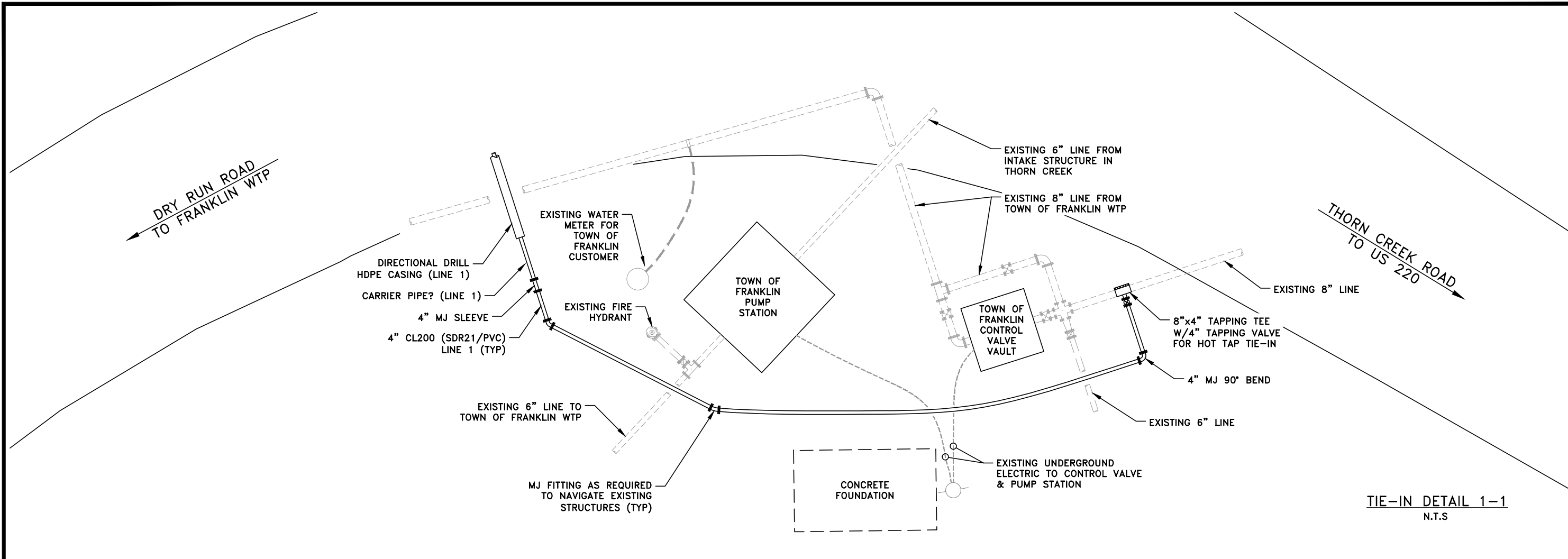


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FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5-1-2022



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE	NO SCALE
DRAWING TITLE	SANDY RIDGE BOOSTER STATION ELECTRICAL SCHEMATIC	PROJECT NO.	PE40-10W
		DRAWING NO.	BS1-11



No.	DATE	DESCRIPTION	BY
2	10-2023	ADJUSTED DETAIL 9-1 W/ 2" LINE REMOVAL	BLP
1	08-2022	CREATED	BLP

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FIELD LAYOUT

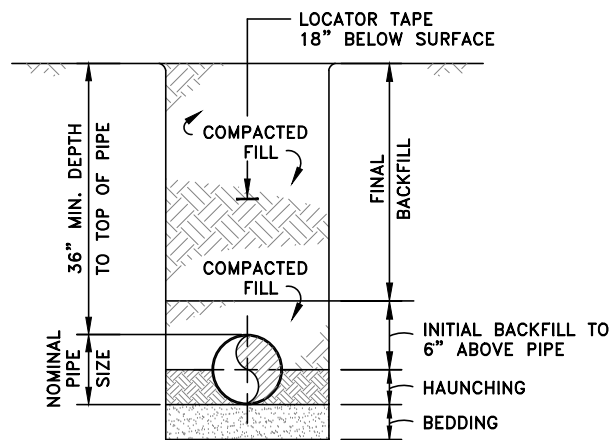
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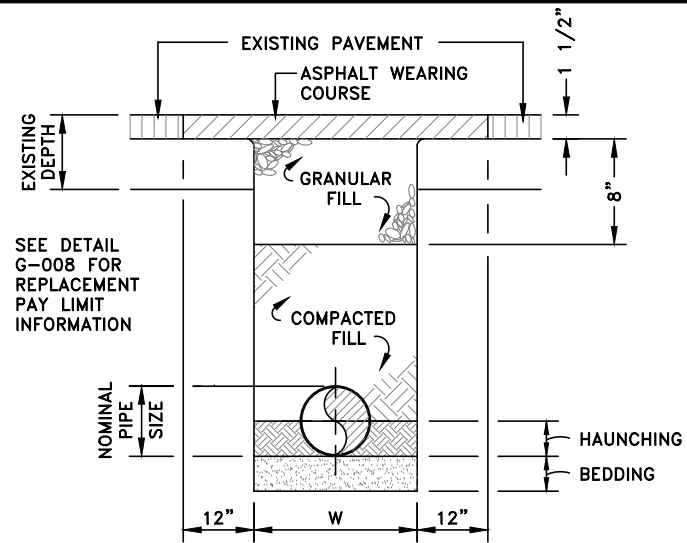
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ISSUE DATE: 3/8/24

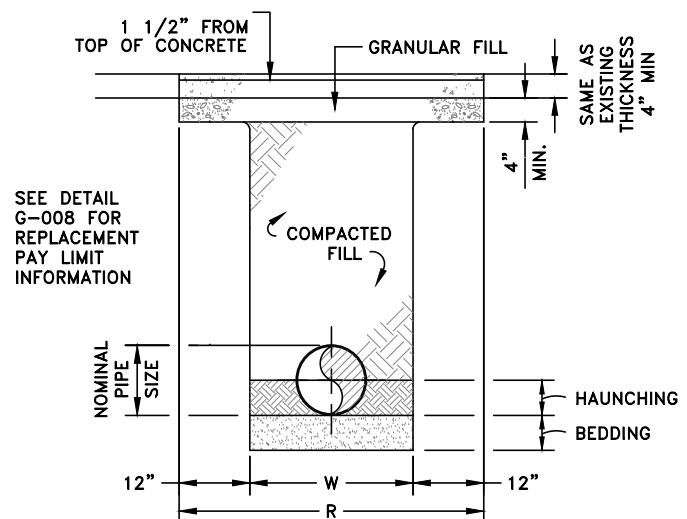
PROJECT TITLE PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE GRAPHIC PROJECT NO. PE40-10W DRAWING NO. PD1-01
DRAWING TITLE PROJECT DETAILS	



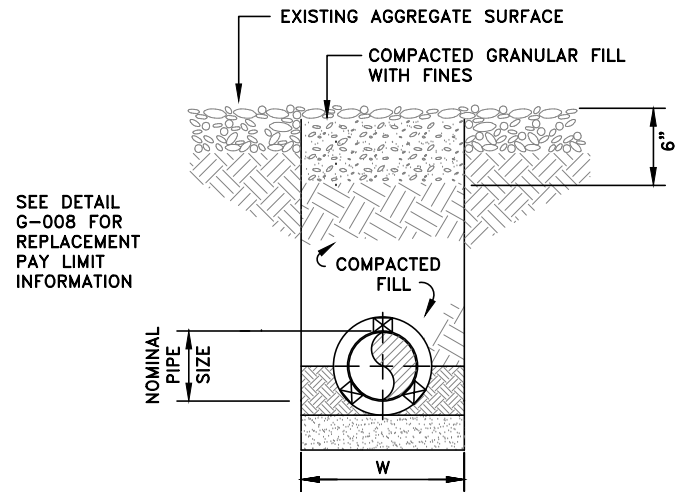
TYPICAL TRENCH SECTION G-001



ASPHALT DRIVEWAY/PARKING REPLACEMENT G-003A



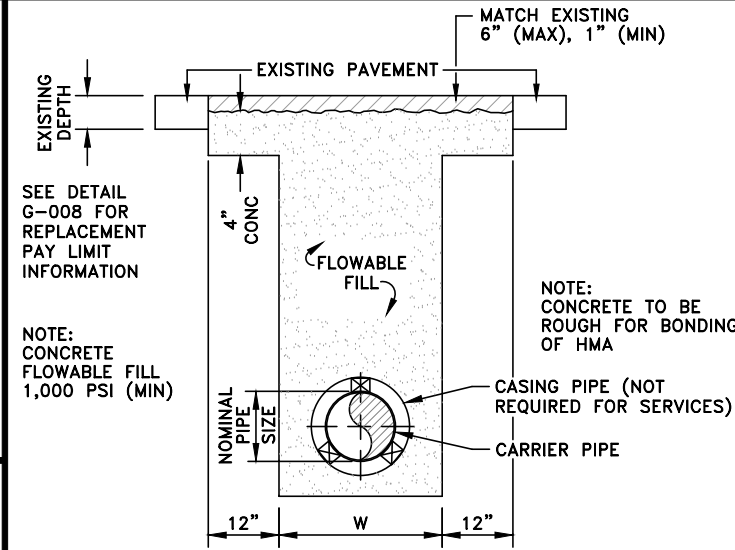
CONCRETE DRIVEWAY AND SIDEWALK REPLACEMENT G-002



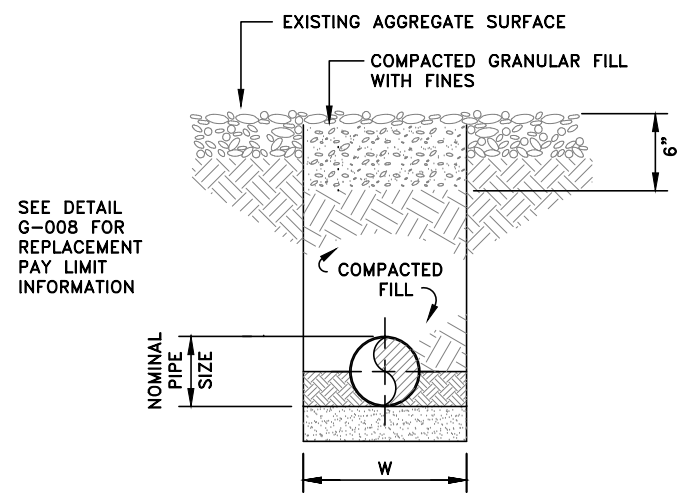
AGGREGATE ROAD OPEN CUT REPLACEMENT G-017C

REPLACEMENTS SCHEDULE				
NOMINAL PIPE SIZE	REPLACEMENT DIMS.		CONC. ENCSM'T CU. FT. PER FT. TRENCH	SELECT BEDDING CU. FT. PER FT. TRENCH
	TRENCH AND BASE COURSE	WEARING COURSE		
	W	R		
2" OR LESS	1'-6"	3'-6"	1.48	0.63
3" & 4"	1'-6"	3'-6"	1.68	0.75
6"	1'-6"	3'-6"	1.80	0.88
8"	2'-0"	4'-0"	2.65	1.00
10"	2'-4"	4'-4"	3.34	1.13
12"	2'-7"	4'-7"	3.94	1.25

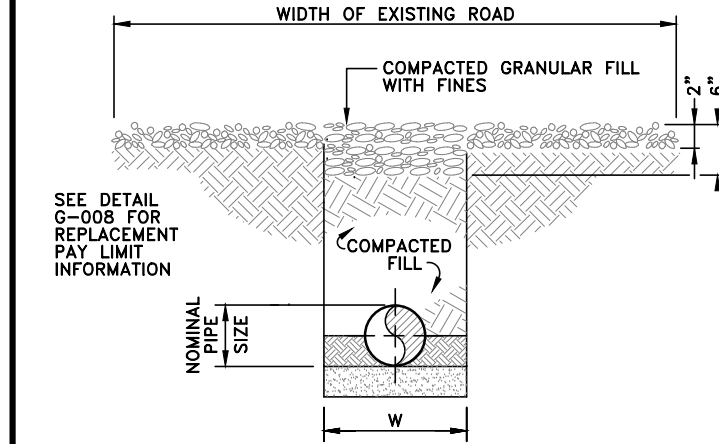
REPLACEMENT PAY LIMIT INFORMATION G-008



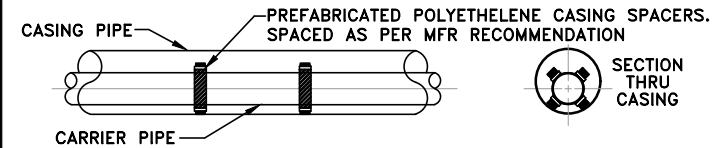
TYPE A HIGHWAY OPEN CUT REPLACEMENT W/ FLOWABLE FILL G-017C



AGGREGATE DRIVEWAY & PARKING AREA REPLACEMENT G-026



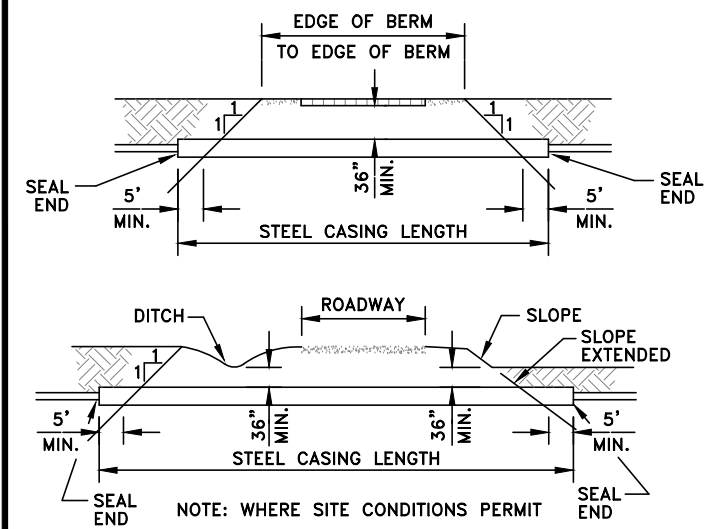
FULL WIDTH AGGREGATE OVERLAY PIPE IN MIDDLE OF ROAD G-031



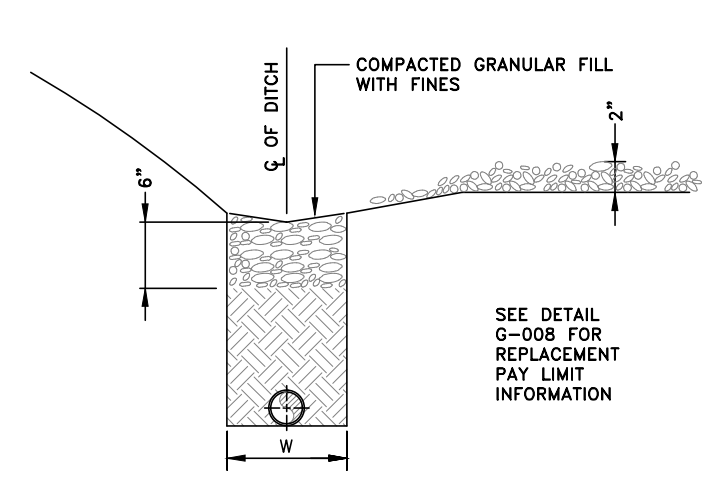
CASING SCHEDULE

CARRIER PIPE TYPE	CASING PIPE TYPE	CARRIER PIPE SIZES					
		2"	3"	4"	6"	8"	10"
CL 100 DR 25	STEEL	—	—	10"	12"	14"	16"
CL 160 SDR 26	PVC	—	—	10"	12"	15"	18"
CL 200 SDR 21	STEEL	6"	8"	8"	10"	12"	16"
CL 250 SDR 17	PVC	6"	8"	8"	10"	15"	15"
CL 315 SDR 13.5	STEEL	6"	8"	8"	10"	12"	16"
C-900 DR 14 DR 18	PVC	6"	8"	8"	10"	15"	15"
ASTM D 3034 SDR 35	STEEL	—	—	8"	10"	12"	16"
ASTM F 794 ULTRA-RIB	STEEL	—	—	—	—	14"	16"

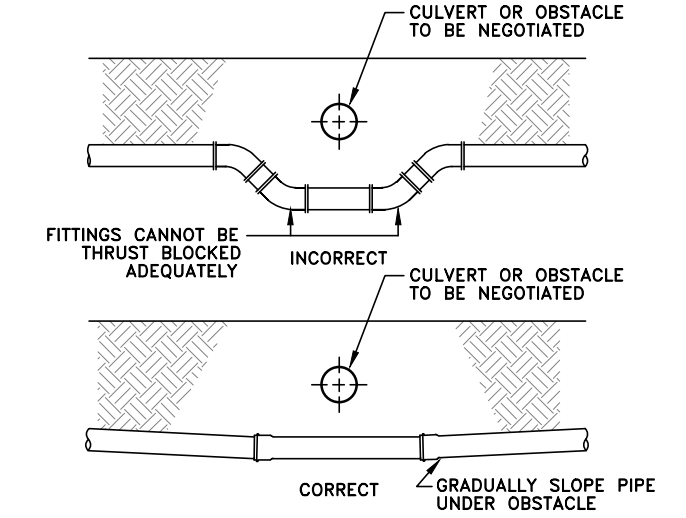
CASING G-012A



ROAD BORINGS G-013



FULL WIDTH AGGREGATE OVERLAY PIPE IN EDGE OF ROAD G-032



CORRECT METHOD FOR NEGOTIATING AN OBSTACLE G-010

No.	DATE	DESCRIPTION	BY
2	10-2023	REPLACED DETAIL G-012A WITH G-012C AS PER WDOH REQUEST	BLP
1	08-2023	DRAWING CREATED	BLP

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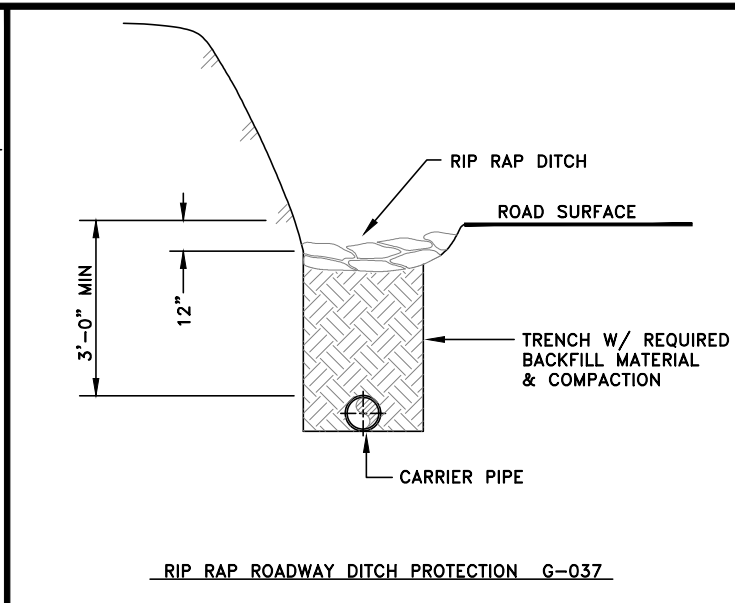
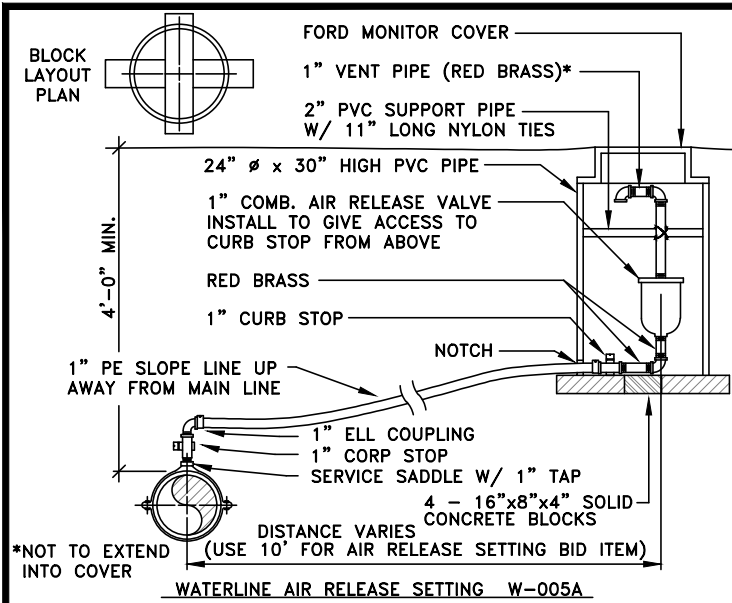
FIELD LAYOUT
DRAWN BY: BLP
CONST CHECKED BY:
RECORD CHECKED BY:
ISSUE DATE: 5/1/22

PROJECT TITLE
DRAWING TITLE

PENDLETON COUNTY PSD
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

SCALE: AS SHOWN
PROJECT NO.: PE40-10W
DRAWING NO.: SD1-01

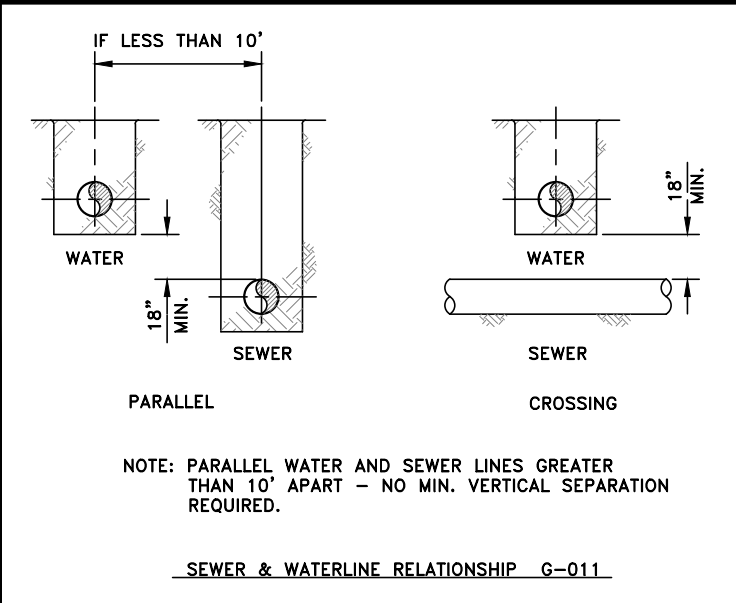
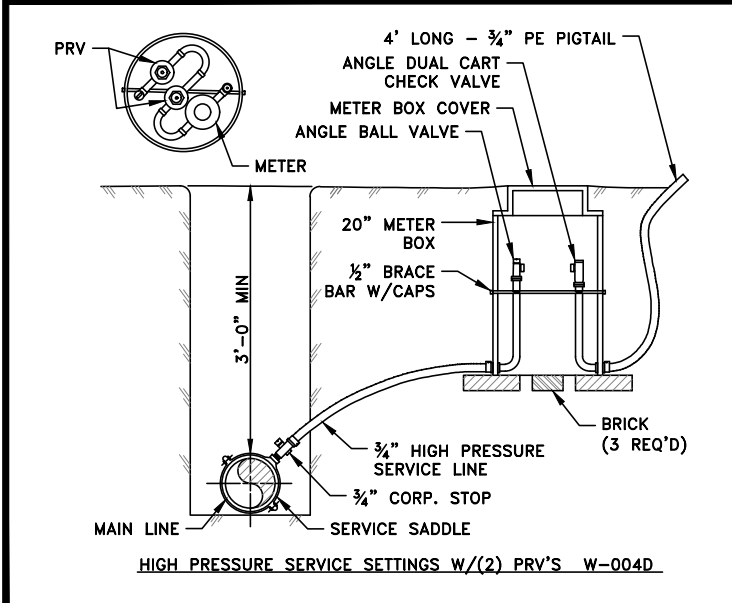
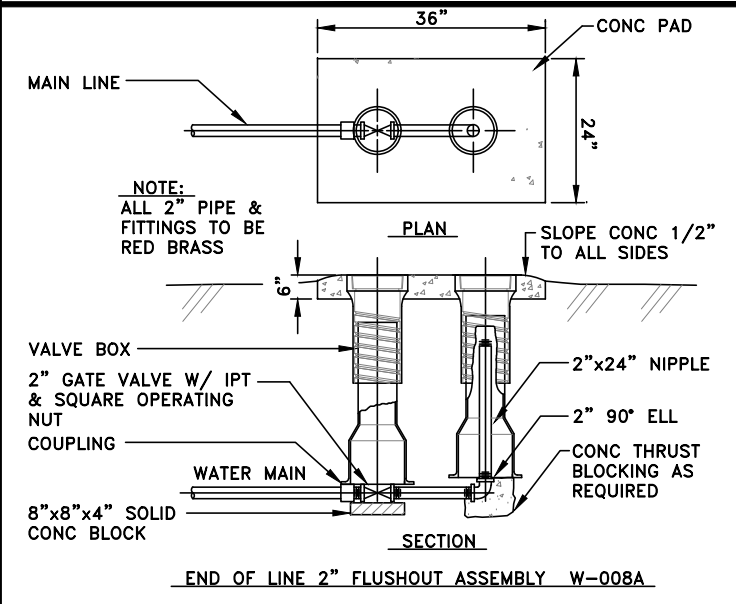
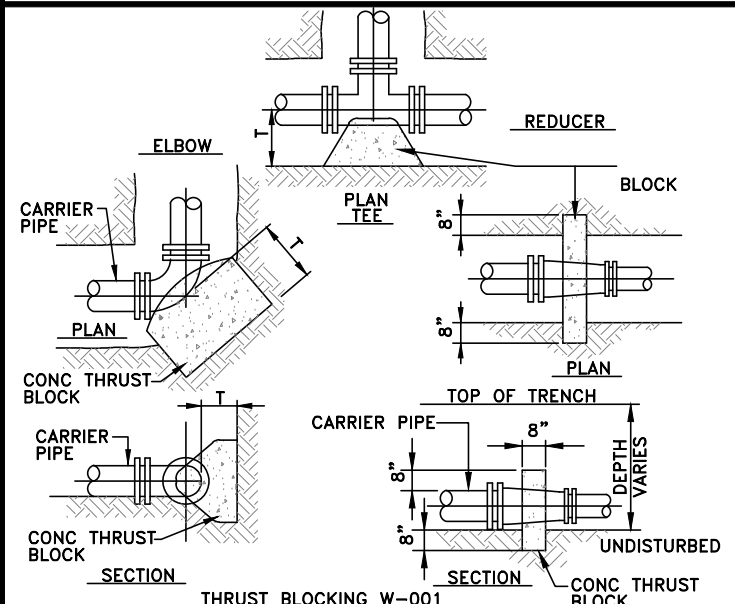
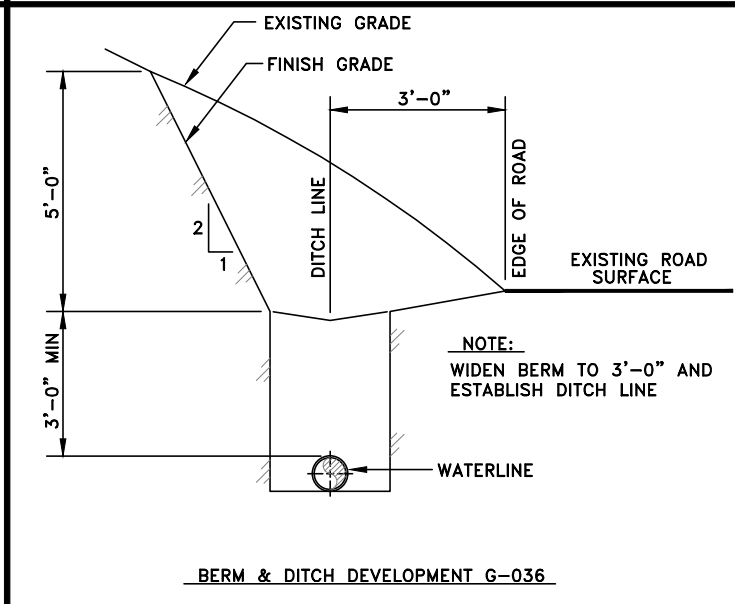
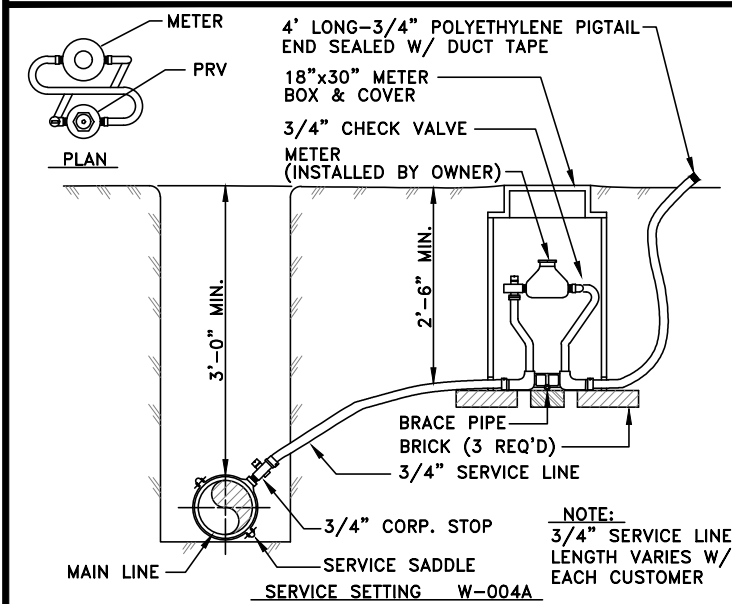
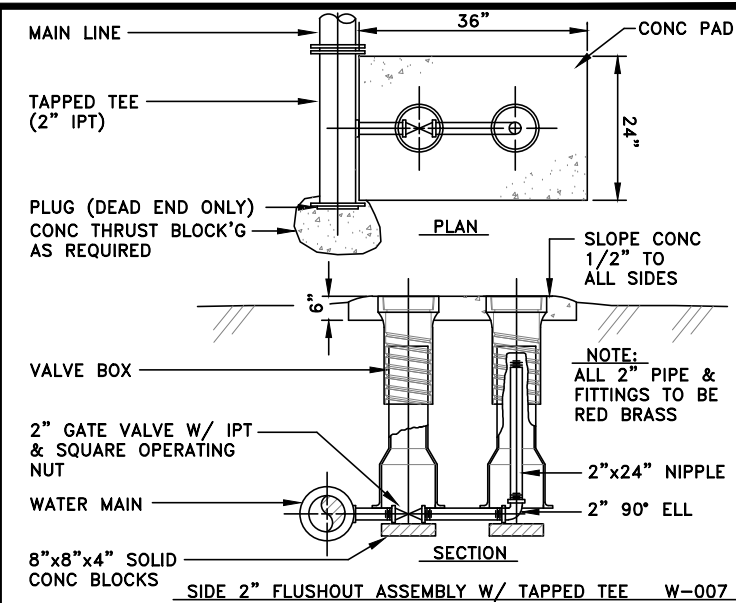
STANDARD DETAILS



PIPE SIZE	CLASS	FITTING (REQUIRED BEARING AREA IN SQUARE FEET)				MINIMUM THICKNESS T
		TEE OR CAP	90°	45°	11 1/4" & 22 1/2"	
ALL PIPE 3" & SMALLER		1.0	1.0	1.0	1.0	6"
4"	SDR	1.6	2.3	1.3	0.6	6"
4"	DR & DIP	3.0	4.2	2.2	1.1	6"
6"	SDR	3.5	4.9	2.7	1.4	8"
6"	DR & DIP	6.1	8.6	4.7	2.4	8"
8"	SDR	5.9	8.4	4.5	2.3	12"
8"	DR & DIP	10.3	14.6	7.9	4.0	12"
10"	SDR	9.2	13.0	7.0	3.6	12"
10"	DR & DIP	16.1	22.8	12.4	6.2	12"
12"	SDR	12.9	18.2	9.9	5.0	15"
12"	DR & DIP	22.6	32.0	17.2	8.8	15"

* FOR OTHER PIPE SIZES & CLASSES, REFER TO PROJECT ENGINEER

THRUST BLOCKING SIZE REQUIREMENTS G-030



No.	DATE	DESCRIPTION	BY
2	10-2025	ADDED DETAIL W-004D (HIGH PRESSURE SERVICE SETTING)	BLP
1	06-2025	DRAWING CREATED	BLP

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FIELD LAYOUT

DRAWN BY: BLP

CONST CHECKED BY:

RECORD CHECKED BY:

ISSUE DATE: 5/1/22

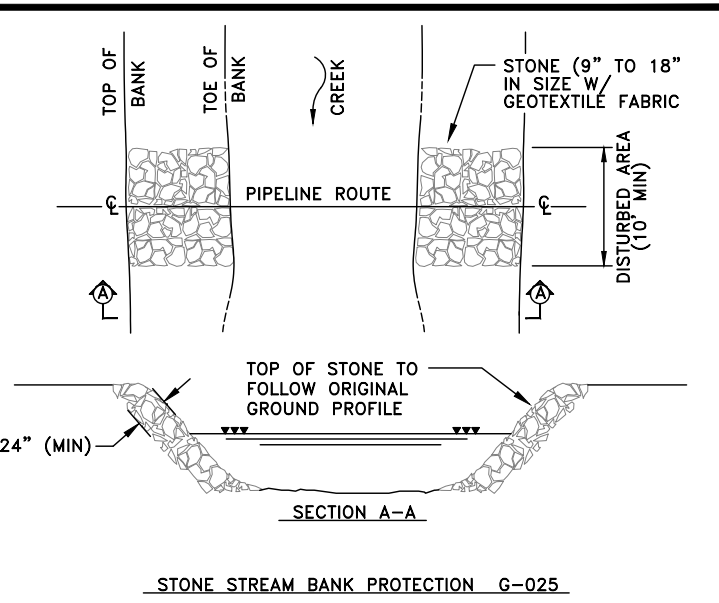
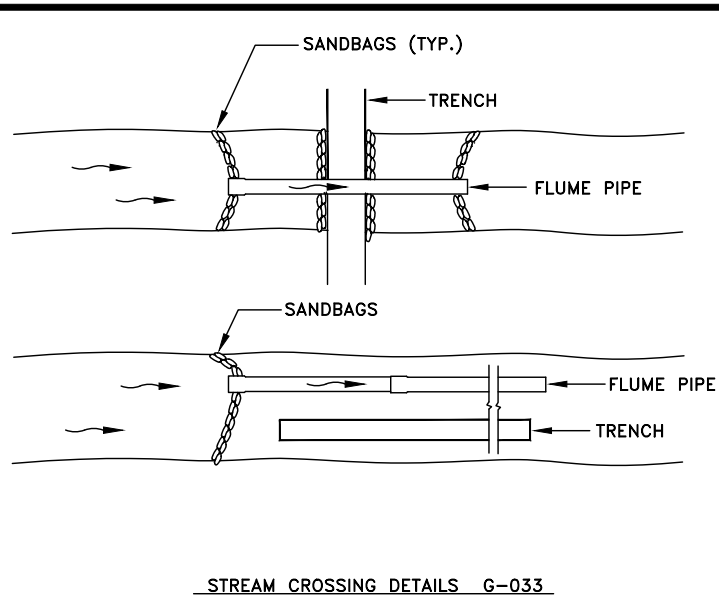
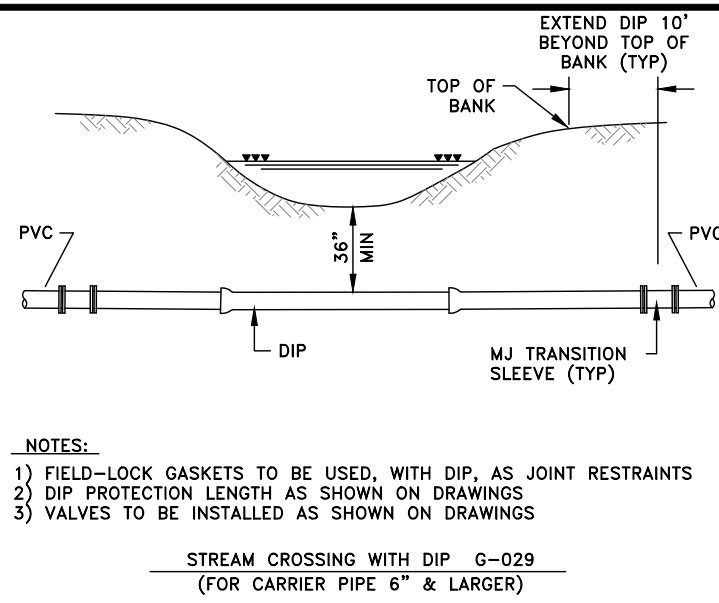
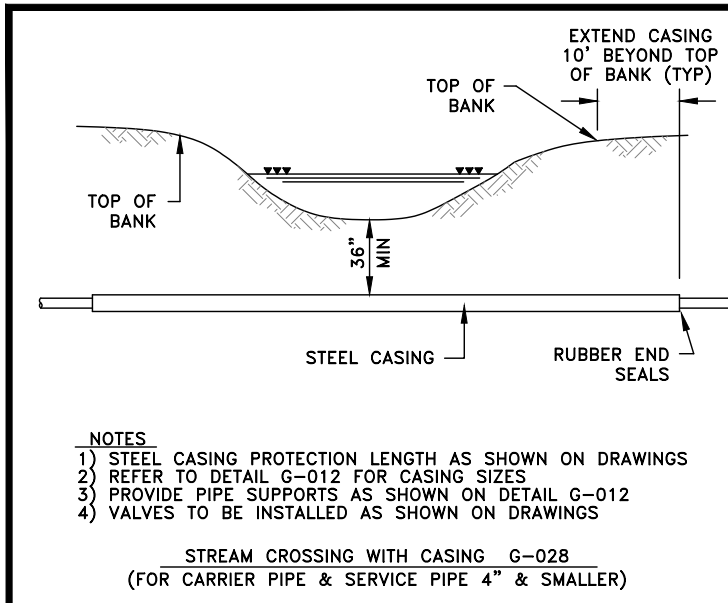
PROJECT TITLE: **PENDLETON COUNTY PSD**
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

DRAWING TITLE: **STANDARD DETAILS**

SCALE: AS SHOWN

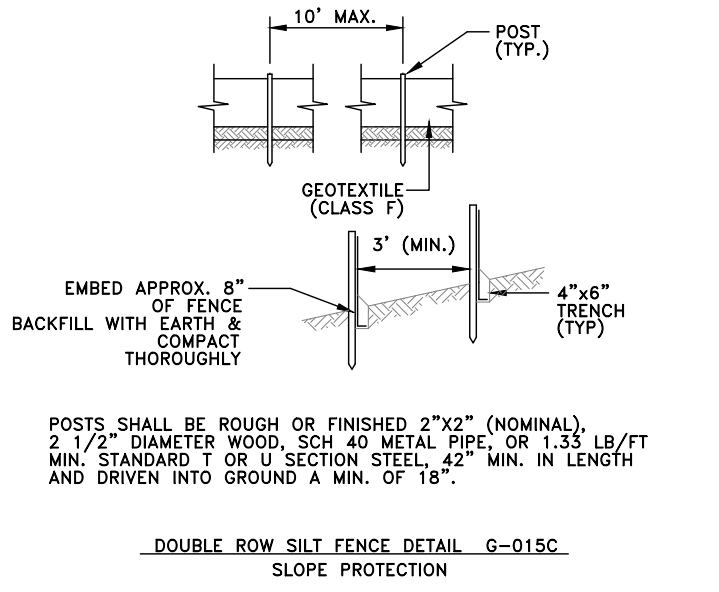
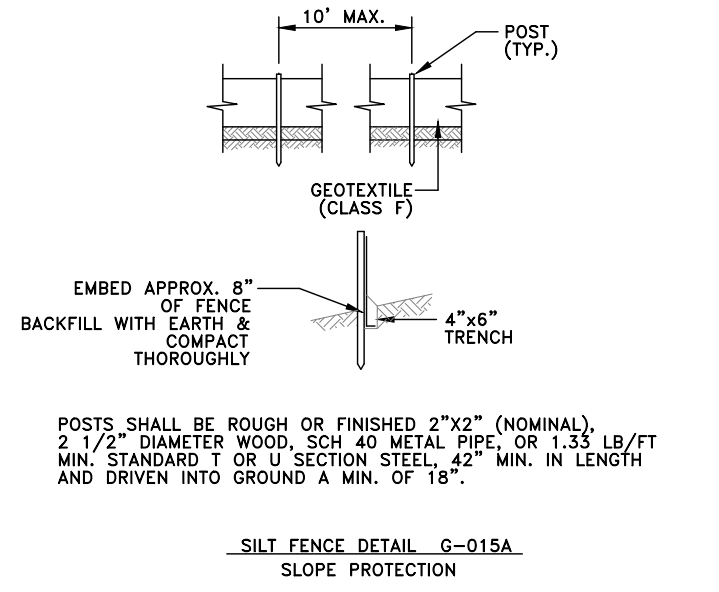
PROJECT NO.: PE40-10W

DRAWING NO.: **SD1-02**



* ALL STREAM ACTIVITIES WILL TAKE PLACE DURING PERIODS OF LOW FLOW
 * NO WORK SHALL BE PERFORMED ON THE STREAM CROSSINGS DURING FISH SPAWNING SEASON (APRIL - JUNE)
 * SEDIMENT & EROSION CONTROL STRUCTURES SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. TORN OR DETERIORATED MATERIALS SHALL BE REPLACED ALL SEDIMENT CONTROL DEVICES SHALL BE CHECKED AFTER THE END OF THE PROJECT. SILT FENCES TO BE CHECKED AT A MINIMUM OF ONCE EVERY SEVEN CALENDAR DAYS AND AFTER EVERY STORM EVENT OF .25" OR GREATER.
 * SEDIMENT BUILD-UP SHALL BE REMOVED AFTER EACH STORM.
 * EXCAVATIONS ACROSS STREAMS (WHERE SHOWN ON DRAWINGS) SHALL BE MADE USING DIVERSION WALLS & FLUME PIPE (SEE DETAILS G-33 & G-34).
 * PUMPS USED FOR DEWATERING SHALL BE PROVIDED WITH INLET SCREENS OR FILTERS TO REDUCE SUCKING MUD. PUMPED WATER SHALL BE DIRECTED TO A DEWATERING BAG BEFORE BEING RELEASED INTO THE STREAM.
 * STREAM BANKS DISTURBED DURING INSTALLATION OF THE PIPE MUST BE RESHAPED AND STABILIZED WITH APPROPRIATE MATERIAL THE SAME DAY THE BACKFILL IS COMPLETED.
 * STREAM BED SMOOTHING SHOULD BE KEPT TO A MINIMUM.
 * ANY AREAS WHICH CANNOT BE RESTORED WITHIN FOUR (4) DAYS OF REACHING FINAL GRADE WILL BE TEMPORARILY MULCHED AND SEEDED.
 * SLOPES WITH A GRADE OF 2:1 OR GREATER SHALL BE COVERED WITH AN ESTABLISHMENT BLANKET.
 * REFER TO THE SPECIFICATIONS (SECTION 02936) FOR ADDITIONAL SEEDING DETAILS.

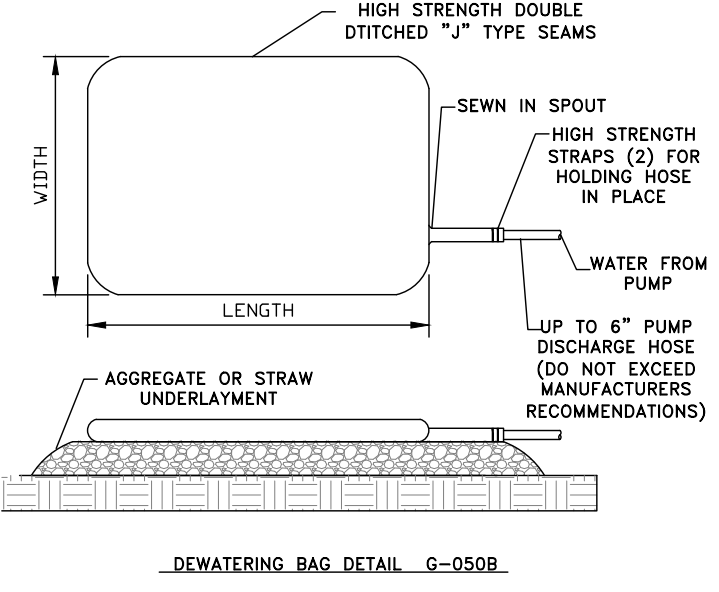
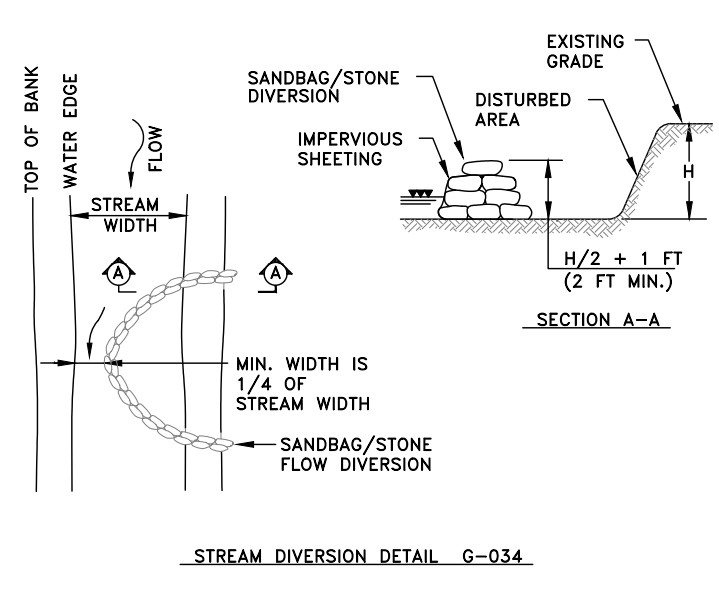
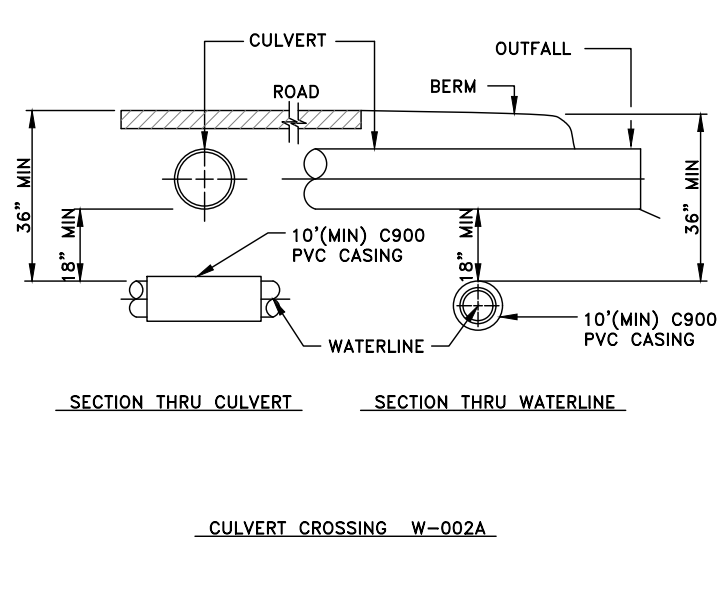
SEDIMENT CONTROL NOTES G-035a



THE CONTRACTOR SHALL PROVIDE MEANS TO HANDLE SPILLS AND WASTE MATERIAL DISPOSAL. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- 1: A CONTAINMENT DIKE SHALL BE PROVIDED AROUND ANY ON-SITE FUEL STORAGE TANKS. IT SHALL HAVE A CAPACITY OF 110% OF THE SIZE OF THE STORAGE TANK.
- 2: ABSORBANT PADS SHALL BE AVAILABLE ON SITE FOR PETROLEUM SPILLS OR LEAKS ON GROUND. ABSORBANT BOOMS SHALL BE PROVIDED FOR SPILLS IN STREAMS.
- 3: EXCESS CONCRETE SHALL NOT BE DISPOSED OF NEAR STREAMS.
- 4: SANITARY FACILITIES SHALL BE MAINTAINED BY THE PROVIDER, WITH CLEANING AND WASTE DISPOSAL ON A WEEKLY BASIS.

SPILL PREVENTION, CONTROL, & CONTAINMENT NOTES G-035b



No.	DATE	DESCRIPTION	BY
1	06-2025	DRAWING CREATED	B.P.

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 97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
 DRAWN BY: B.P.
 CONST CHECKED BY:
 RECORD CHECKED BY:
 ISSUE DATE: 5/1/22

PROJECT TITLE: **PENDLETON COUNTY PSD**
 PENDLETON COUNTY, WEST VIRGINIA
 SANDY RIDGE WATER EXTENSION

DRAWING TITLE: **STANDARD DETAILS**

SCALE: NOT TO SCALE
 PROJECT NO.: PE40-10W
 DRAWING NO.: **SD1-03**

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DIRECTIONAL DRILLING ACTIVITIES UTILIZE A BENTONITE CLAY AND WATER SLURRY FOR LUBRICATION OF THE DRILL PATH, AND THE SIGNIFICANT HYDRAULIC PRESSURES THAT ARE REQUIRED PRODUCE THE POTENTIAL FOR THE SLURRY TO "FRAC-OUT" TO THE GROUND SURFACE OR AN ENVIRONMENTALLY SENSITIVE WATERWAY. THEREFORE, IN ANTICIPATION OF DIRECTIONAL DRILLING ACTIVITIES FOR THIS PROJECT, THE FOLLOWING PLAN SHALL BE IMPLEMENTED BY THE CONTRACTOR.

PREVENTION

ALL PERSONNEL ON SITE DURING DIRECTIONAL DRILLING OPERATIONS SHALL BE TRAINED TO DETECT AND RESPOND TO A FRAC-OUT CONDITION, AND ALL NECESSARY DRILLING EQUIPMENT SHALL BE INSPECTED DAILY FOR LEAKS OR DEFECTS THAT COULD RESULT IN SPILLAGE OF DRILLING MUD; THIS IS THE SITE FOREMAN'S RESPONSIBILITY. PRIOR TO THE COMMENCEMENT OF ANY DRILLING OPERATIONS, CONTAINMENT AND CLEANUP PROVISIONS (SAND BAGS, SPILL BOOMS, PORTABLE PUMPS, VAC TRUCKS, ETC.) SHALL BE ON SITE OR NEARBY, READY FOR DEPLOYMENT WITHIN 15 MINUTES. BASED ON PAST DRILLING EXPERIENCE IN SIMILAR CONDITIONS, SELECT DRILLING PRESSURE AND DEPTHS THAT MINIMIZE THE POTENTIAL FOR FRAC-OUT.

MONITORING

DURING DRILLING OPERATIONS, PERSONNEL SHALL BE ACTIVELY LOOKING FOR ANY SURFACING OF DRILLING MUD, AND THE DRILL RIG OPERATOR SHALL CONTINUOUSLY MONITOR THE DRILLING MUD PRESSURE, LOOKING FOR SUDDEN DROPS THAT COULD INDICATE A FRAC-OUT. ALL DRILLING WORK SHALL CEASE IMMEDIATELY UPON DISCOVERY OF A FRAC-OUT CONDITION, AND SYSTEM PRESSURE SHALL BE RELIEVED TO PREVENT CONTINUED SPILLAGE.

CONTAINMENT

UPON DISCOVERY OF A FRAC-OUT, ISOLATE THE AFFECTED AREA WITH APPROPRIATE MEASURES, DEPENDING ON WHETHER THE FRAC-OUT OCCURRED ON LAND OR IN A WATERWAY. INSTALL SILT FENCE, FIBER LOGS, OR EQUIVALENT MEASURES AROUND A SPILL ON LAND TO COMPLETELY CONTAIN THE SPILL AND PREVENT ITS TRANSPORT TO WATERWAYS. FOR A FRAC-OUT IN WATER, ISOLATE THE AFFECTED AREA AS RAPIDLY AS POSSIBLE WITH SAND BAGS, SPILL BOOMS, CURTAINS, OR THEIR EQUIVALENTS. UTILIZE ANIONIC POLYMERS WITHIN A CONTAINED SPILL IN WATERWAYS TO ASSIST IN FLOCCULATION AND REMOVAL. SITE FOREMAN IS TO IMMEDIATELY NOTIFY WVDEP, EPA, WVDNR, AND USFWS ALONG WITH THE PROJECT ENGINEER WHO WILL CONTACT THE SYSTEM OPERATOR TO ISSUE AN ENVIRONMENTAL ALERT.

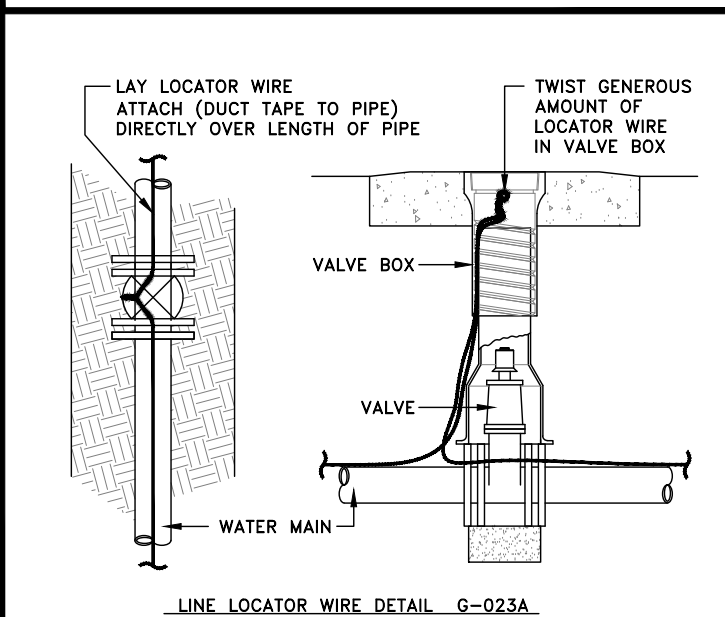
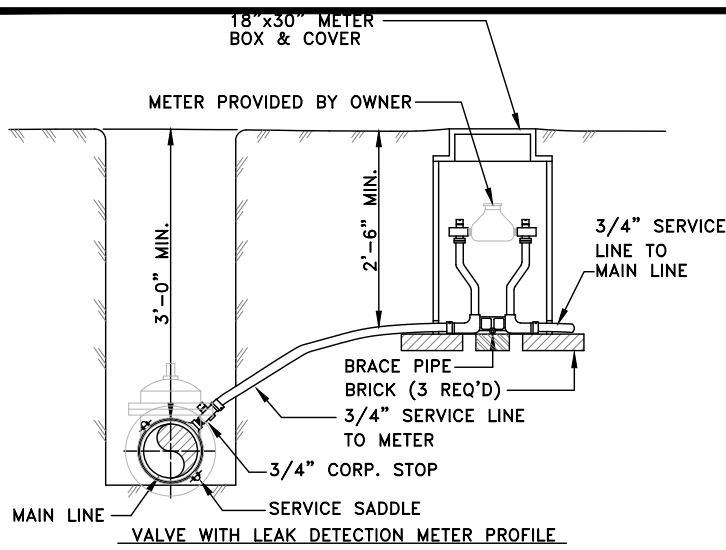
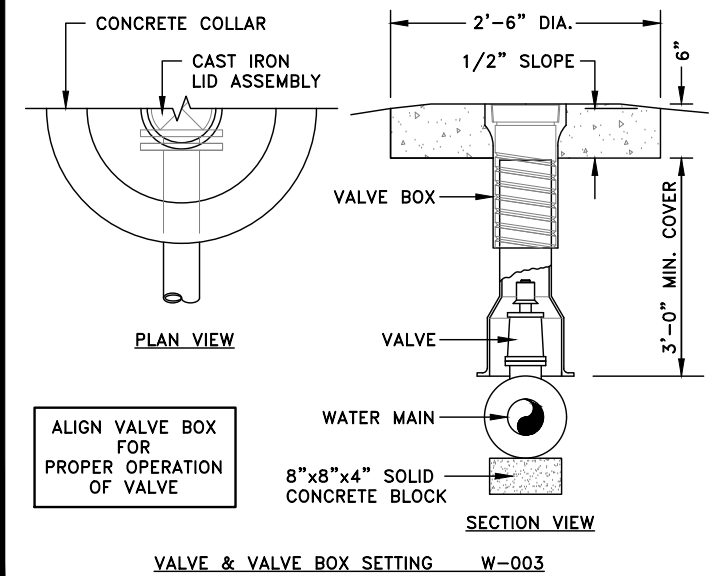
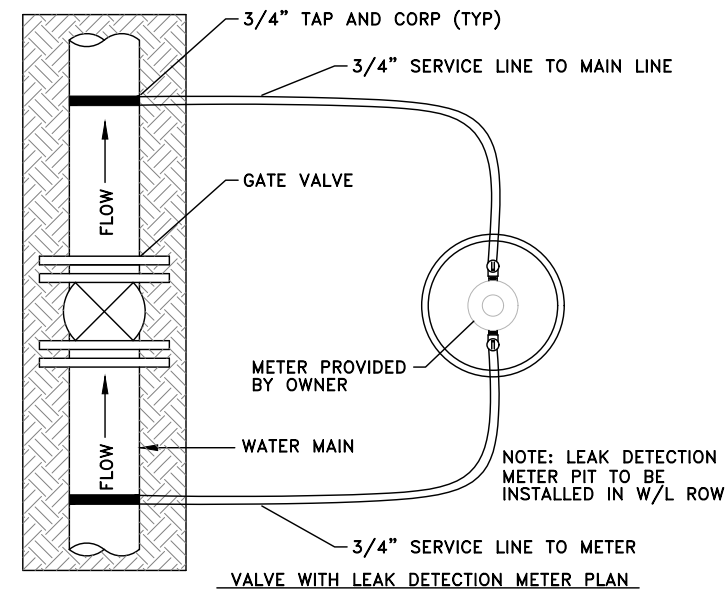
RESTART OF WORK

FOR MINOR SPILLS THAT HAVE BEEN SUCCESSFULLY CONTAINED, THE SITE FOREMAN SHALL BE RESPONSIBLE TO DETERMINE WHETHER THE LEAK CAN BE STOPPED SUCH THAT DRILLING OPERATIONS CAN BE RESTARTED OR WHETHER THE BORE PATH OR INSTALLATION METHOD MUST BE ABANDONED FOR AN ALTERNATE.

CLEANUP

COMPLETELY REMOVE THE SPILLED MATERIAL, EITHER MANUALLY OR WITH A VAC-TRUCK. AFTER DRILLING OPERATIONS HAVE BEEN COMPLETED OR ABANDONED, REMOVE ANY INSTALLED CONTAINMENT MEASURES, AND RETURN THE SITE TO ITS PRECONSTRUCTION CONTOURS AND CONDITION. DISPOSE OF ANY SPILLED MATERIALS AT AN APPROVED FACILITY IN ACCORDANCE WITH APPLICABLE LAWS.

FRAC-OUT CONTINGENCY PLAN FOR DIRECTIONAL DRILLED UTILITY INSTALLATIONS G-035C

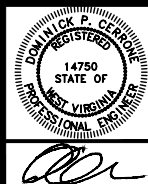


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97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT	
DRAWN BY	BLP
CONST CHECKED BY	
RECORD CHECKED BY	
ISSUE DATE	5/1/22



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE	AS SHOWN
DRAWING TITLE	STANDARD DETAILS	PROJECT NO.	PE40-10W
		DRAWING NO.	SD1-04

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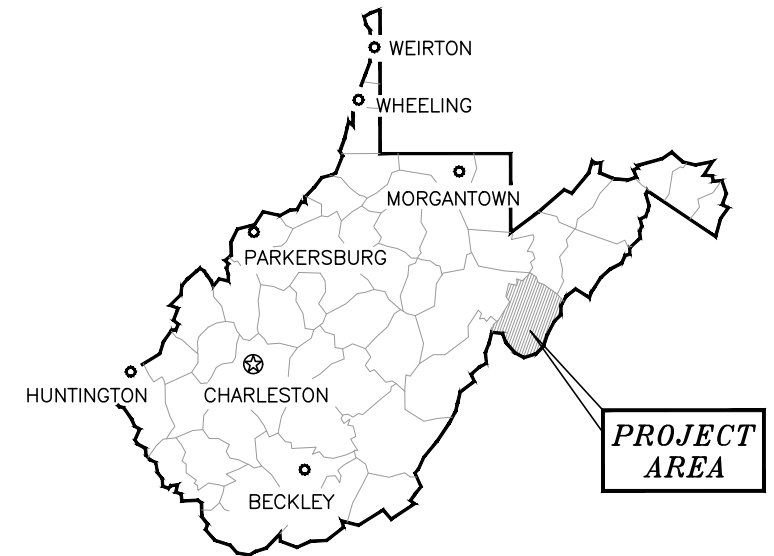
PENDLETON COUNTY PSD

PENDLETON COUNTY, WEST VIRGINIA

SANDY RIDGE WATER EXTENSION

CONTRACT #1: WATERLINES AND BOOSTER STATIONS

CONTRACT #2: WATER STORAGE TANK

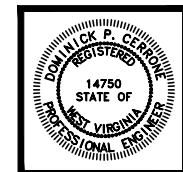


CONSTRUCTION DRAWINGS

UPDATED
11-01-2023



CERRONE ASSOCIATES, INC.
CONSULTING ENGINEERS • WHEELING, WV



APPROVED

DATE: 5/1/22

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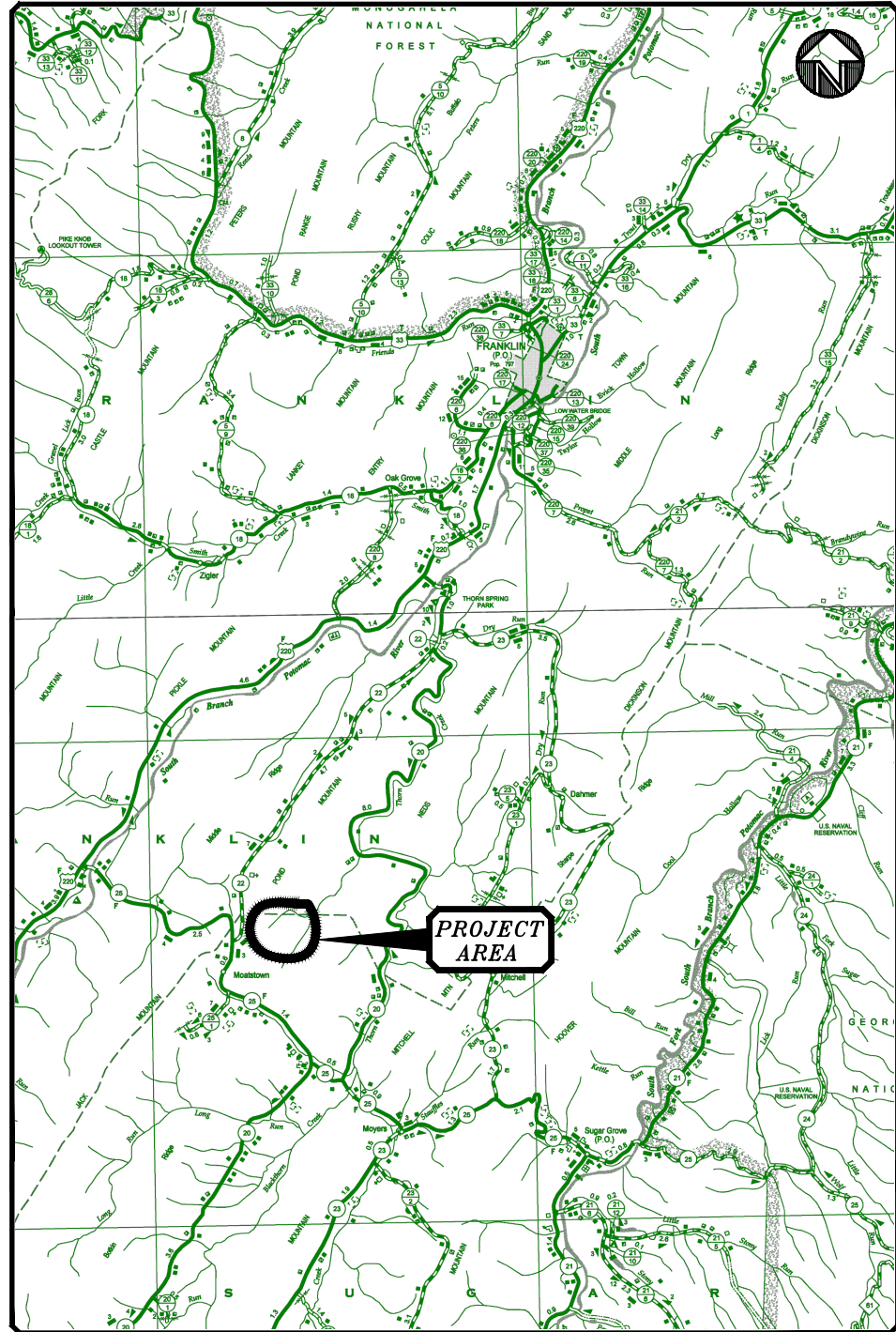
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PENDLETON COUNTY PSD

PENDLETON COUNTY, WEST VIRGINIA

SANDY RIDGE WATER EXTENSION

PROJECT AREA MAP



DRAWING LEGEND

EXISTING LEGEND		NEW LEGEND	
— W —	EXISTING WATER	— W —	WATER
⊗ WV	WATER VALVE	— S —	SEWER
⊕	FIRE HYDRANT W/WATCH VALVE	— STM —	STORM DRAIN
⊖ FO	FLUSH OUT	— G —	GATE VALVE
— SAN —	SANITARY SEWER	— P —	PRESSURE REDUCING VALVE (PRV)
— GAS —	GAS	⊖ FO	FLUSH OUT
— HPG —	HIGH PRESSURE GAS	⊙ AR	AIR RELEASE (LOCATE AT HIGH POINT)
— OE —	OVERHEAD ELECTRIC	⊕ FH	FIRE HYDRANT W/WATCH VALVE
— UE —	UNDERGROUND ELECTRIC	— OC —	OPEN CUT W/CASING
— OT —	OVERHEAD TELEPHONE	— RB —	ROAD BORING W/CASING
— UT —	UNDERGROUND TELEPHONE	▨	SERVED CUSTOMER
— OC —	OVERHEAD CABLE	▩	EXISTING CUSTOMER TO BE RECONNECTED
— UC —	UNDERGROUND CABLE	H	HOUSE
— STEAM —	STEAM LINE	T	TRAILER
— WASTE —	WASTE LINE	B	BARN
		S	SHED
○ BCM	BURIED CABLE MARKER	⊕	CUSTOMER NUMBER
○	SEPTIC TANK	— E —	EASEMENT DESIGNATION
⊕	UTILITY POLE	FGL	FIBERGLASS
⊕	UTILITY POLE W/LIGHT	CMP	CORRUGATED METAL PIPE
⊕	UTILITY POLE W/ANCHOR WIRE	RCP	REINFORCED CONCRETE PIPE
• MB	MAIL BOX	CPP	CORRUGATED PLASTIC PIPE
• GM	GAS MARKER / GAS METER	PVC	POLYVINYL CHLORIDE PIPE
• WM	WATER MARKER / WATER METER	DIP	DUCTILE IRON PIPE
• GV	GAS VENT PIPE	CIP	CAST IRON PIPE
• TP	TELEPHONE PEDESTAL		
• PP	PROPERTY PIN		
⊕ GV	GAS VALVE		
• GP	GATE POST		
• EP	ELECTRIC POST		
* ALL ROAD OFFSETS TAKEN FROM CENTER LINE			
* REPLACEMENTS ORIGINATE AT END OF LEADER			

LIST OF DRAWINGS

DWG. NO.	TITLE
—	COVER SHEET
1-A	TITLE SHEET
1-B	GENERAL NOTES & PRESSURE TESTING
2-01	SANDY RIDGE WATER STORAGE TANK ~ ACCESS ROAD
2-02	SANDY RIDGE WATER STORAGE TANK ~ SITE DIMENSION PLAN
2-03	SANDY RIDGE WATER STORAGE TANK ~ ACCESS ROAD & SITE PLAN
2-04	GLASS-LINED BOLTED TANK ~ KNUCKLE ROOF HALF TRAVEL LEVEL LIQUID GAUGE
2-05	WELDED TANK ~ HALF TRAVEL LEVEL LIQUID GAUGE
SD2-01	STANDARD DETAILS
SD2-02	STANDARD DETAILS

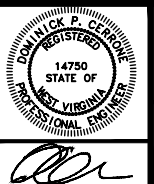
No.	DATE	DESCRIPTION	BY
1	08-2025	DRAWING CREATED	RLR

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ISSUE DATE	5/1/22



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION
DRAWING TITLE	TITLE SHEET

SCALE	NO SCALE
PROJECT NO.	PE40-10W
DRAWING NO.	2-A

GENERAL NOTES

SITE RESTORATION

- CUT OR SCORE CONTINUALLY ALONG A STRAIGHT LINE ALL PAVED AREAS OVER THE LINE OF THE TRENCH WHICH ARE TO BE REMOVED.
- MAINTAIN ALL TEMPORARY SURFACE REPAIRS UNTIL PERMANENT SURFACE RESTORATION IS COMPLETED.
- RESTORE CONTOURS OF DISTURBED AREAS WITH STEEP SLOPES THAT ARE SUBJECT TO EROSION. STABILIZE, RESEED, AND COVER WITH SPECIFIED MATERIAL.
- PROMPTLY RESTORE ALL SURFACES AS SOON AS EXCAVATION AND TESTING WORK IS COMPLETE.

ESTIMATED QUANTITIES

- QUANTITIES INDICATED ON THE BID PROPOSAL ARE ESTIMATES. COMPUTATIONS OF QUANTITIES THAT ARE THE BASIS FOR PAYMENTS WILL BE MADE BY THE ENGINEER BASED ON THE DAILY FIELD RECORDS REPORTING THE ACTUAL UNITS INSTALLED.
- THE ABSENCE FROM THE BID PROPOSAL OF BID ITEMS SPECIFICALLY DESCRIBED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS SHALL BE INTERPRETED AS MEANING THAT THE COST OF SUCH WORK SHALL BE INCLUDED IN THE PRICES BID FOR RELATED ITEMS, PIPE, ETC., FOR WHICH PAY ITEMS AND QUANTITIES HAVE BEEN ESTABLISHED.

TRAFFIC CONTROL

- THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE "WEST VIRGINIA TRAFFIC CONTROL MANUAL" FOR STREET & HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
- STATE ROADWAYS SHALL NOT BE CLOSED DURING THIS PROJECT.
- MAINTAIN ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
- MAINTAIN ACCESS TO PRIVATE PROPERTY WHEN AT ALL POSSIBLE.
- TO ENSURE SAFETY OF TRAVELING PUBLIC KEEP ALL PAVEMENTS FREE OF EXCAVATED MATERIAL AND DITCHES OPEN TO FLOW.

EASEMENTS

- ALL WORK OF THIS PROJECT SHALL BE PERFORMED WITHIN DESIGNATED WORK AREAS.
- CONSTRUCTION AND PERMANENT EASEMENTS HAVE BEEN OBTAINED WHERE WORK OF THE PROJECT IS ON PRIVATE PROPERTY.
- EASEMENT CENTERLINES ARE THE PIPE LOCATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS, OR REVISED PIPE LOCATIONS AS INDICATED BY ENGINEER'S FIELD STAKEOUT.
- UNLESS NOTED OTHERWISE CONSTRUCTION EASEMENT WIDTH IS GENERALLY 30 FEET (15 FEET EITHER SIDE OF THE PIPE). PERMANENT EASEMENT WIDTH IS 15 FEET (7 1/2 FEET EITHER SIDE OF PIPE).
- PROTECT AND PRESERVE IN AN APPROVED MANNER ALL TREES AND SHRUBBERY UNLESS DESIGNATED FOR REMOVAL.
- PROTECT AND PRESERVE ALL MONUMENTS, PROPERTY PINS, STAKES, ETC., OR BEAR THE COST TO RESET LOST OR DESTROYED MARKERS BY A REGISTERED OR LICENSED LAND SURVEYOR.

ENVIRONMENTAL CONCERNS

- RESTRICT EXCAVATION AND GRADING WORK TO PERIODS WITH DRY WORKING CONDITIONS.
- LIMIT AREAS OF EXPOSED SOIL TO IMMEDIATE WORK SITES.
- SWEEP ROADWAYS IN CONSTRUCTION AREA ON A DAILY BASIS.
- PROVIDE TEMPORARY EROSION CONTROL MEASURES AS NECESSARY TO PREVENT OR CONTAIN EROSION AND SEDIMENTATION. PROTECT STOCKPILES OR ERODABLE MATERIALS.
- CONTROL FLOWS FROM DEWATERING ACTIVITIES TO REMOVE SILT PRIOR TO RELEASE.
- PROVIDE SILT BARRIERS IN FRONT OF STORM DRAINS AND ALONG PRIVATE PROPERTY TO PREVENT SILT RUNOFF WHEN EXCAVATIONS HAVE COMMENCED.

EXISTING UTILITIES

- UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS THE EXISTENCE OF WHICH WAS NOT KNOWN OR REVEALED TO US WHEN THESE DOCUMENTS WERE PREPARED.
- EXISTING UTILITIES SHALL CONTINUE WITH UNINTERRUPTED SERVICE DURING ENTIRE CONSTRUCTION PERIOD. PROTECT ACTIVE UTILITY SERVICES UNCOVERED BY EXCAVATION.
- UNIDENTIFIED PRIVATE UTILITIES EXIST THROUGHOUT THE PROJECT. CONTACT PROPERTY OWNERS TO LOCATE AND PROVIDE TIME TO MARK BURIED UTILITIES.
- CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO EXISTING UTILITIES DISTURBED BY CONSTRUCTION ACTIVITIES. REPAIRS SHALL BE IN ACCORDANCE WITH UTILITY OWNER'S STANDARDS.
- BEFORE STARTING EXCAVATION, ESTABLISH THE LOCATION AND EXTENT OF UNDERGROUND UTILITIES OCCURRING IN THE WORK AREA. CALL BEFORE YOU DIG UNDERGROUND-- MISS UTILITY OF WEST VIRGINIA 811.
- THE RISK OF LOCATING AND PROTECTING ALL UTILITIES RESTS WITH THE CONTRACTOR AND APPROPRIATE ALLOWANCE SHALL BE MADE WHEN BIDDING THE WORK TO REFLECT THIS FACTOR.
- THE FOLLOWING ARE THE UTILITY OWNERS IN THE PROJECT AREA:

WATER

PENDLETON COUNTY P.S.D. P.O. BOX 861 FRANKLIN, WV 26807-0861 (304) 358-3027	TOWN OF FRANKLIN P.O. BOX 483 FRANKLIN, WV 26807-0861 (304) 358-7525
--	---



MISCELLANEOUS

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD. REPORT DISCREPANCIES TO THE ENGINEER FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE LAW AND THE RULES OF THE WEST VIRGINIA STATE FIRE MARSHAL.
- ALL MATERIALS SHALL BE NEW AND CONFORM WITH THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC. IN EVERY CASE FOR THE PARTICULAR.
- THE WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL BOARD OF FIRE UNDERWRITER'S PUBLIC SERVICE COMPANY.
- PROVIDE SUITABLE BLOCKING IN STUD WALLS FOR ALL WALL MOUNTED OBJECTS.
- WATER LINES GO AROUND CULVERTS UNLESS OTHERWISE STATED.
- THE CONSTRUCTION PLANS AND SPECIFICATIONS DEFINE A MINIMUM QUALITY OF MATERIALS AND EQUIPMENT TO BE INCORPORATED INTO THIS PROJECT. GENERALLY, THIS MEANS THAT ALL BRASS GOODS, DUCTILE IRON FITTINGS AND METAL CASTINGS ARE TO BE FROM REPUTABLE MANUFACTURERS AND MADE IN THE USA. THE ENGINEER OR OWNER RESERVES THE RIGHT TO REJECT ANY AND ALL MATERIAL AND EQUIPMENT FROM FOREIGN MANUFACTURERS DEEMED TO BE OF INFERIOR QUALITY.

WVDOHROWORK

- ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE WVDH UTILITY ACCOMMODATION MANUAL.
- ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL BE INSTALLED. SEEDING AND MULCHING OF ALL DISTURBED AREAS WILL BE DONE AT THE END OF EACH WEEK.
- CONTRACTOR TO COORDINATE PLACEMENT LOCATION OF ALL VALVES, FIRE HYDRANTS, MANHOLES, FACILITY APPURTENANCES, ETC., WITH ON SITE ENGINEER / OWNER AND WVDH REPRESENTATIVES.

PIPE PRESSURE TESTING

PIPE CLASS	TEST PRESSURE	
DUCTILE IRON	1.5 TIMES THE WORKING PRESSURE (150psi)	
CLASS 200 (DR 14)	325PSI	
CLASS 150 (DR 18)	250PSI	
CLASS 315 (SDR13.5)	315PSI	
CLASS 250 (SDR 17)	250PSI	
CLASS 200 (SDR 21)	200PSI	

SIZE	MAXIMUM TESTING LENGTH	MAXIMUM ALLOWABLE LEAKAGE
12"	3,000ft	0.95gph/1000ft
10"	4,000ft	0.79gph/1000ft
8"	6,000ft	0.63gph/1000ft
6"	10,000ft	0.47gph/1000ft
4"	10,000ft	0.32gph/1000ft
3"	10,000ft	0.24gph/1000ft
2"	10,000ft	0.16gph/1000ft

- MAXIMUM LENGTH OF TEST SHALL BE AS LISTED ABOVE
 - ALL BRANCH LINES TO BE TESTED SEPARATELY FROM MAIN LINE
 - PIPES OF DIFFERENT SIZES TO BE TESTED SEPARATELY
 - PIPES OF DIFFERENT CLASSES TO BE TESTED SEPARATELY
 - MINIMUM LENGTH OF TEST SHALL BE BETWEEN VALVES

No.	DATE	DESCRIPTION	BY
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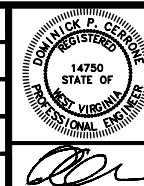
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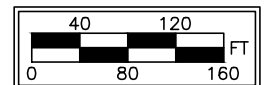
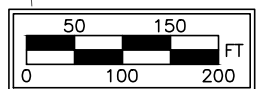
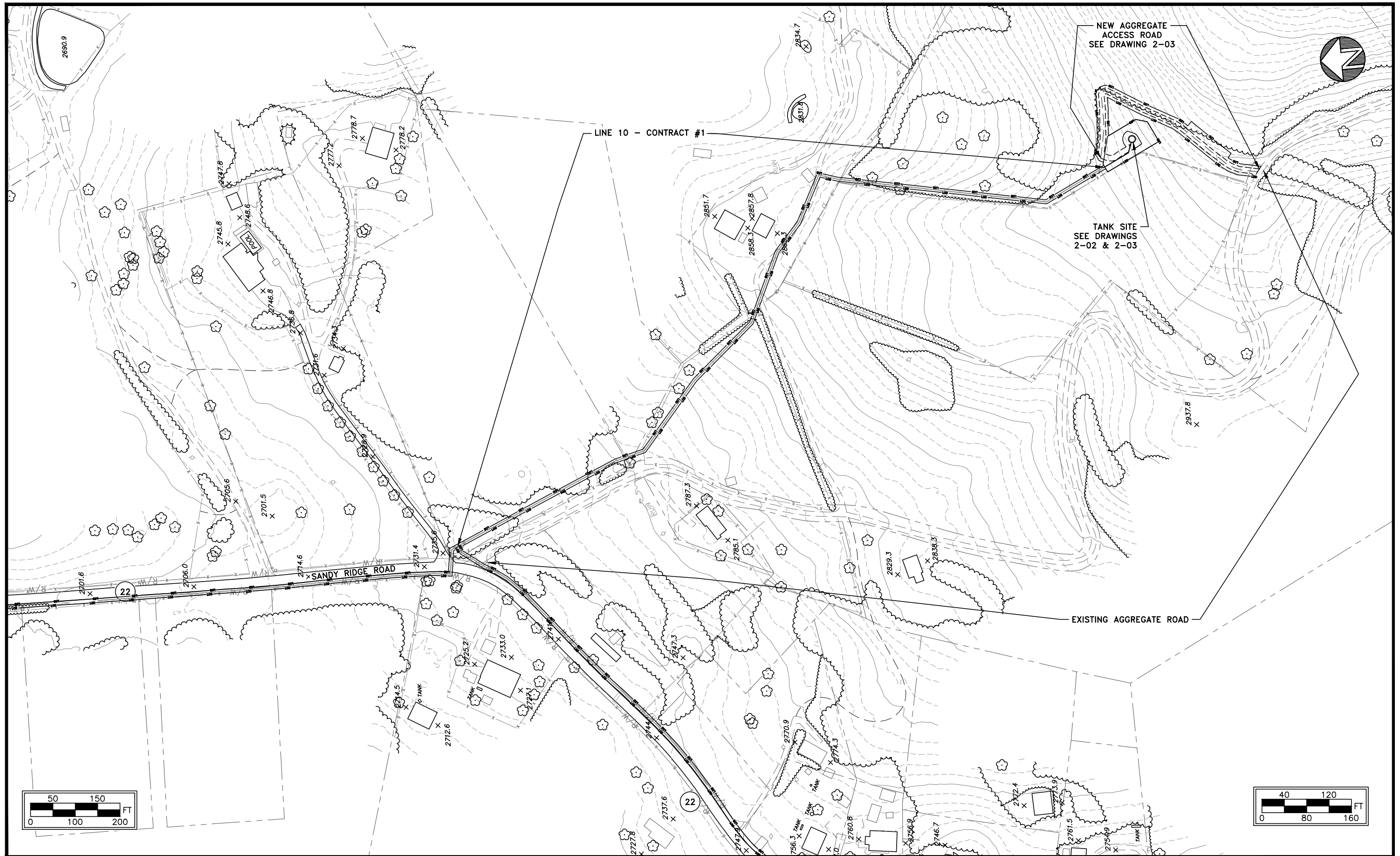


CERRONE ASSOCIATES, INC.
CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT	-
DRAWN BY	RLR
CONST CHECKED BY	-
RECORD CHECKED BY	-
ISSUE DATE	5-1-22



PROJECT TITLE	PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE	NO SCALE
DRAWING TITLE	GENERAL NOTES	PROJECT NO.	PE40-10W
		DRAWING NO.	2-B



No.	DATE	DESCRIPTION	BY
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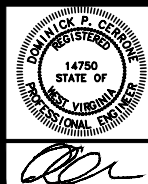
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 97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
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 ISSUE DATE 9/1/22



PROJECT TITLE
PENDLETON COUNTY PSD
 PENDLETON COUNTY, WEST VIRGINIA
 SANDY RIDGE WATER EXTENSION

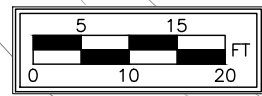
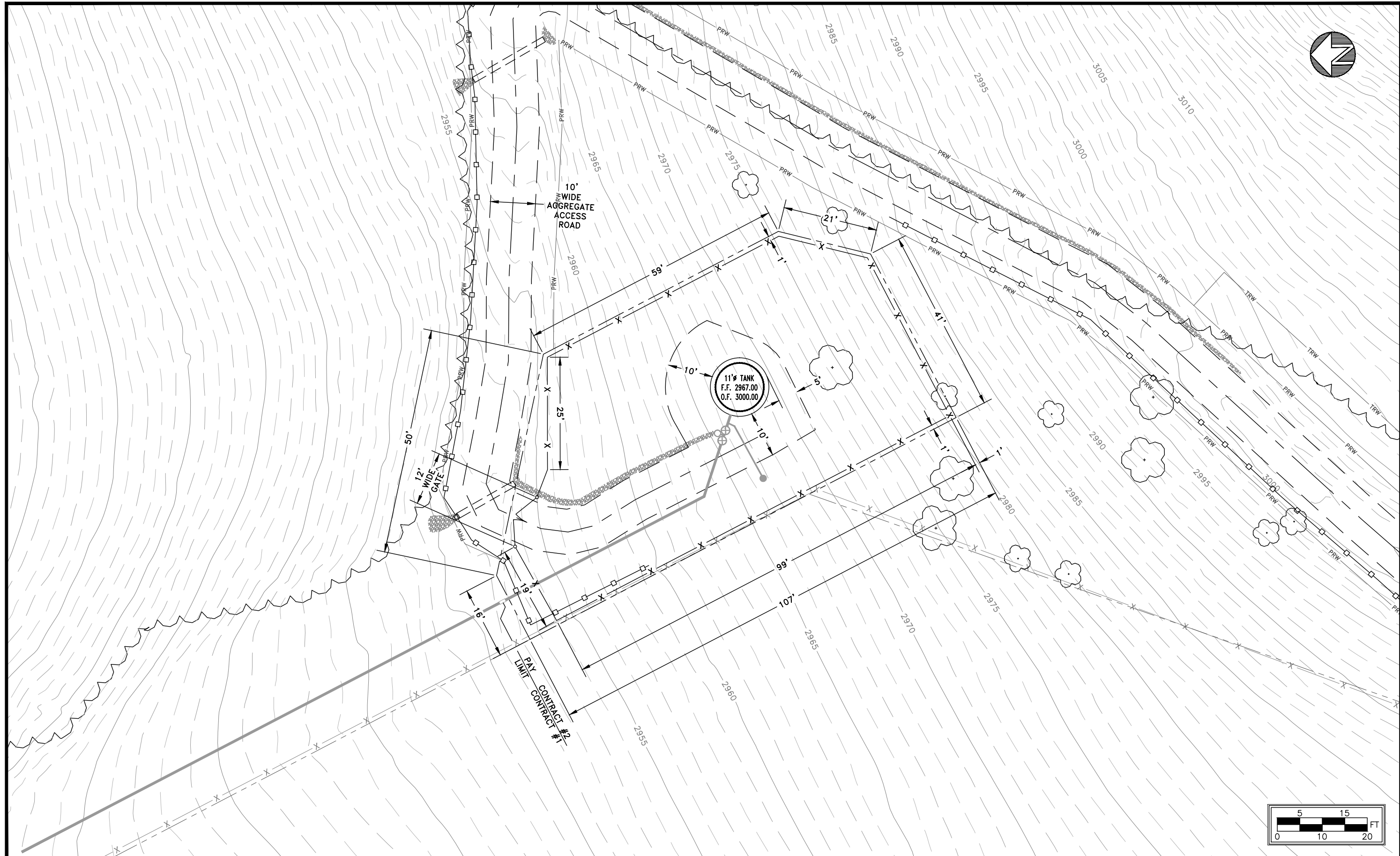
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SANDY RIDGE WATER STORAGE TANK ACCESS ROAD

SCALE
 GRAPHIC

PROJECT NO.
 PE40-10W

DRAWING NO.
2-01

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CERRONE ASSOCIATES, INC.

CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT

DRAWN BY: B.P.

CONST CHECKED BY:

RECORD CHECKED BY:

ISSUE DATE: 5/2/22

PROJECT TITLE: **PENDLETON COUNTY PSD**
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

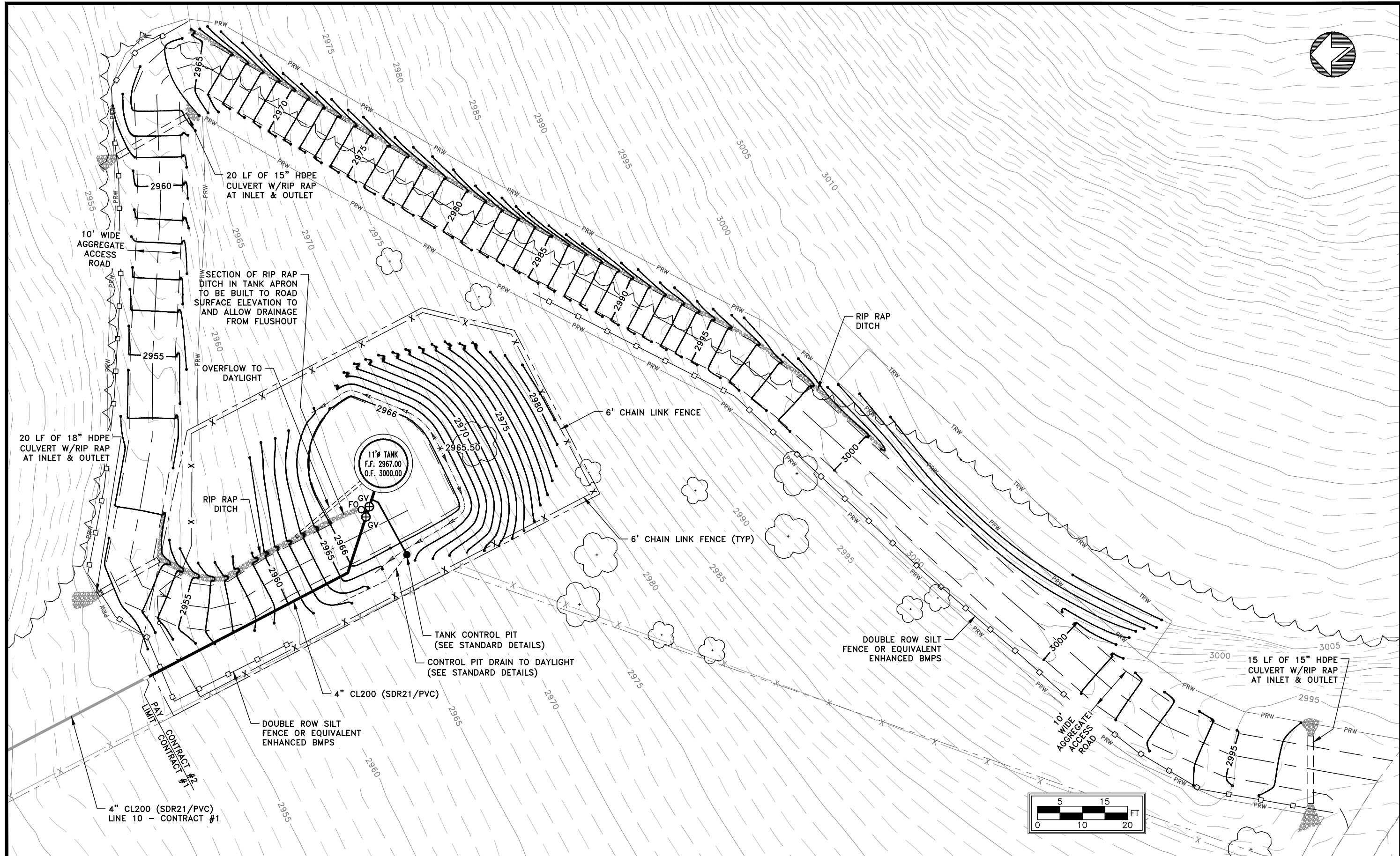
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DIMENSION SITE PLAN

SCALE: GRAPHIC

PROJECT NO.: PE40-10W

DRAWING NO.: **2-02**

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CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97-14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT

DRAWN BY: BLP

CONST CHECKED BY:

RECORD CHECKED BY:

ISSUE DATE: 5/2/22

PROJECT TITLE: **PENDLETON COUNTY PSD**
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

DRAWING TITLE: **SANDY RIDGE WATER STORAGE TANK**
ACCESS ROAD & SITE PLAN

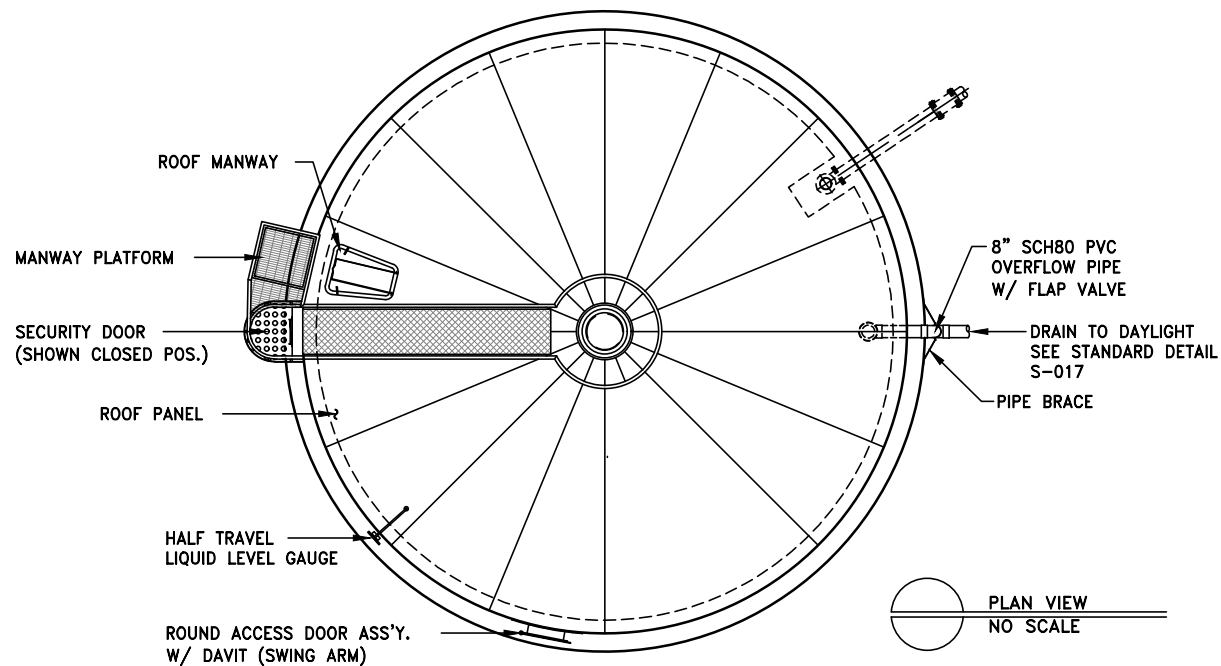
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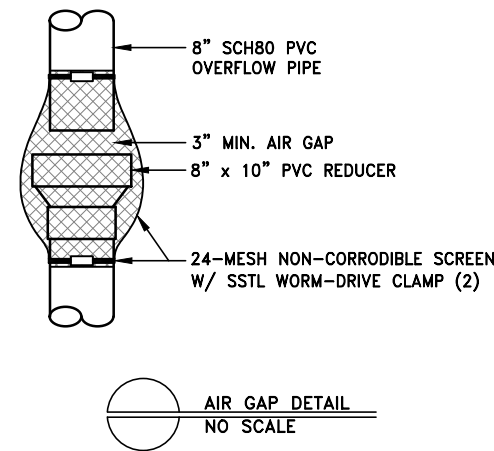
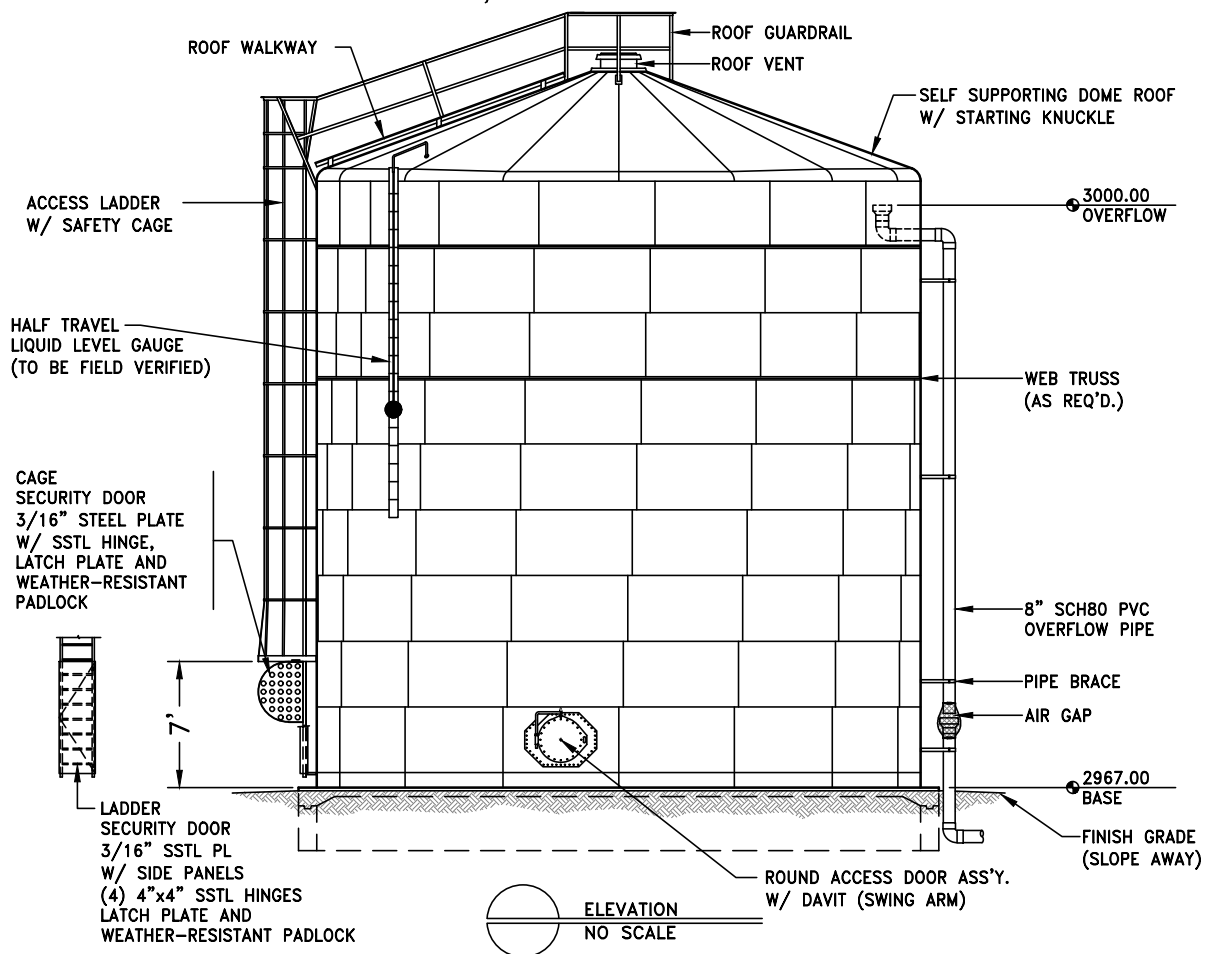
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NOTE: ORIENTATION OF TANK ACCESSORIES FOR ILLUSTRATION ONLY



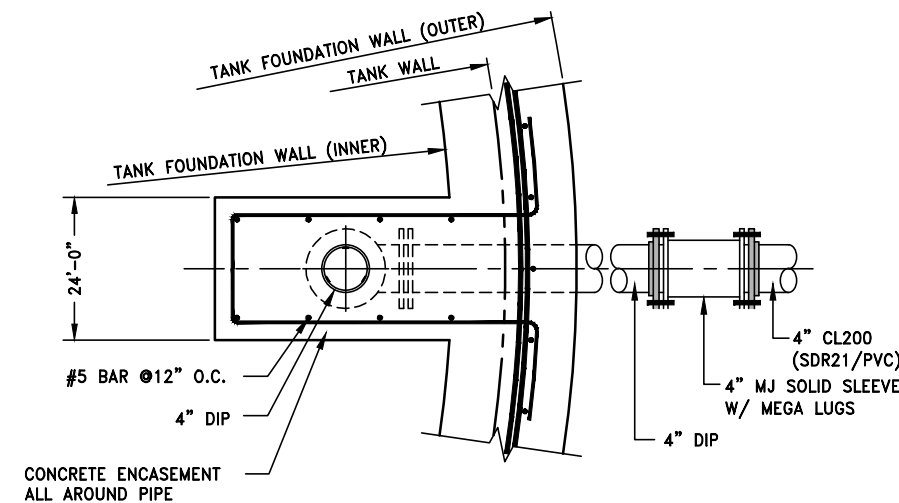
SANDY RIDGE TANK
11'-0" DIAMETER
24,000 GALLON CAPACITY



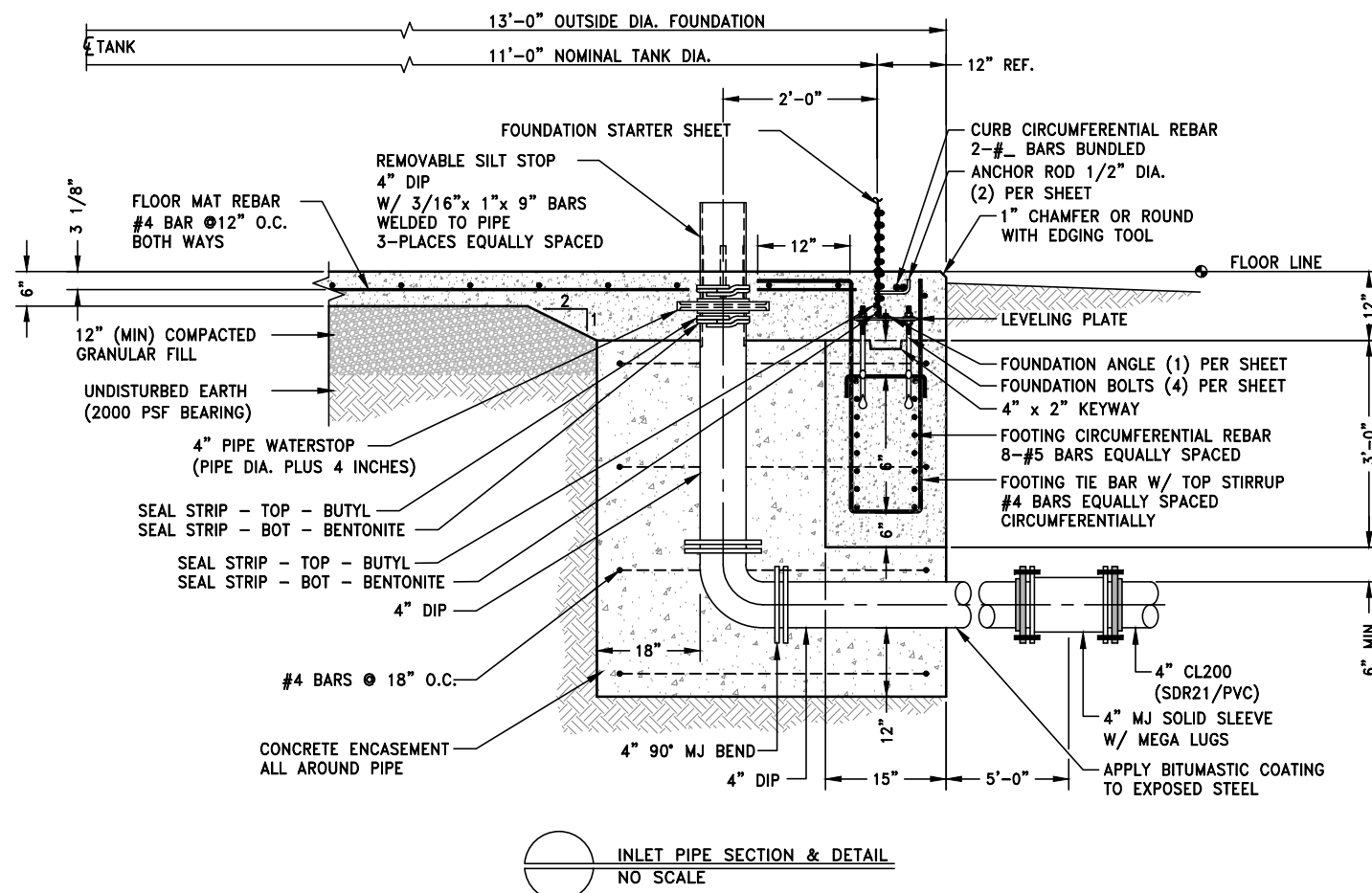
AIR GAP DETAIL
NO SCALE

GENERAL NOTES:

- CIRCUMFERENTIAL REBARS SHALL BE BENT OR ROLLED TO CONFORM TO CURVATURE OF SHEET
- DOUBLE WIRE TIE AT ALL STIRRUPS
- FILL ALL FLOOR VOIDS WITH SEALER #79
- ORIENT LIQUID LEVEL GAUGE PER OWNERS REQUEST
- LOCATE ACCESSORIES NEXT TO LIQUID LEVEL GAUGE



PLAN VIEW
INLET PIPE CONCRETE ENCASEMENT
NO SCALE



INLET PIPE SECTION & DETAIL
NO SCALE

No.	DATE	DESCRIPTION	BY
2	08/1/2025	UPDATED AIR GAP NOTE W/ 24-MESH AS PER WRRPH	RLP
1	08/1/2025	CREATED	RLP

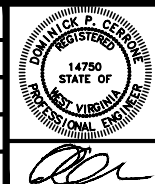
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97 - 14TH STREET, WHEELING, WV 26003-2497

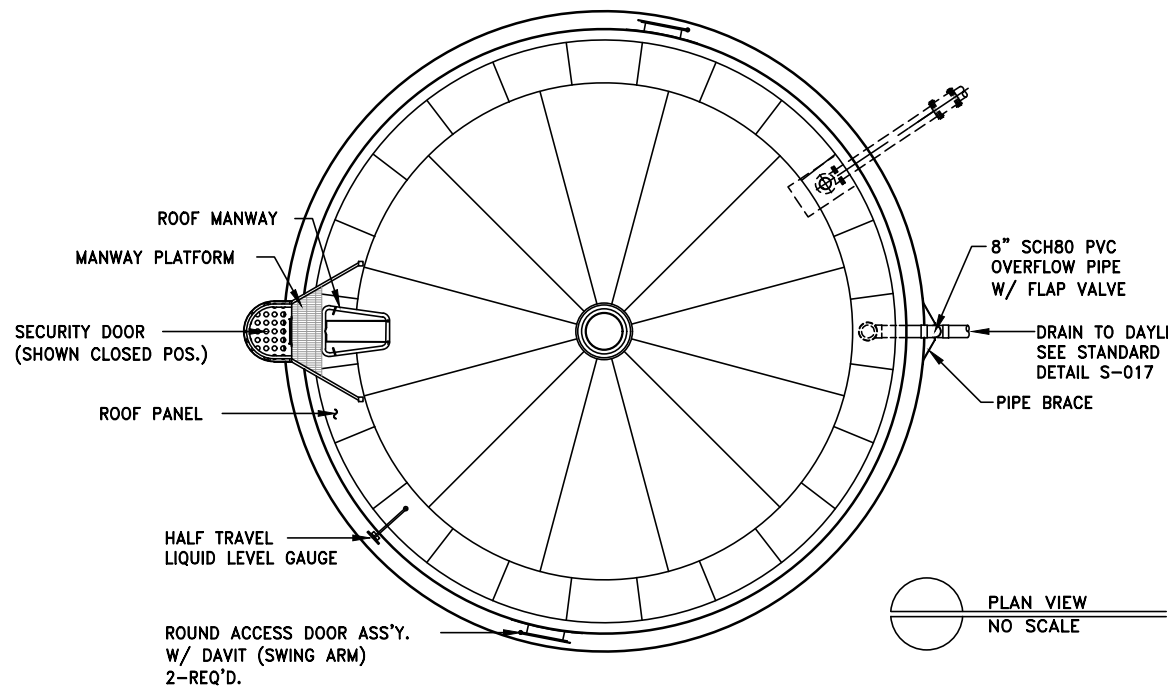
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ISSUE DATE	5-1-2023



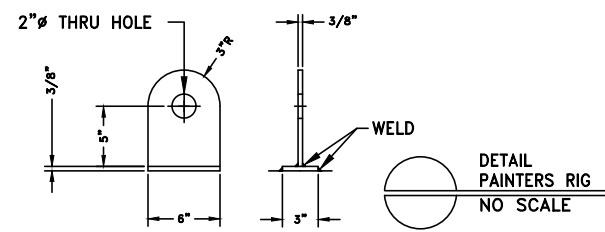
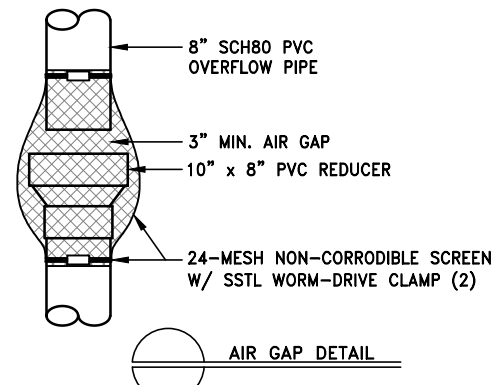
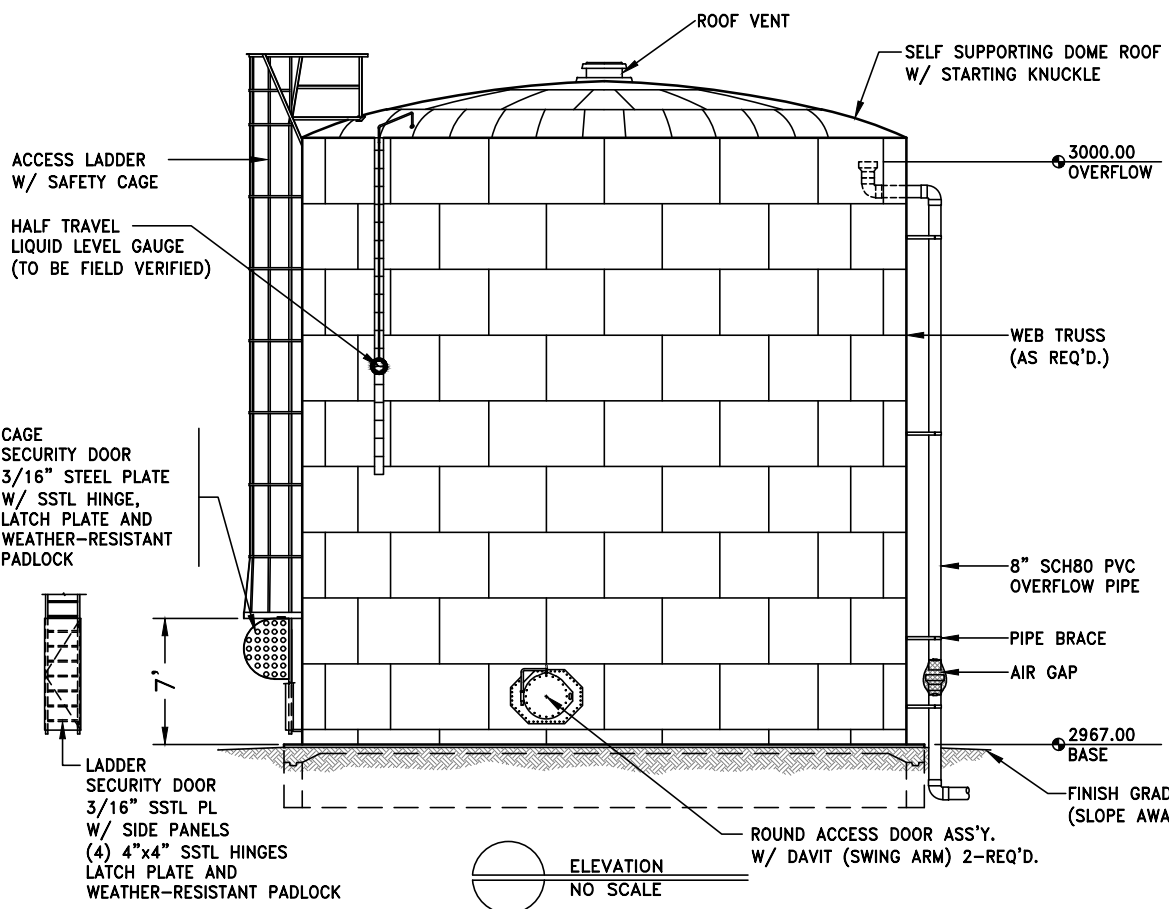
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DRAWING TITLE	GLASS-LINED BOLTED TANK KNUCKLE ROOF HALF TRAVEL LIQUID LEVEL GAUGE

SCALE	AS SHOWN
PROJECT NO.	PE40-10W
DRAWING NO.	2-04

NOTE: ORIENTATION OF TANK ACCESSORIES FOR ILLUSTRATION ONLY

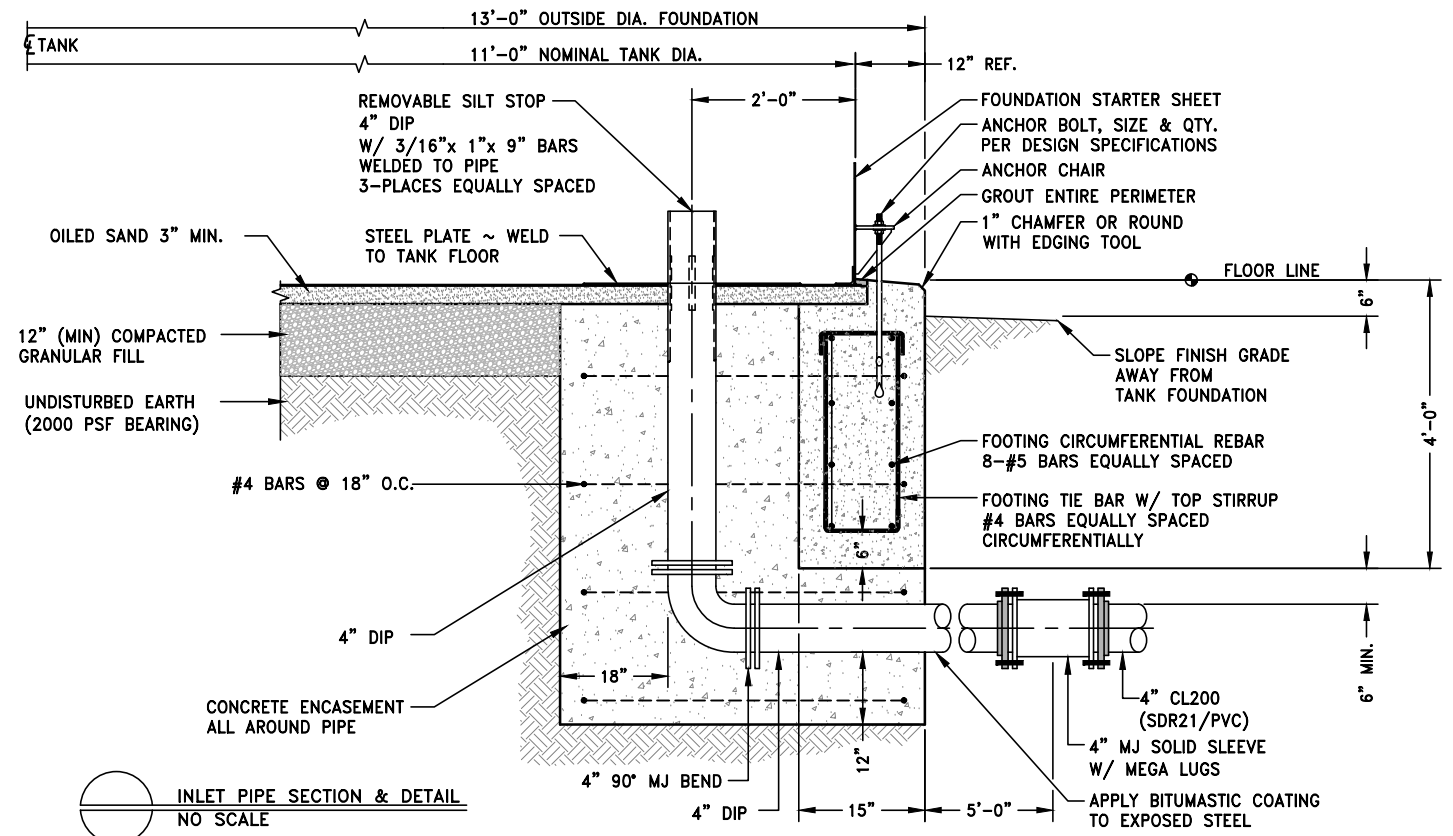
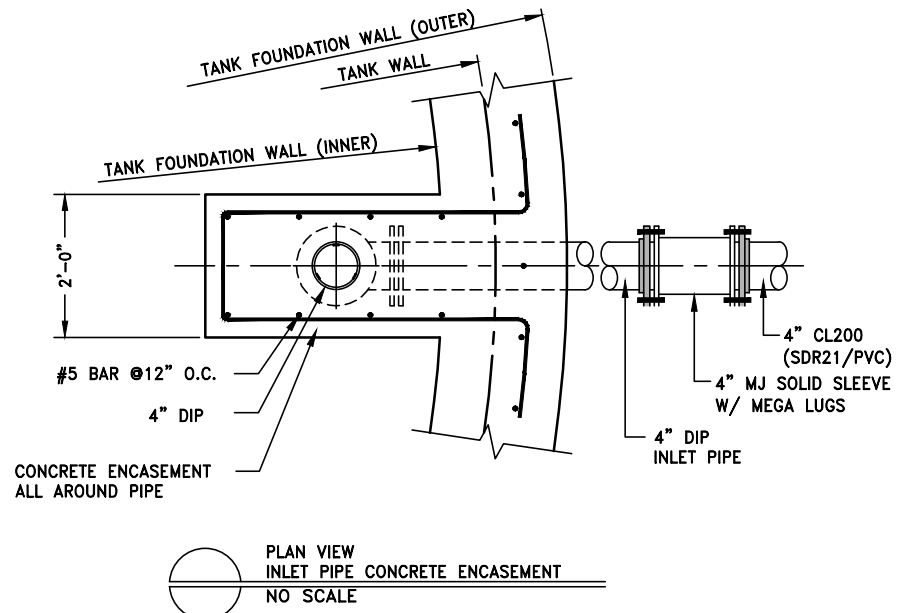


SANDY RIDGE TANK
11'-0" DIAMETER
24,000 GALLON CAPACITY



GENERAL NOTES:

- CIRCUMFERENTIAL REBARS SHALL BE BENT OR ROLLED TO CONFORM TO CURVATURE OF SHEET
- DOUBLE WIRE TIE AT ALL STIRRUPS
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- ORIENT LIQUID LEVEL GAUGE PER OWNERS REQUEST
- LOCATE ACCESSORIES NEXT TO LIQUID LEVEL GAUGE



No.	DATE	DESCRIPTION	BY
2	09/1/2025	UPDATED AIR GAP NOTE W/ 24-MESH AS PER WRRPH	RLR
1	08/1/2025	CREATED	RLR

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CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97 - 14TH STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
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CONST CHECKED BY
RECORD CHECKED BY
ISSUE DATE 5-1-2023

DOMINICK P. CERRONE
REGISTERED
14750
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

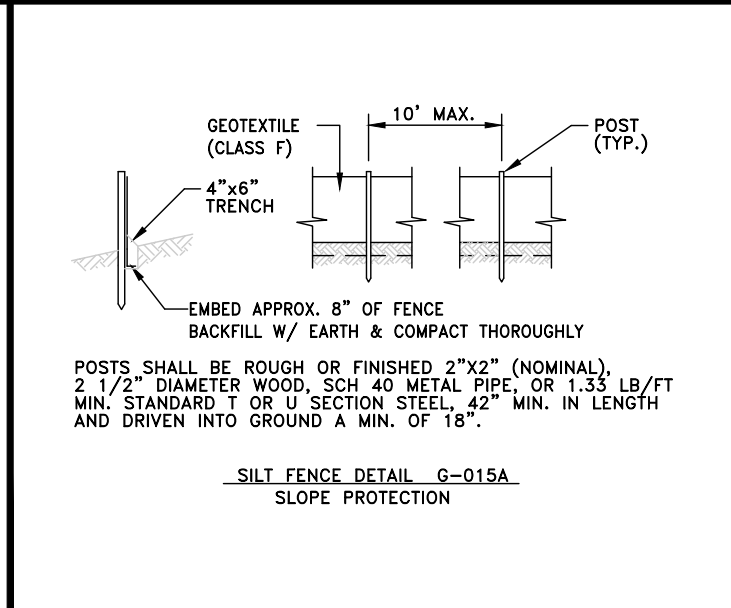
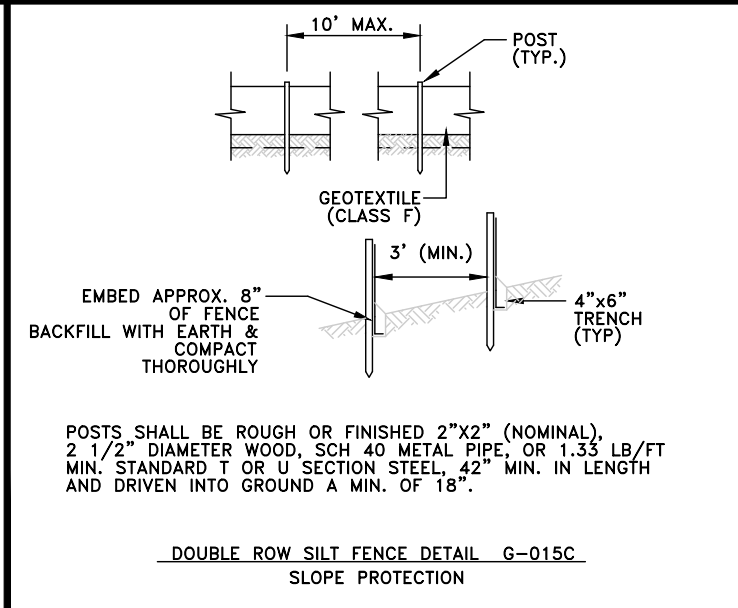
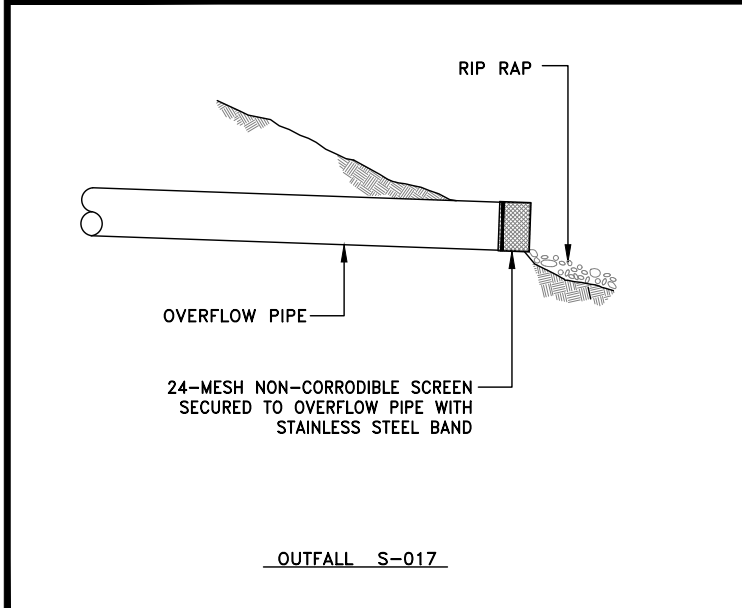
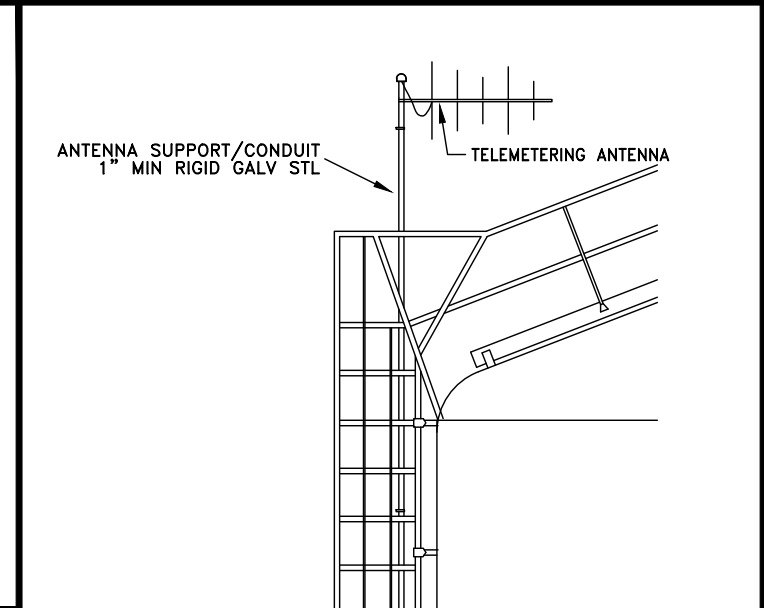
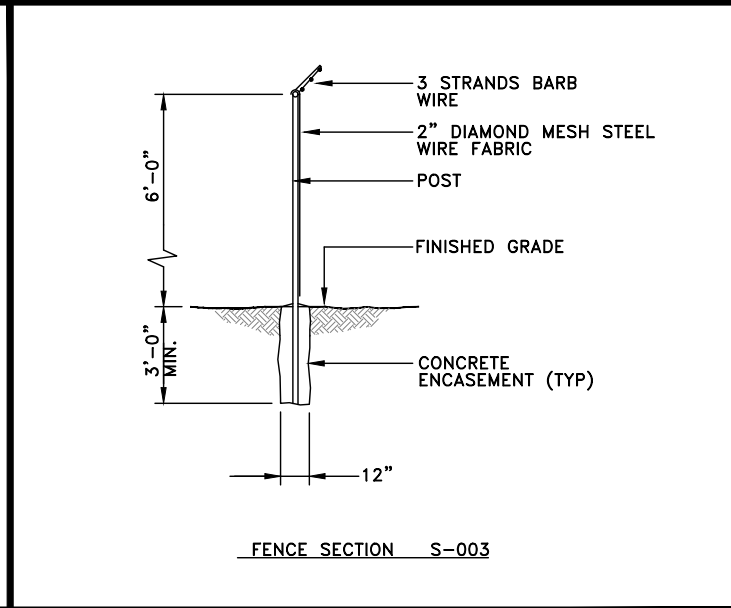
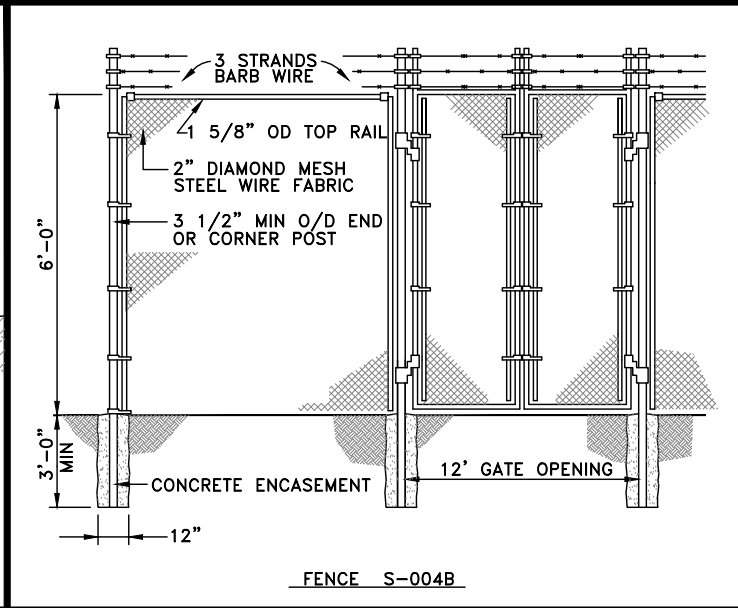
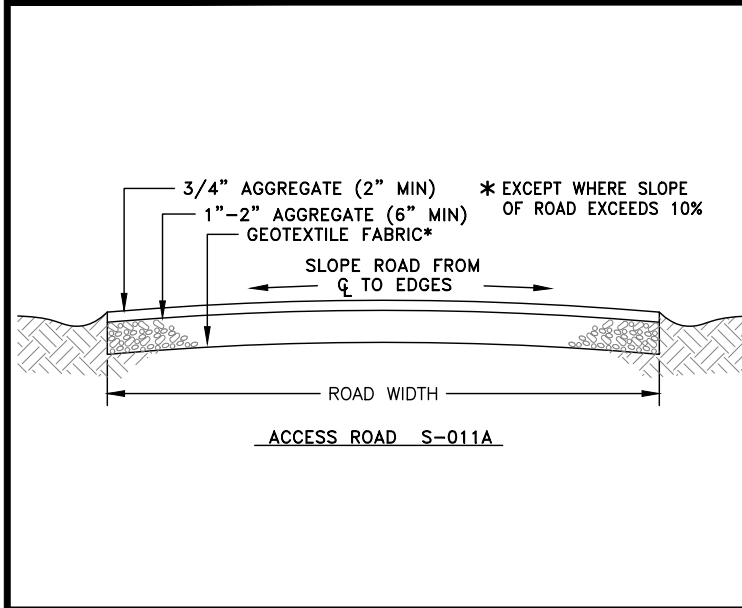
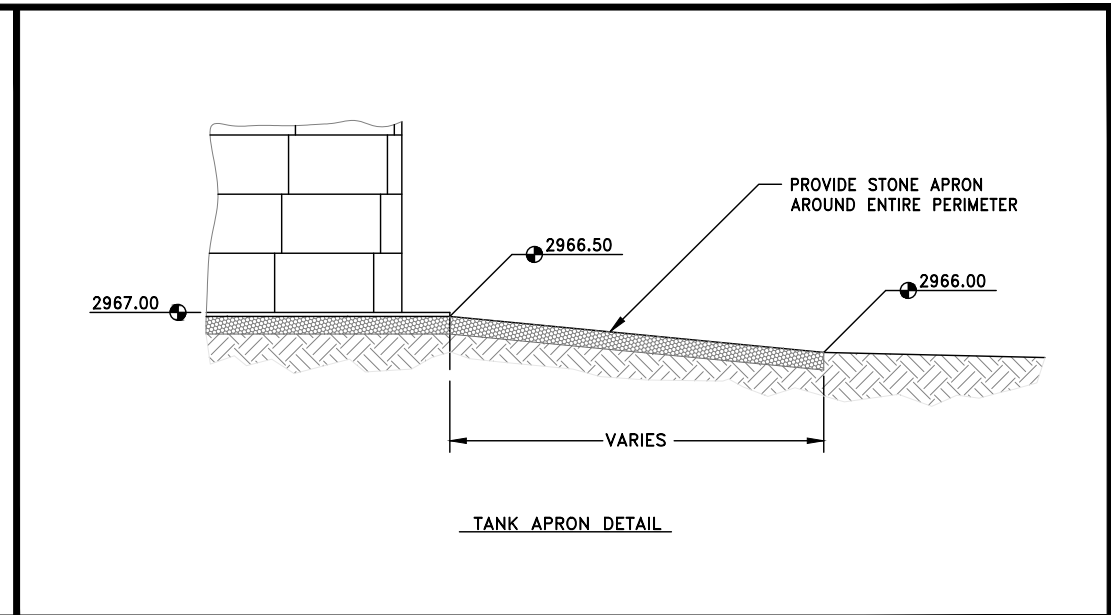
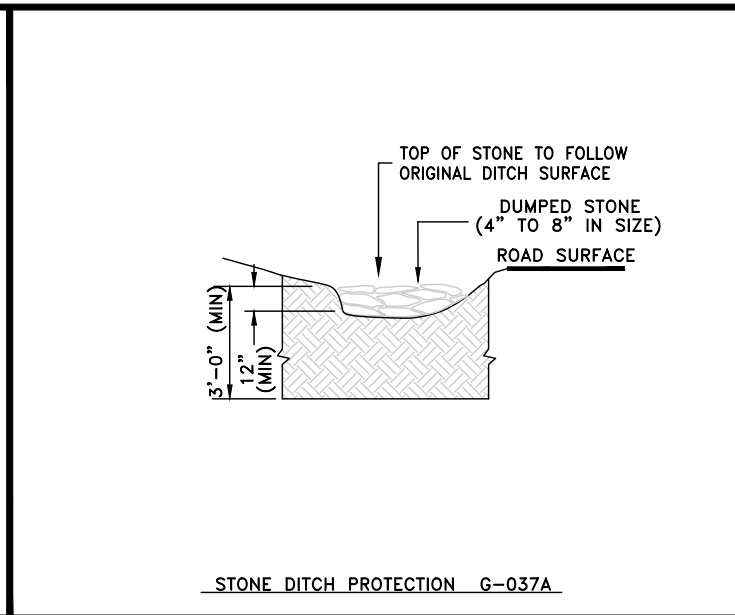
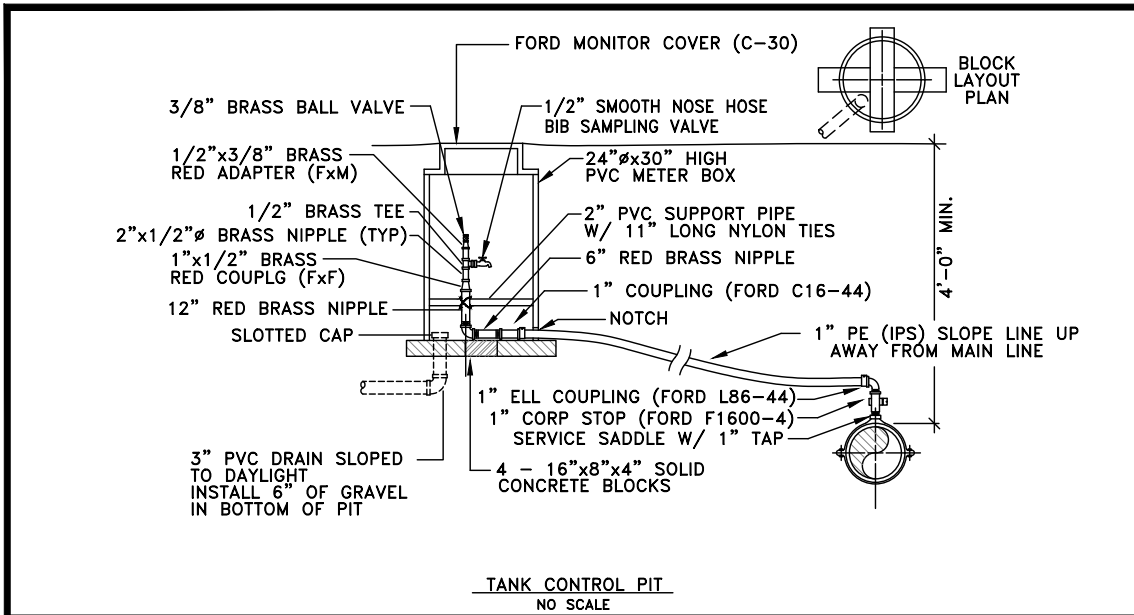
PROJECT TITLE
PENDLETON COUNTY PSD
PENDLETON COUNTY, WEST VIRGINIA
SANDY RIDGE WATER EXTENSION

DRAWING TITLE
WELDED TANK
HALF TRAVEL LIQUID LEVEL GAUGE

SCALE
GRAPHIC

PROJECT NO.
PE40-10W

DRAWING NO.
2-05



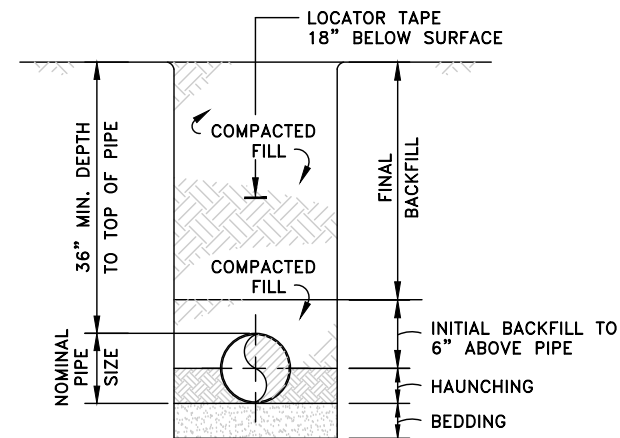
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1	05/1/2023	CREATED	

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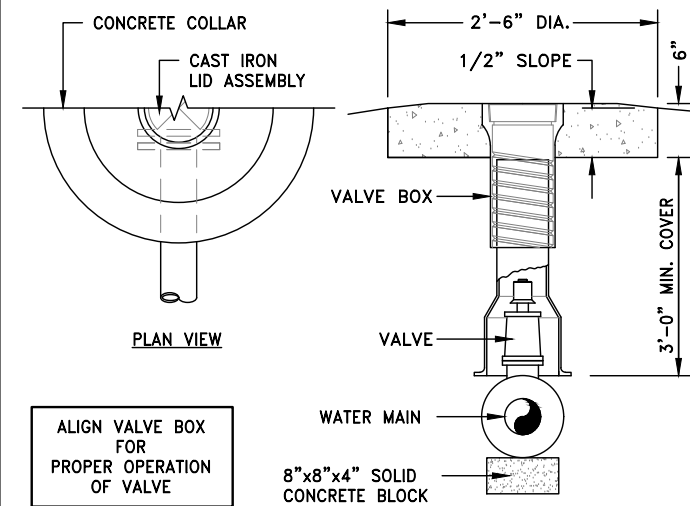
CERRONE ASSOCIATES, INC.
CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
97 - 14TH MAIN STREET, WHEELING, WV 26003-2497

FIELD LAYOUT -
DRAWN BY RLR
CONST CHECKED BY -
RECORD CHECKED BY -
ISSUE DATE 5-1-2023

PROJECT TITLE PENDLETON COUNTY PSD PENDLETON COUNTY, WEST VIRGINIA SANDY RIDGE WATER EXTENSION	SCALE NONE PROJECT NO. PE40-10W DRAWING NO. SD 2-01
DRAWING TITLE STANDARD DETAILS	



TYPICAL TRENCH SECTION G-001



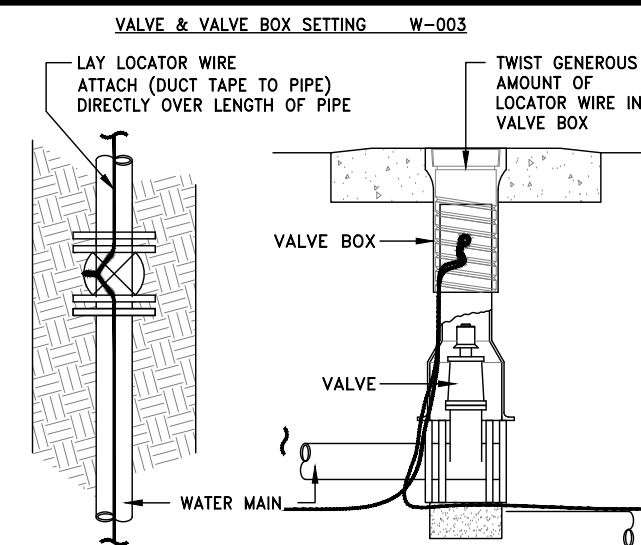
ALIGN VALVE BOX FOR PROPER OPERATION OF VALVE

SECTION VIEW

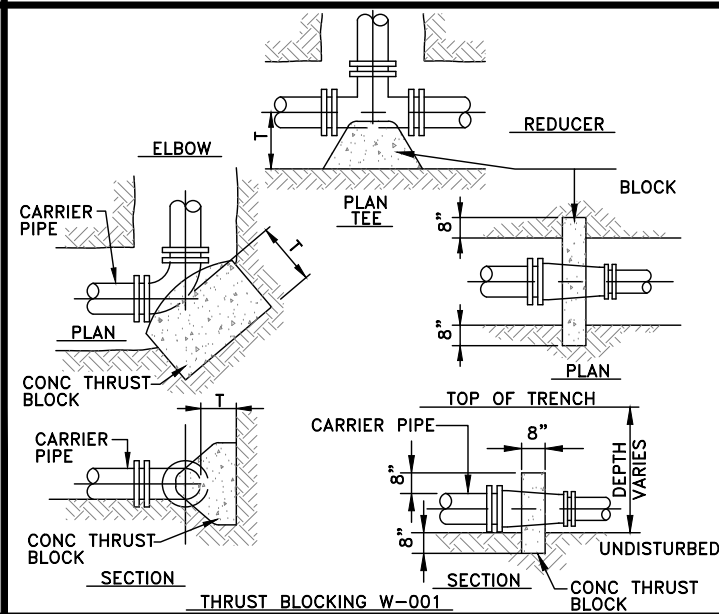
PIPE SIZE	PIPE CLASS	FITTING (REQUIRED BEARING AREA IN SQUARE FEET)				MINIMUM THICKNESS T
		TEE OR CAP	90°	45°	11 1/4" & 22 1/2"	
ALL PIPE 3" & SMALLER		1.0	1.0	1.0	1.0	6"
4"	SDR	1.6	2.3	1.3	0.6	6"
4"	DR & DIP	3.0	4.2	2.2	1.1	6"
6"	SDR	3.5	4.9	2.7	1.4	8"
6"	DR & DIP	6.1	8.6	4.7	2.4	8"
8"	SDR	5.9	8.4	4.5	2.3	12"
8"	DR & DIP	10.3	14.6	7.9	4.0	12"
10"	SDR	9.2	13.0	7.0	3.6	12"
10"	DR & DIP	16.1	22.8	12.4	6.2	12"
12"	SDR	12.9	18.2	9.9	5.0	15"
12"	DR & DIP	22.6	32.0	17.2	8.8	15"

* FOR OTHER PIPE SIZES & CLASSES, REFER TO PROJECT ENGINEER

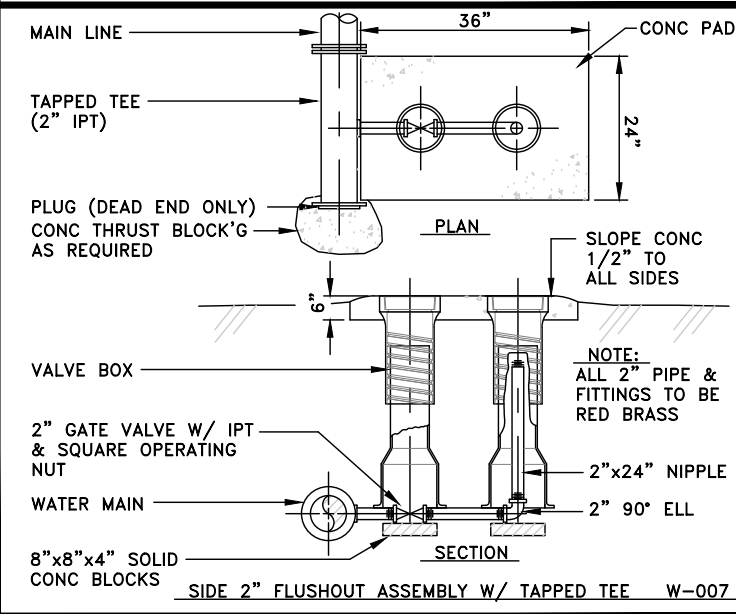
THRUST BLOCKING SIZE REQUIREMENTS G-030



LINE LOCATOR WIRE DETAIL G-023A



THRUST BLOCKING W-001



SIDE 2" FLUSHOUT ASSEMBLY W/ TAPPED TEE W-007

No.	DATE	DESCRIPTION	BY
1	05/1/2023	CREATED	

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CERRONE ASSOCIATES, INC.
 CONSULTING ENGINEERS • WATER & WASTEWATER SYSTEMS
 97 - 14TH MAIN STREET, WHEELING, WV 26003-2497

FIELD LAYOUT
 DRAWN BY: RLR
 CONST CHECKED BY:
 RECORD CHECKED BY:
 ISSUE DATE: 5-1-2023

PROJECT TITLE: **PENDLETON COUNTY PSD**
 PENDLETON COUNTY, WEST VIRGINIA
 SANDY RIDGE WATER EXTENSION

DRAWING TITLE: **STANDARD DETAILS**

SCALE: NONE
 PROJECT NO.: PE40-10W
 DRAWING NO.: **SD 2-02**

APPENDIX B

WVDEP Construction General Permit

WV0115924



**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER AND WASTE MANAGEMENT
601 57th STREET SE
CHARLESTON, WV 25304-2345**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WATER POLLUTION CONTROL PERMIT**

Permit No. WV0115924

Issue Date: January 10, 2019
Effective Date: February 9, 2019
Expiration Date: February 9, 2024

Subject: Stormwater Associated with
Construction Activities

To Whom It May Concern:

This is to certify that any establishment with discharges composed entirely of stormwater associated with construction activities disturbing one acre or greater of land area which may be regulated under the terms and conditions of this general permit, has satisfied the registration requirements, and which has not been required by the Director of the Division of Water and Waste Management to apply for an individual permit, is hereby eligible to allow stormwater discharges into the surface waters of the State under this General WV/NPDES Water Pollution Control Permit. Authorization to discharge under this permit must be provided by the Director.

Construction activities are land disturbing operations such as clearing, grubbing, grading, filling and excavation operations during site development for residential, commercial or industrial purposes. The following are not eligible for coverage under this NPDES General Permit:

1. Operations that result in the disturbance of less than one acre of total land area, which are not part of a larger common plan of development or sale.
2. Stormwater discharges associated with land disturbing activities that may reasonably be expected to be causing or contributing to a violation of a water quality standard as determined by the Director.

3. Land disturbance activities already governed by other Department of Environmental Protection NPDES permits. This includes Division of Mining and Reclamation permits for coal mining and non-metallic quarries.
4. Landfills, except in the preparation of a new landfill and/or clay borrow areas.
5. Other activities exempt from NPDES permitting requirements as set forth in 40 C.F.R. 122.3 and 47 C.S.R. 10-3.2.b.4 (NPDES Program).
6. Land disturbing activities related to oil and gas activities as required by the Energy Policy Act of 2005. These activities include but are not limited to construction of drilling sites, waste management pits, and access roads, as well as construction of the transportation and treatment infrastructure such as pipelines, natural gas treatment plants, natural gas pipeline compressor stations, and crude oil pumping stations.
7. Construction activities that result in a discharge of a reportable quantity release or that contribute pollutants (other than non-contaminated sediments) to a violation of a water quality standard are still subject to permit coverage.

This General WV/NPDES Water Pollution Control Permit is to allow stormwater discharges into the surface waters of the State while protecting water quality and is subject to the following terms and conditions:

The information submitted on and with the application form will hereby be made terms and conditions of the General Permit with like effect as if all such information were set forth herein, and other pertinent conditions set forth in Parts I, II, III, and IV and appendices A, B, and C.

Site Registration Applications approved from February 9, 2018 through February 9, 2019 must file the Notice of Termination for completed projects where all disturbed lands have been permanently stabilized, or, a signed certification of agreement to abide by the terms and conditions of this reissued General Permit within 90 days of the effective date. Additional application fees do not apply to the certification; however, annual fees still apply. Where any incomplete projects have disturbed lands that have not been permanently stabilized, status maps are required with the certification. The map may be in PDF format and is not required to conform to the specifications of II.H.1.a. The status map shall show disturbed areas and the Limits of Disturbance (LOD), which is the area approved under the registration for land disturbance. Projects that have not disturbed any lands are not required to provide the status map. Additionally, the certification will contain an updated timeline for major activities as required by Part II.H.1.

Existing registrations under the Notice of Intent approved from February 9, 2018 through February 9, 2019 shall submit the Notice of Termination if all disturbed lands are permanently stabilized. If construction is not complete and all disturbed lands are not permanently stabilized, such projects may retain permit coverage through the expiration date of this General Permit by submittal of the certification described above within 90 days of the effective date of this reissued General Permit.

Projects discharging to Waters of the State with an approved sediment-related Total Maximum Daily Load (TMDL) with registrations that were approved for one year only with approval dates from February 9, 2018 through February 9, 2019 that have not completed construction and stabilized disturbed areas at the effective date of this permit are required to submit the above described certification. Such projects shall agree to implement Enhanced best management practices (BMP's). Submittal of the certification will remove the 1-year time constraint and the registration will be valid until the expiration of this reissued General Permit unless site stabilization and termination of the registration occur first. Projects required to submit Discharge Monitoring Reports under the 2012 permit with approval dates from February 9, 2018 through February 9, 2019 must submit the above described certification agreeing to implement Enhanced BMPs within 90 days of the effective date of this General Permit, which has eliminated monitoring.

All projects approved under the 2012 permit's Site Registration Application or Notice of Intent with an approval date prior to February 9, 2018 must submit the Notice of Termination if all disturbed areas are permanently stabilized. All other projects that have not been stabilized shall submit an application for continuing coverage within 90 days of the effective date of this General Permit.

Compliance with other laws and statutes

Nothing in this General Permit shall be construed as relieving the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

Continuation of this general permit

If this general permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 47 C.S.R. 10 and remain in force and effect. If you were authorized to discharge under this general permit prior to the expiration date, any discharges authorized under this permit will automatically remain covered by this general permit until the earliest of:

- Your authorization for coverage under a reissued general permit or a replacement of this general permit following your timely and appropriate submittal of a complete application requesting authorization to discharge under the new general permit and compliance with the requirements of the new permit; or
- Your submittal of notification of termination that the facility has ceased operations; or
- Issuance or denial of an individual permit for the facility's discharge; or
- A formal permit decision by DWWM not to reissue this general permit, at which time DWWM will identify a reasonable time period of covered dischargers to seek coverage under an alternative general permit or individual permit. Coverage under this permit will cease at the end of this time period.

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PART I. INTRODUCTION

I.A. TERMS OF PERMIT

Discharges from sites covered under this General Permit shall not cause or contribute to a violation of 47 C.S.R. 2 (Requirements Governing Water Quality Standards) or 47 C.S.R. 12, (Requirements Governing Groundwater Standards) of the West Virginia Legislative Rules pursuant to Chapter 22, Article 11 and Article 12. Discharges that are not in compliance with these standards are not authorized.

I.B. COMPLIANCE REQUIREMENT

Compliance with this General Permit, the approved Stormwater Pollution Prevention Plan and the Groundwater Protection Plan is required upon the beginning of the construction project.

I.C. WATER QUALITY

Subject to 47 WV C.S.R. 10.3.4.a and 47 C.S.R. 2.4, the discharges covered by this permit are to be of such quality so as not to cause a violation of applicable water quality standards. The permittee must protect the water quality and the existing uses and designations of receiving waters by implementing BMPs. Enhanced BMPs must be used for projects discharging to any waters other than Tier 1 or where standard BMPs are found to be inadequate to protect water quality based on inspections by a Qualified Person, or representatives of the Director of DWWM or the Environmental Protection Agency.

Receiving waters for the exclusive purpose required by the paragraph above and in accordance with 47 C.S.R. 2.4 shall be protected from degradation as explained below:

Tier 1 Protection- Maintains and protects existing uses of a water body and the water quality conditions necessary to support such uses. A waterbody that is listed as impaired on the state's 303(d) list is considered a Tier 1 water as it pertains to the specific pollutant listed.

Tier 2 Protection- Maintains and protects "high quality" waters - water bodies where the level of water quality exceeds levels necessary to support recreation and wildlife and the propagation and maintenance of fish and other aquatic life. Tier 2 is the default assignment for a waterbody not listed as impaired on the state's 303(d) list.

Tier 3 Protection- Maintains and protects water quality in outstanding national resource waters.

Protection of Trout Streams - Waters which sustain year-round trout populations. Excluded are those waters which receive annual stockings of trout, but which do not support year-round trout populations. Waters which meet the definition of 47 C. S.R. 2-2.19 (Requirements Governing Water Quality Standards).

Impaired Streams — Sediment-related impaired waters are those that do not meet applicable water quality standards and are listed on the state's 303(d) list.

Sediment-Related Pollutant of Concern Total Maximum Daily Loads (TMDL) - A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality.

I.C.1. This permit does not authorize new sources or new discharges of constituents of concern to impaired waters unless consistent with the approved sediment-related TMDL and applicable state law (WV 47CSR10 and WV Code 22-11).

Enhanced BMPs shall be used on projects discharging to all waters of the state except for those classified as Tier 1 streams (other than 303(d) listed). For discharges to sediment-related TMDL waters, the permittee shall use enhanced BMPs as defined in Appendix C of this General Permit.

The Director reserves the right to require Enhanced BMPs for any stormwater discharges associated with land disturbing activities authorized by this permit, upon a finding that water quality impacts have been observed and that standard BMPs cannot adequately protect water quality. However, this finding is not required for discharges already subject to Enhanced BMPs.

I.D. REQUIRED REPORTING

I.D.1. Reporting Spill and Accidental Discharges

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to 47 C.S.R. 11-2. (Special Rules) of the West Virginia Legislative Rules promulgated pursuant to Chapter 22, Article 11.

I.D.2. Immediate Reporting

The permittee shall report any noncompliance which may endanger human health or the environment immediately after becoming aware of the circumstances by using the Department's designated spill alert telephone number ((800) 642-3074) or by calling the Director or his representative. A written submission shall be provided within five calendar days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time, and if, the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.D.3. Reportable Quantities

This permit does not relieve the permittee of the reporting requirements of 40 C.F.R. Part 117 and 40 C.F.R. Part 302. The discharge of hazardous substances in the stormwater discharge(s) from a project is not authorized by this General Permit, and in no case, shall the discharge(s) contain a hazardous substance.

I.E. DIRECTOR'S AUTHORITY TO REQUIRE OTHER PERMITS

In accordance with WV 47CSR10 §13.6.b.2.A, the Director may require any person authorized by this permit to apply for and obtain either an individual NPDES permit or an alternative NPDES General Permit. Any interested person may petition the Director to take action under this paragraph. The Director may require any owner or operator authorized by this permit to apply for an individual NPDES permit only if the owner or operator has been notified in writing that such a permit application is required.

I.F. ALLOWABLE DISCHARGES

All discharges authorized by this permit shall be composed entirely of stormwater.

I.G. PROHIBITED DISCHARGES

The following discharges are not authorized by this permit.

- Sediment laden stormwater that has not gone through an appropriate best management control;
- Directing pavement wash-waters directly into any surface water, storm drain inlet, or stormwater conveyance, unless the conveyance is connected to a sediment basin, sediment trap, or similarly effective control;
- Wastewater from washout of concrete unless managed by an appropriate control;
- Wastewater from washout and cleanout of stucco, paint, bituminous asphalt, form release oils, curing compounds and other construction materials;
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and soaps, solvents, or detergents used in vehicle and equipment washing, or external building washdown.
- Toxic or hazardous substances from a spill or other release.

This permit does not authorize the conveyance, diversion, channeling, directing or otherwise allowing the discharge of stormwater into a sinkhole without an Underground Injection Control Permit.

PART II. PRE-CONSTRUCTION REQUIREMENTS

PRIOR TO CONSTRUCTION, the following are required:

- A complete application, prepared by a Qualified Person, for authorization to discharge stormwater from construction related land disturbance shall include:
 - Installation of a sign at the entrance to the project or posting of a notice in a public place in close proximity to the construction site as indication the application has been submitted;
 - Timely corrections or submission of additional information to provide clarity about the proposed construction project, as requested by the Director;
 - Cooperation with the public notice process, when appropriate, by making prompt payment to the local newspaper that will publish the Class I legal advertisement, effectively notifying the public that the application is pending;
 - Making timely changes to the application, as necessary, based on public input; and

After receiving Director's approval and before beginning construction activities:

- Install sediment and erosion controls;
- Qualified Person inspects the newly installed sediment and erosion controls.
 - Impounding structures not built as approved shall be inspected and documented as meeting the trapping capacities and efficiencies of the structures approved in the registration.

II.A. APPLICATIONS

II.A.1. Application Requirements

Submittal of the application shall be made using the online Electronic Submission System, unless otherwise approved by the Director. All documents must be signed in accordance with the signatory requirements described in Appendix A.7.

II.A.1.a. Application Fee

The application fee shall be paid in full prior to the Director reviewing the application. Fee amounts listed in and subject to changes in the NPDES Fee Schedule C.S.R. 47-26.

II.A.1.b. Public Notice Advertisement

The following applications are subject to Public Notice in a local newspaper therefore, the Notarized Statement for Billing form is required with the application:

- Land disturbance of 100 or more acres;
- Projects of 3 acres or more with a grading phase lasting one year or longer which will not meet final stabilization, as defined in Appendix C of this General Permit, by the end of the year; and
- Projects discharging to Tier 3 streams.

The Director reserves the right to require advertisement for any other application type.

II.A.1.c. Large Construction Projects

Projects disturbing 3 or more acres of land shall submit an application containing:

- Application Form, to include template for the sign
- Stormwater Pollution Prevention Plan;
- Groundwater Protection Plan;
- Pre-Construction Drainage Map
- During Construction Drainage Map showing the proposed location of all drainage structures and associated access routes;
- Post Construction Drainage Map;
- Annual Progress Map if permitted for longer than one year;
- Detailed Site Plan (Maps) showing Limits of Disturbance and Receiving Waters; and
- Design Details for:
 - Sediment basins, road, cut and fill cross sections, and other engineered structural design calculations; and
 - Other controls to include post-development stormwater management plans required by local governments
- Applications for Large Construction Projects shall be submitted 60 days before the anticipated date construction is to begin.
 - Applications for Large Construction Projects requiring Public Notice per II.A.1.b. shall be submitted 100 days before the anticipated date construction is to begin.

II.A.1.d. Minor Construction Projects

Projects disturbing 1 to < 3 acres of land, other than single-family homes as explained in Part II.A.1.e. below, shall submit an application containing the following:

- Application form, to include template for the sign
- Stormwater Pollution Prevention Plan;
- Groundwater Protection Plan;
- Pre-Construction Drainage Map;
- During Construction Drainage Map showing the proposed location of all drainage structures and associated access routes;
- Post Construction Drainage Map;
- Annual Progress Map if permitted for longer than one year;

- Detailed Site Plan (Map) showing Limits of Disturbance and Receiving Waters
- Typical Design Details.
- Applications for Minor Construction Projects shall be submitted 30 days before the anticipated date construction is to begin.
 - Applications for Projects requiring Public Notice per II.A.1.b shall be submitted 100 days before the anticipated date construction is to begin.

II.A.1.e. Construction of Single-Family Homes: 1 to < 3 Acres

Projects for construction of Single-Family Homes of 1 to <3 acres including offsite borrow and waste sites, by the homeowner or homeowner's contractor are subject to this permit and shall submit:

- Application Form; and
- Agreement to use DWWM Individual House Sample Sediment and Erosion Control Plan found in the West Virginia Erosion and Sediment Control BMP Manual (BMP Manual), or other BMPs that are equally protective of water quality.
- Applications for construction of Single-Family Homes of 1 to < 3 acres shall be submitted 30 days before the anticipated date construction is to begin.

II.A.1.f. Offsite Waste and Borrow Areas

Offsite waste and borrow areas one acre or greater must be included in applications and approved before material may be removed from or accepted at the site. Such areas must be included in the application when associated with single-family homes, linear projects, or any other construction project. Offsite waste or borrow sites less than one acre in size that are not contiguous to the construction site must provide sediment and erosion controls and may be included with the application, however, there is no requirement to do so unless otherwise required by the Director.

If a waste/borrow area is not known during the initial application, the registration can still be issued. Once the location of a waste/borrow area is identified it is the responsibility of the applicant to modify their registration to include contiguous area(s) or non-contiguous areas of one acre or more. When the permittee does not have "legally ability to control" non-contiguous areas of one acre or more, the permittee may contact the DEP to inquire if the non-contiguous acre or more has been properly permitted and therefore, a site suitable for waste or borrow. The permittee may also make an inquiry of the party that does have the "legal ability to control" the non-contiguous site if it is properly permitted before accepting material from or sending material to the site.

When contaminated soils are identified, a soil handling plan shall be provided. Contaminated soil is not suitable material for borrow or fill unless approved by the Director.

II.A.2. Emergency Procedures

When conducting earth-disturbing activities in response to a public emergency e.g., natural disaster, widespread disruption in essential public services), and the related work requires immediate authorization to avoid imminent endangerment to human health, public safety, or the environment, or to reestablish essential public services, authorization to discharge is conditioned that a complete and accurate application is submitted within 30 calendar days after commencing earth-disturbing activities establishing eligibility under this permit.

Documentation to substantiate the occurrence of the public emergency must be included in the application.

II.B. POSTING SIGN OR NOTICE

Within 72 hours of filing an application, the applicant shall display a sign for the duration of the construction project near the entrance of the project or, for linear projects, at a location near an active part of the project that is accessible by the public; containing the following information:

- The applicant's name and emergency telephone number;
- Project Reference ID;
- For info on this stormwater permit
Call: 800-654-5227 or [DEP. Comments@wv.gov](mailto:DEP.Comments@wv.gov).
- Permit Number (See II.B.4.)

II.B.1. The sign shall be a minimum of two feet by two feet and be at least three feet above ground level; clearly visible and legible from a public roadway or right-of-way.

II.B.2. If it is not feasible to display a sign at or near the project, the applicant may post, within 72 hours of filing the application a notice containing the foregoing information at a local public building, including, but not limited to, a town hall or public library.

II.B.3. The application shall provide the location where the sign or notice is to be posted.

II.B.4. Within 7 business days of assignment of the permit registration number, the applicant shall affix such number to the sign or to the posted notice.

II.C. INCOMPLETE OR INCORRECT APPLICATIONS

As the application is evaluated by the Director, notice may be sent to the applicant during the review period that the plan does not meet one or more of the specific minimum requirements of this permit. After such notification, the applicant shall have 30 days to resubmit the application.

II.C.1. An applicant needing additional time to respond to requests for changes or additional information must request an extension prior to the end of the 30 days, or:

- The Director may terminate the application, after making a reasonable attempt at, and being unsuccessful in, contacting the applicant to provide notice of the pending termination
 - The Director may cause a pending termination message to be sent from his official mailbox which has an email address of DEPNPDESEP@wv.gov to the applicant's email address as listed on the registration application.
 - It is the responsibility of the applicant to keep the Director informed of accurate contact information, and in lieu of a successful notice from his official mailbox, the Director may attempt to contact the applicant by phone to provide notice of the pending termination.
- Upon successful contact with the applicant, the Director has the option of terminating or extending the due date for resubmission of the application.

II.D. PUBLIC NOTICING OF APPLICATIONS

The Applicant shall cooperate with the public notice of applications required by Part II.A.1.b:

- Making payment for a Class I Legal Advertisement concerning the application to the local newspaper with the largest readership in the vicinity of the proposed project.
- Obtaining from the newspaper, and submitting to the Director, an affidavit of the publication of the Class I Legal Advertisement.

II.E. AUTHORIZATION TO DISCHARGE

The applicant is prohibited from disturbing land prior to obtaining approval from the Director for activities covered by this permit. The Director shall send an approval or denial of the application via his official mailbox, DEPNPDESEP@wv.gov and,

- The Director has no further obligation to attempt to verify the applicant received the approval or denial, as
- It is the responsibility of the applicant to keep the Director informed of up-to-date and accurate contact information.

The Applicant shall maintain a copy of the approval from the Director onsite and make it available to DWWM Personnel or the public upon request.

II.F. INSTALLATION OF EROSION AND SEDIMENT CONTROLS

After receiving approval from the Director and before beginning construction activities, the permittee shall install erosion and sediment control BMPs in accordance with the approved registration. BMPs shall be in place and functional prior to land disturbance. For registrations proposed to be completed in multiple phases, the BMPs for each phase must be constructed and functional prior to land disturbance beginning in that phase. Erosion

and sediment control BMPs shall be implemented in accordance with standard procedures set forth in the BMP Manual, however, other BMPs may be used if equally protective of water quality.

II.G. QUALIFIED PERSON TO INSPECT EROSION AND SEDIMENT CONTROLS

The permittee shall ensure that all newly installed erosion and sediment control BMPs are inspected by a Qualified Person. Any defective controls identified during the inspection must be repaired and/or installed correctly within 24 hours and corrections verified upon re-inspection by the Qualified Person.

Construction activities may begin after the Qualified Person inspects and finds that all erosion and sediment control BMPs are installed properly in the areas where earth disturbing activities are planned to commence.

Sediment control BMPs shall be constructed in accordance with the approved registration (Part II A.1.c. and A.1.d.). All basins and traps not constructed in accordance with the approved registration shall be inspected and documented by a Qualified Person as affording the same trapping capacity and efficiency as the approved structures. Thereafter, routine inspections of the structures by a Qualified Person shall be conducted in accordance with III.B. until structure removal. All documentation of inspections shall be kept on site during construction on a form, prescribed by the Director for the length of the construction project.

II.H. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) COMPONENTS

SWPPPs shall be prepared in accordance with good engineering practices and retained per II.H.5. The plan shall identify potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharges associated with construction activity. The plan shall describe and ensure the implementation of practices that are to be used to reduce the pollutants in stormwater discharges associated with construction activity and to assure compliance with the terms and conditions of this permit. The SWPPP shall be prepared by a Qualified Person.

II.H.1. Nature of the Activity

The SWPPP shall contain a description of the nature of the construction activity, including a proposed timetable for major activities such as: cut and fill plans, proposed road construction or upgrades, grading plans, and a narrative of the pollution prevention techniques proposed to be implemented before, during and after construction. A schedule for major grading activities and stabilization measures to be initiated shall be included in the description

II.H.1.a. Maps

Site maps shall contain a North arrow with sites oriented to the North, with a minimum of five-foot topographical contours. The maps shall include:

- Nearest receiving streams, springs, surface waters to the site;
- Limits of all areas to be disturbed (LOD);
- Existing roads including public roads from which access to the site will be constructed;
- Access roads;
- Drainage patterns during and after construction with the outlet markers depicting the stormwater discharge points;
- Slopes prior to construction and anticipated conditions after grading activities;
- Location of topsoil stockpiles;
- Waste areas of 1 acre or greater within or contiguous to the construction site;
- Borrow sites of 1 acre or greater within or contiguous to the construction site;
- Locations and identification of sediment control structures;
- Total acreage and location of impervious areas after construction is complete;
- Location of rain gauge provided by the applicant
or a statement the applicant will obtain the precipitation event information from a National Oceanic Atmospheric Administration (NOAA) weather station that is representative of the location and provide the Station ID Number;
- Post-development stormwater management structures required by local governments;
- Final stormwater conveyances, including all ditches and pipe systems;
- Property boundaries and easements; and
- A legend, complete with any other information necessary to describe the project in detail.

The project shall be illustrated in an ArcGIS Shapefile (.shp) or in an AutoCAD Drawing (.dwg).

II.H.1.b. The map shall be accompanied by a description of an estimate of the total area of the site, the part of the site that is expected to undergo excavation or grading, and the total amount of excavation by cut and fill as well as an explanation of where excavated material will be moved from, and to, on the site.

Cross sections that accurately depict the surface configuration at any project area proposing a fill with a contributing drainage area of one acre or more shall be included with the mapping information. A description of measures to be taken to reduce the potential for subgrade saturation and ensure stability of fill areas shall be submitted. The cross-section shall be developed from sufficient slope measurements to adequately represent the existing land configuration of the proposed project area. Fill slope lines, original ground line, proposed keyway cut or rock toe key, drainage provisions and/or alternates shall also be identified.

II.H.1.c. For each Large Construction Project an evaluation point shall be selected. The pre-construction peak discharge from a 1-year, 24-hour storm in cubic feet per second and the post-development peak discharge from a 1-year, 24-hour storm in cubic feet per second shall be calculated at the evaluation point.

If post-construction peak discharge is 10% (or more) greater than the pre-construction peak discharges of 5 cubic foot per second or more for the 1-year, 24-hour storm, at the evaluation point, post-construction stormwater management BMPs must be implemented to

reduce potential erosion at the discharge point location. Calculations and justification must be submitted if post-construction stormwater management features are deemed unnecessary. The evaluation point will be the location for discharge, therefore, controls must be put in place to prevent erosion from stormwater released from the construction site.

The design procedures shall follow professionally accepted engineering and hydrologic methodologies.

II.H.1.d. Each road or access road shall be classified as either permanent or temporary and categorized as Construction Activity — New or Improved; Incidental Construction Activity; or Maintenance Only.

- Temporary roads shall be reclaimed as soon as practical after they are no longer needed for operations.
- New or Improved roads shall be designed with the complete specifications along the entire road.
- Incidental Construction Activity necessary to address tills and gullies and other drainage issues, shall be designed with the complete specifications on that specific segment.
- Maintenance only means to be graveled only.

The SWPPP shall contain plans and specifications for each road or access road requiring construction activities within the LOD area. The plans and specifications shall include a map, stationed baseline, appropriate profile and cross sections, gradients, flow patterns, surfacing materials, cuts, fill, embankments, drainage ditches, culverts/water bars, and erosion and sediment structures.

Each road or access road shall be designed with the following specifications:

- Stone access entrance and exit drives.
- Parking areas to reduce the tracking of sediment onto public or private roads.
- All unpaved roads on the site shall be graveled or have other durable surface unless the application contains a statement that the affected landowner disagrees with this requirement. The applicant shall provide the land use, such as agriculture and shall describe the BMPs chosen to effectively control sediment and erosion. Unpaved roads shall be stabilized in accordance with II.H.1 .d.1 . the road bed shall be seeded and mulched.
- The maximum pitch grade shall not exceed 15%.
- The surface shall pitch toward the ditch line at a minimum slope of 2% to 4%. A road located in an area that doesn't have hillside runoff may be crowned with a minimum slope of 2% to 4% from the center line.
- A ditch shall be provided on the inside of any road having hillside runoff, with ditch relief culverts and/or water bars spaced according to grade and installed wherever necessary to insure proper drainage of runoff water beneath or through the access road.

- Ditch lines shall be capable of passing the peak discharge of a 10-year, 24-hour precipitation event.
- Ditch relief culverts shall be capable of passing the peak discharge of a 2-year, 24-hour precipitation event and placed at a spacing using the formula: $4001\% \text{ grade} + 75' = \text{culvert spacing}$.
- Sediment control shall be provided at the inlet by sumps, rock checks, or equal structure and the slope at the outlet end shall be protected with an apron of rock riprap, a water energy dissipater, or other similar structure.
- Alternative design criteria for access road drainage may be used, but only when approved by the Director.

II.H.1.d.1. A road not to be retained as a permanent road shall be reclaimed as soon as practical after it is no longer needed for operations. The reclamation shall include:

- Removing and disposing of road surfacing materials that are incompatible with prior land use and revegetation requirements; and
- Reshaping cut and fill slopes as necessary to be compatible with the land use and complement the natural drainage pattern of the surrounding terrain.
- Prior to abandonment of access roads, efforts shall be made to prevent erosion by the use of culverts, water bars, or earth berms. Water bars or earth berms shall be installed according to the following formula for spacing: $400/\% \text{ grade} + 75' = \text{water bar or earth berm spacing}$.
- Upon abandonment, the road bed shall be scarified or ripped and all areas associated with access roads shall be immediately seeded and mulched.

II.H.1.d.2. The application for registration shall identify existing All-Terrain Vehicle (ATV) trails to be retained by the landowner upon termination of the permit registration. ATV trails that are not shown with the original application may be identified through a minor modification to the registration. ATV trails shall be maintained by the applicant and stabilized upon conclusion of construction when not identified in the registration as a landowner accepted trail. Stabilization shall include the vehicle travel lanes for all trails not accepted by the landowner. During construction, the applicant shall maintain the trails and include trail areas during inspections to prevent sediment laden stormwater runoff from entering the waters of the state.

II.H.1.e. Impact Reduction

Site maps shall also include the location and type of stabilization methods for all disturbed areas. Plans shall ensure that existing vegetation is preserved where attainable. Efforts shall also be made to limit disturbance on steep slopes, minimize soil compaction, and preserve topsoil where feasible. A description of interim and final stabilization practices, including site specific implementation schedules of the practices shall be provided and may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures.

II.H.1.e.1. The SWPPP shall contain stabilization practices to ensure that disturbed portions of the site are stabilized as rapidly as possible. Satisfactory stabilization means all disturbed areas shall be covered by permanent protection such as pavement, pervious pavement, compacted gravel, buildings, waterways (riprap, concrete, grass, or pipe), a healthy, vigorous stand of grass or native vegetation that uniformly covers more than 70% of the ground, stable outlet channels with velocity dissipation which directs site runoff to a natural watercourse, and any other structure or material approved by the Director.

II.H.1.e.2. Vegetative practices shall describe seedbed preparation requirements and the type and amount of soil amendments necessary to establish a healthy stand of vegetation. Soil maps shall be submitted.

For projects with unknown sources of potential borrow material or when excavation is necessary before adequate soil amendments may be determined, the Qualified Person shall, as soon as materials are located or excavated, prepare the soil amendment plan. The plan shall become a part of the records retained in accordance with Part II.H.5.

II.H.2. The SWPPP shall be signed in accordance with Appendix A.7. and retained onsite throughout the course of the project.

II.H.3. Potential Pollutants

The SWPPP shall include a complete list and description of potential pollutants at the project site such as products used in the operation and maintenance of vehicles and equipment as well as construction of buildings, parking lots, and other structures. The erosivity of soils must be considered when selecting erosion and sediment control BMPs.

II.H.3.a. Potential pollutants can be identified by including:

- A report showing the soil mapping units associated with the proposed area and a table with a description of each map unit, acres in the permit area, and percent of permit area;
- Identification of soils and a soil handling plan;
- A statement whether cement will be mixed onsite or delivered by truck;
- A description of the types of equipment to be used, serviced, repaired, or cleaned onsite;
- A description of the products to be used in construction of buildings and parking lots;
- A statement whether fertilizers, herbicides, and pesticides will be used on the site including a schedule of application; and
- A description of the post-development use of the site.
 - Certain post-development discharges might require further approval for discharges from the Director, under an individual permit or other general permit.

II.H.3.b. Include a description of the controls and procedures for preventing potential pollutants from entering stormwater runoff, based on II.H.3.a.

II.H.3.b.1. Design, select, and identify erosion and sediment control BMPs. The BMPs should be selected from the BMP Manual. Alternative BMPs may be used if determined by the Director to be equally protective of water quality.

II.H.3.b.2. Projects discharging to any waters other than Tier 1 require the use of enhanced BMPs, such as:

- Inspection of all erosion and sediment control BMPs within disturbed areas at least once every four calendar days and within 24 hours after any precipitation event greater than 0.25 inches per 24 hours period.
- Repairs or maintenance to BMPs shall be performed within 24 hours, however, permittees must implement alternate BMPs prior to storm events while awaiting repair of the primary enhanced BMP.
- Temporary seeding and mulching within 4 days when areas will not be re-disturbed for more than 14 days.
- Permanent seeding and mulching within 4 days of reaching final grade.
- Final stabilization within 4 days after construction has been complete.

If the time frame associated with enhanced BMP's are unobtainable due to weather conditions, a narrative justification shall be made and maintained onsite for review by the Director.

Additional filtration BMPs should be selected from the BMP Manual, however filtration BMPs from other manuals may be approved, if equally protective of water quality.

Within six months of notification from the Director of a new sediment-related TMDL approval applicable to construction activities, permittees must incorporate any implement enhanced BMPs for discharges to the receiving waters subject to the TMDL.

II.H.3.b.3. Hay or straw bales shall not be used as primary or secondary filtering devices; Polymers, flocculants, or other treatment chemicals may be used only in accordance with good engineering practices and specifications for use by the chemical provider/supplier. The use of cationic treatment chemicals is prohibited;

II.H.3.b.4. Identify a specific location and procedure for rinsing mobile mixing drums or truck drums. The procedure must name an appropriate control for the wastewater created by such rinsing and fully explain how the permittee will prevent wastewater from entering stormwater runoff;

II.H.3.b.5. Describe procedures to prevent spillage, leakage, and improper disposal of fuel, oil, grease, solvent, soap, and cleaning plans. The procedures must explain how these products will be handled to prevent any pollutants from entering stormwater.

II.H.3.b.6. Describe how washout and cleanout of stucco, paint, form release oils, curing compounds, bituminous asphalt, and other construction materials will be managed to prevent pollutants from entering stormwater runoff;

II.H.3.b.7. Describe an employee training program for all on-site personnel directly involved with construction activities at all levels of responsibility that reiterates the components and goal of the SWPPP.

- Training should address topics such as spill and leak response and internal reporting, good housekeeping, and routine inspection and maintenance.
- Training shall be on a quarterly basis while construction activities are occurring.
- A list of attendees and topics covered at each training session shall be documented and maintained in the SWPPP.

II.H.3.b.8. A natural vegetative buffer shall be provided adjacent to receiving streams or other waters on or near the project site. Vegetative buffers shall be a minimum of 50 feet, however;

- A natural vegetated buffer may not be used as a stand-alone erosion and sediment control practice but must be used in conjunction with other BMPs.
- Vegetative buffer strips are not required if:
 - A natural vegetative buffer does not exist in pre-construction conditions, such as when the buffer has already been removed by existing developmental or agricultural activities; or
 - The receiving water is a man-made stormwater conveyance or storage structure, such as a ditch or storm water pond; or
 - Project activities occur within waters approved under a Clean Water Act (CWA) Section 404 permit and Section 401 water quality certification; or
 - The projects located where the vegetative buffer must be encroached to construct necessary infrastructure, such as a utility line or an access road. Justification for any encroachment may be subject to approval by the Director; or
 - Linear projects where right-of-way acquisition or area is limited.

II.H.3.b.9. All diversions constructed to final grade, including clean water diversions shall be stabilized prior to becoming functional. Internal construction diversions must be stabilized upon reaching final grade.

- Divert flows around exposed soils and limit runoff from exposed areas with BMPs such as:
 - Silt fences, earthen dikes and berms, land grading, diversions, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, rock outlet protection, reinforced soil retention systems and geotextiles, gabions and riprap, and permanent and temporary sediment traps/basins.

- Fill slopes must be protected by measures used to divert runoff away from fill slopes to conveyance measures such as pipe slope drains or stable channels.
- BMPs should be selected from the BMP Manual, however, other BMPs may be approved if equally protective of water quality.
- If necessary, diversions will be used to direct runoff to the trapping structure.
 - Diversions to trapping structures must be stabilized as they are brought to final grade to prevent sediment laden water from leaving the site.
 - Diversions shall have the capacity to pass safely the peak discharge from a 10-year, 24- hour precipitation event.

II.H.3.b.10. For locations on a site that have a drainage area of five acres or less, a sediment trap which provides a storage volume equal to 3,600 cubic feet per acre of drainage area shall be installed. Half of the volume of the trap shall be in a permanent pool and half will be dry storage. A sediment trap must be able to pass through the spillway(s) a 10-year, 24-hour precipitation event, and still maintain at least one foot of freeboard.

II.H.3.b.11. For drainage areas of greater than five acres, a sediment basin providing 3,600 cubic feet per drainage acre shall be installed. Half of the volume of the basin shall be in a permanent pool and half shall be dry storage. Sediment basins must be able to dewater the dry storage volume in 48 to 72 hours. However, this requirement may be waived at the discretion of the Director when skimmer devices are used. Dewatering structures must withdraw from the surface, unless infeasible. A sediment basin must be able to pass through the spillway(s) a 25-year, 24-hour precipitation event, and still maintain at least one foot of freeboard.

II.H.3.b.12. For locations served by a common drainage where a sediment basin providing 3,600 cubic feet of storage is not attainable or dewatering structures that withdraw from the surface are not feasible, enhanced BMPs within the project area are required in lieu of the required sized sediment basin. Justification and a narrative description of the additional measures proposed must be provided for use of any practice(s) other than sediment basins or traps.

II.H.3.b.13. Protection must be provided for the inlet(s) and outlet(s) of a sediment trapping structure to protect against erosion by an appropriate material such as riprap or other similar media.

II.H.4. Preventative Maintenance

The SWPPP shall include a description of procedures to maintain in good and effective condition and promptly repair or restore all grade surfaces, walls, dams and structures, vegetation, erosion and sediment control measures and to identify and address conditions that could cause breakdowns or failures resulting in discharges of sediment to surface waters including:

- Good housekeeping protocols to ensure a clean and orderly project. This includes minimizing the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to stormwater;
- All solid waste and construction/demolition material must be disposed of in accordance with the Code of West Virginia and Legislative Rule Title 33 Series 1, (Solid Waste Management Rule);
- At a frequency, sufficient to keep roads and streets clean, all public and private roads and streets adjacent to a construction site must be cleaned of debris, mud, and dirt tracked or originating from the project site;
- Provisions must be made to control fugitive dust on and originating from the construction site.;
- Spill prevention and response procedures - Areas where potential spills may occur, and their accompanying drainage points, shall be identified clearly in the SWPPP. Also, where appropriate, specify material handling procedures and storage requirements. Procedures for cleaning up spills shall be identified in the plan and made readily available to the appropriate personnel. The necessary equipment to implement a cleanup shall be available to personnel, including spill kits.

II.H.5. Record Keeping

The permittee shall retain all records required by this permit for a period of 3 years from the date permit coverage is terminated. This includes, but is not limited to:

- Personnel training records;
- Incident reports of spills, leaks and improper dumping;
- Field modifications;
- Inspection and maintenance records;
- Corrective action reports.

All SWPPPs required under this permit are considered reports that shall be available for review to the public under Section 308(b) of the CWA and WV Code 29B-1-1. The permittee may claim any portion of a SWPPP as confidential to the extent permissible by 47 C.S.R. 10-12.7. (NPDES Program).

All GPPs are considered reports and shall be made available as required by WV Code 29B1-1.

II.I. GROUNDWATER PROTECTION PLAN (GPP)

GPPs shall be prepared in accordance with the requirements of 47 C.S.R. 58-4.11. et seq. (Groundwater Protection Regulations). GPPs shall be submitted as required by 47 C.S.R. §4.12.e.1.

The GPP shall identify all operations that may reasonably be expected to contaminate groundwater resources with an indication of the potential for soil and groundwater

contamination from those operations. In addition, the GPP shall provide a thorough and detailed description of procedures designed to protect groundwater from the identified potential contamination sources. Guidance in the completion of a GPP is available from the DWWM.

II.I.1. The GPP shall be a stand-alone document and shall be submitted with the registration as such, rather than as a component of the SWPPP,

II.I.2. GPP Elements

The GPP shall include the following elements:

II.I.2.a. A description of the operations, processes and materials present at the facility that may affect or contaminate groundwater.

II.I.2.b. Procedures and containment facilities to protect groundwater resources from the potential contaminants listed above. These processes and facilities shall be identified on a facility map.

II.I.2.c. A GPP containing a Karst Mitigation Plan shall be submitted with applications for registration under this NPDES General Permit for all areas with Karst topography.

Procedures for protecting groundwater when designing and adding new equipment and operations. Adequate design of these operations should be considered in the GPP when making changes in areas of karst, wetlands, faults, subsidence, areas determined by the Bureau for Public Health to be delineated wellhead protection areas, or other areas determined by the Director to be vulnerable based upon geologic or hydrogeologic information.

- The permittee must revise the GPP within 30 calendar days to address any newly delineated areas or other vulnerable areas upon notification by the Director or the Bureau for Public Health.

II.I.2.d. A summary of activities presently regulated for groundwater protection. These may include: registration of above ground and underground storage tanks, required groundwater monitoring or the construction and use of a landfill and list any other permits, required spill prevention and response plans, registrations, certifications or approvals from agencies that regulate groundwater protection measures at the facility. These may include but are not limited to:

- Stormwater
- Solid Waste Facility
- Resource Conservation and Recovery Act (Hazardous Waste Treatment, Storage and Disposal or Transporter)
- UST — Underground Storage Tank
- AST — Above Ground Storage Tank
- CERCLA — Superfund
- WV Voluntary Remediation — Brownsfields
- FIFRA — Federal Insecticide, Fungicide and Rodenticide Act

- Well Head Protection Program
- Underground Injection Control
- Toxic Substances Control Act
- Best Management Plans
- Management of used oil

II.I.2.e. All available groundwater quality data for the facility as well as well locations or other sampling points.

II.I.2.f. A statement documenting that waste materials will not be used for deicing, fill, or any other use, unless that use is allowed by regulation or permit.

II.I.2.g. A training component wherein the applicant states that employees with the potential to pollute groundwater will be trained in prevention procedures.

II.I.2.h. Documentation of quarterly inspections of the GPP elements by facility personnel are required. Documentation of this section must include a description of groundwater protection procedures and how control structures and devices are managed. Create and attach a copy of the facility's inspection form to the GPP.

II.I.2.i. Safety data sheets for all chemicals, or substances, used or stored on site.

II.I.3. The GPP shall be signed in accordance with Appendix A.7 and a copy retained onsite.

II.J. CONSISTENCY WITH OTHER PLANS

SWPPPs may reflect requirements for Spill Prevention Control and Countermeasure plans under section 311 of the CWA or any BMPs and GPPs pursuant to 47 C.S.R. 58 (Groundwater Protection Rule) or otherwise required by an NPDES permit. Incorporate any part of such plans into the SWPPP by reference.

PART III. REQUIREMENTS DURING CONSTRUCTION

During construction, the permittee is required to:

- Follow all approved plans, follow good housekeeping protocol, respond to and report spills and leaks;
- Ensure a Qualified Person conducts inspections to verify that the approved BMPs effectively protect water quality;
- Implement additional controls as needed to protect water quality;
- Update the SWPPP/GPP with the additional controls;
- Submit modifications to the approved plans to reflect the additional controls, and
- Stabilize disturbed areas.

III.A. COMPLY WITH APPROVED REGISTRATION

III.A.1. The permittee shall construct the project as described in the approved registration.

III.A.2. The permittee shall practice good housekeeping measures to maintain a clean and orderly project. This includes minimizing the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to stormwater.

III.A.2.a. The permittee shall implement spill and leak prevention practices in accordance with the approved plan and respond promptly when incidents occur. The necessary equipment to implement a cleanup shall be available on-site to personnel, including spill kits.

III.A.3. Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has permanently ceased or 4 days for sites required to use enhanced BMP's.

- Where the initiation of stabilization measures by the 4th day, as applicable after construction activity temporarily or permanently ceases is precluded by natural causes, such as a drought or flood, stabilization measures shall be initiated as soon as conditions allow.
- Where construction activity will resume on a portion of the site within 14 days from when activities ceased, (i.e., the total time period that construction activity is temporarily halted is less than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.
- Areas where the seed has failed to germinate adequately (uniform perennial vegetative cover with a density of 70%) within 30 days after seeding and mulching must be reseeded immediately, or as soon as weather conditions allow.

III.B. INSPECTIONS BY QUALIFIED PERSON

The permittee shall ensure site inspections are conducted by a Qualified Person in accordance with this section. The purpose of the inspections is to ensure compliance with the approved plan, and when the approved plan is not effective at protecting water quality, the inspection is to document that plan improvements are needed.

III.B.1. The person(s) inspecting the site may be a staff person or a third party hired to conduct such inspections as long as they meet the definition of a Qualified Person.

III.B.2. The site must be inspected as listed below, unless the site discharges to sensitive waters or the site qualifies for a reduction in the inspection frequency pursuant to III.B.2.b below:

- At least once every seven (7) calendar days and

- Within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.

III.B.2.a. An increase in inspection frequency is required for sites discharging to all waters except Tier 1.

For any portion of the site that discharges to a water that is classified as Tier 2 or Tier 3, or listed on the 303(d) list, inspections must be conducted in accordance with the following inspection frequencies:

- Once every four (4) calendar days, and
- Within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.

III.B.2.b. Reductions in inspection frequency may occur in accordance with the following:

Stabilized areas:

The permittee may reduce the frequency of inspections to twice per month, no more than 14 calendar days apart, in any area of the site where final stabilization has been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required previous to the reduced frequency. The beginning and ending dates of this period must be recorded in the inspection report.

Exceptions:

For "linear projects", where disturbed portions have undergone final stabilization at the same time active construction continues elsewhere, the permittee may reduce the frequency of inspections to twice per month no more than 14 calendar days apart, in any area of the site where the final stabilization has been completed. Inspect once more within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater. If there are no issues or evidence of stabilization problems, further inspections may be suspended. If "wash-out" of stabilization materials and/or sediment is observed, following re-stabilization, the reduced inspection frequency is suspended.

Frozen conditions:

If the permittee suspends construction activities due to frozen conditions, inspections on the site may be temporarily suspended until thawing conditions begin to occur if:

- Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, the permittee must immediately resume the regular inspection frequency as applicable;

- Land disturbances have been suspended and all disturbed areas of the site have been stabilized.

If still conducting construction activities during frozen conditions, the permittee may reduce the inspection frequency to once per month if:

- Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, the permittee must immediately resume the regular inspection frequency; and
- Except for areas undergoing construction activities, disturbed areas of the site have been stabilized, the beginning and ending dates of this period must be documented in the inspection report.

III.B.2.c. For any day of rainfall during normal business hours that measures 0.25 inches or greater, the total rainfall measure for that day must be recorded.

To determine if a precipitation event of 0.25 inches or greater has occurred on the site, the permittee must either:

- Keep a properly maintained rain gauge on-site, or
- Obtain the precipitation event information from a NOAA weather station that is representative of the location.

III.B.2.d. Areas That Must Be Inspected

During the site inspection, the following *areas* of the site must be inspected:

- All areas that have been cleared, graded, or excavated and that have not yet completed stabilization;
- All stormwater controls (including pollution prevention controls) installed and procedures initiated must be listed in the inspection record;
- Material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit;
- All areas where stormwater typically flows within the site, including drainageways designed to divert, convey, and/or filter stormwater;
- All points of discharge from the site;
- All receiving waters to look for sediment laden stormwater entering the waterbody; and
- All locations where stabilization measures have been implemented.

Areas that, at the time of the inspection, are considered unsafe to inspection personnel do not have to be inspected.

III.B.2.e. Requirements for Self-inspections

During the site inspection, the Qualified Person shall:

- Check whether all stormwater controls (i.e., erosion and sediment controls and pollution prevention controls) are properly installed, appear to be operational, and are working as intended to minimize pollutant discharges;
 - This includes the requirement to inspect for sediment that has been tracked out from the site onto paved roads, sidewalks, or other paved areas.
- Check for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on the site;
- Identify any locations where new or modified stormwater controls are necessary to protect waters of the state or meet other requirements of this NPDES General Permit;
- Check for signs of visible erosion and sedimentation (i.e., sediment deposits) that have occurred and are attributable to the discharge at points of discharge and, if applicable, the banks of any waters of the State flowing within or immediately adjacent to the site;
- Identify any incidents of noncompliance observed;
- If a discharge is occurring during the inspection:
 - Identify all discharge points at the site; and
 - Observe and document the visual quality of the discharge and take note of the characteristics of the stormwater discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.

III.B.2.f. Self-inspection Report

An inspection report must be completed by the inspector within 24 hours of completing any site inspection. Each inspection report must include the following:

- The inspection date;
- Names and titles of personnel making the inspection;
- A summary of inspection findings, including the observations made during the inspections, and any necessary maintenance or corrective actions;
- A record of rainfall measuring 0.25 inches or greater and the source of the measurement (the applicable rain gauge or weather station readings); and
- If it was determined unsafe to inspect a portion of the site, describe the reason it was found it to be unsafe and specify the locations to which this condition applies.

Each inspection report must be signed in accordance with Appendix A.7 of this permit.

Each inspection report must be maintained at the site or at an easily accessible location, so that it can be made available at the time of an on-site inspection or upon request by the Director.

All inspection reports must be maintained for at least three (3) years from the date that permit coverage is terminated.

- The Qualified Person must re-inspect within 48 hours to verify repairs or replacements to the defective BMPs or pollution controls noted in the previous inspection.

III.B.2.g. Requirement to Correct Deficiencies

Based on the results of the inspection, the permittee must complete any necessary maintenance and corrective action within 24 hours.

The permittee shall have 24 hours after such notification to make changes relating to sediment and erosion controls to prevent loss of sediment from an active construction site, unless additional time is provided by the Director or an authorized representative in writing.

III.C. IMPLEMENT ADDITIONAL BMPS TO PROTECT WATER QUALITY

III.C.1. When an inspection indicates the BMPs are ineffective at protecting waters of the state, the permittee shall immediately implement additional controls and,

- Update the SWPPP and GPP to reflect the new BMPs, and
- Either obtain approval of the additional BMPs during a site visit conducted by the Director, or
- Submit a modification application in accordance with this permit.
- Permittees who find that the approved BMPs are ineffective at protecting receiving waters and who are unable to identify or employ BMPs capable of preventing sediment laden runoff from leaving the project site shall immediately cease further land disturbance until such time that the unauthorized discharge ceases.

No sediment-laden water shall be allowed to leave the site without going through an appropriate BMP.

III.C.2. The permittee shall modify the SWPPP, using forms provided by DWWM, whenever there is a change in design, construction, scope of operation, or maintenance of BMPs, which has the potential to adversely impact the surface waters of the State, or if the SWPPP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activities. Should conditions warrant, the Director may request changes to the SWPPP during a field inspection. The Director may request, review and approve or require the permittee to apply for a modification to the approved application.

The permittee shall amend the GPP whenever there is a change in design, construction, operation, or maintenance of BMPs which could reasonably be expected to have an impact on the potential contamination of groundwater.

III.D. FEES

Permittees are required to pay annual permit fees within 30 days of receiving the invoice.

III.D.1. It is the responsibility of the permittee to keep the Director informed of accurate, up-to-date billing addresses and electronic addresses (email addresses) so that invoices may be delivered promptly and to the correct address.

III.D.2. Discharging stormwater from construction sites covered by this permit while failing to pay fees is considered operating without a permit.

III.D.3. Permittees must pay assessed fees until such time that the Director approves the Notice of Termination required by Part IV.

PART IV. REQUIREMENTS AFTER CONSTRUCTION

After construction is complete, the permittee is required to:

- Verify all disturbed areas are stabilized and permanent stormwater conveyances and management structures are properly constructed by having a Qualified Person confirm the site is ready for the Director to conduct the final inspection.
- Confirm all records required by this permit are available for retention for 3 years after permit coverage is terminated and make available when requested by the Director,
- Verify all fees are paid in full,
- Prepare and submit the Notice of Termination (N.O.T.)
 - The permittee has the option of including a Stabilization Certification with the N.O.T.
- Continue to maintain permit coverage until notification from the Director that coverage is terminated.

IV.A. VERIFY ALL DISTURBED AREAS ARE STABILIZED

Sediment trapping structures shall be eliminated, and the area properly reclaimed and stabilized when the contributing drainage area is stabilized, and the structures are no longer needed, unless the structure is converted into a permanent stormwater control structure. This must be accomplished before the Notice of Termination is submitted.

- All trapped sediments shall be disposed on an upland area where there is no chance of entering nearby streams.
- Breaching the embankment to dewater the structure is not permitted. Dewatering and structure removal shall not cause a violation of water quality standards.
- Dewatering may not be done by pumping from a sump, trap, or basin directly into a stream. The dewatering description shall clearly show that only clarified water is

to be discharged to waters of the state and shall include the method to be employed to ensure sediment is not pumped or otherwise discharged.

IV.B. RECORDS INSPECTIONS

In accordance with II.H.5. verify records required by this permit are assembled and ready for retention.

IV.C. PREPARE FOR TERMINATION

IV.C.1.

From the date final stabilization is achieved, the permittee has 30 days to ready the site for submittal of N.O.T and by the 30th day must submit the N.O.T. via electronic notice of termination to the Director.

IV.C.1.a. An inspection by a Qualified Person shall be conducted wherein all areas of the project and all off-site areas impacted by the project are inspected for compliance with this permit. The Qualified Person shall conduct a review of the available records to verify compliance with the retention requirements of this permit.

IV.C.1.b. The Qualified Person shall issue a report to the permittee outlining any deficiencies to be corrected. The permittee shall correct deficiencies within 24 hours and request a re-inspection by the Qualified Person. Once an inspection identifies no deficiencies, the site may be considered ready for the submittal of the N.O.T.

IV.C.1.c. The permittee shall review the fee payment history and pay any unpaid fees during this 30-day period.

IV.D. TERMINATION OF COVERAGE

After meeting the requirements of Part IV.C., the permittee shall apply for termination of permit coverage by submitting an N.O.T., which will serve as a request for final inspection. Upon receipt of the N.O.T., the Director shall inspect the site to determine the appropriateness of ending permit coverage.

IV.D.1. Final stabilization inspections for 1 to < 3 acres sites shall be conducted within 30 days of receipt of the N.O.T. and for sites 3 acres and larger the final stabilization inspection shall be conducted within 60 days.

IV.D.2. The permittee has the option of submitting a certification by a registered professional engineer or professional surveyor that the site meets stabilization requirements. Should the Director not inspect within the time frames established in this section, the Stabilization Certificate shall be accepted in lieu of the final inspection by the Director's staff.

IV.D.3. ATV trails accepted by the landowner and identified in the registration, do not require a healthy, vigorous stand of grass or native vegetation that uniformly covers more than 70 percent of the ground in the vehicle lanes of the trail to be considered for termination. No eroded areas of trails that are the source of sediment in stormwater runoff may be deemed stable or eligible for release. A registration modification must be approved by the Director prior to submittal of the Notice of Termination and prior to registration expiration for ATV trails not previously identified by the permittee to be turned over to the landowner.

IV.D.4. Permit coverage for construction activities encompassed by this permit expires upon verification of satisfactory stabilization of the site and payment of all outstanding fees. Satisfactory stabilization means ALL disturbed areas shall be covered by some permanent protection. Stabilize includes pavement, compacted gravel, permeable pavements/pavers, buildings, waterways (riprap, concrete, grass, or pipe), a healthy, vigorous stand of grass or native vegetation that uniformly covers more than 70 percent of the ground, stable outlet channels with velocity dissipation which directs site runoff to a natural watercourse, and any other approved structure or material.

The herein-described activity is to be constructed or installed and operated, used and maintained strictly in accordance with the terms and conditions of this General Permit with any plans, specifications, and information submitted with the individual application form, with any plan of maintenance and method of operation thereof submitted and with any applicable rules and regulations promulgated by the Environmental Quality Board and the Secretary of the Department of Environmental Protection.

Failure to comply with the terms and conditions of this General Permit, with any plans, specifications and information submitted, and with any plan of maintenance and method of operation thereof submitted shall constitute grounds for the revocation or suspension of this permit to any individual establishment or other person and for the invocation of all the enforcement procedures set forth in Chapter 22, Articles 11 and 12 of the Code of West Virginia.

This permit is issued in accordance with the provisions of Chapter 22, Article 11 of the Code of West Virginia.

BY:  _____
Director

Appendix A

I. STANDARD CONDITIONS

1. Duty to Comply

- (a) The permittee must comply with all conditions of this permit. Permit noncompliance constitutes a violation of the CWA and State Act (Chapter 22, Article 11 or Article 12) and is grounds for enforcement action; for permit modification, revocation and reissuance, suspension or revocation; or denial of a permit renewal application.
- (b) The permittee shall comply with all applicable standards or prohibitions established under 40 C.F.R. 503 and Title 33 Series 2 within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

2. When to Apply

State NPDES rules require permit applications to be filed at least 180 days prior to the commencement of the activity. The DWWM is attempting, through this general permit process, to streamline the permitting of this activity. Therefore, projects which may potentially obtain coverage under this general permit and which submit complete application forms, shall make submission in accordance with ILA, prior to the anticipated date of discharge.

3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit by submitting a General Permit registration as detailed in permit reissuance.

4. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Permit Actions

This permit may be modified, revoked and reissued, suspended, or revoked for cause. The filing of a request by the permittee for permit modification, revocation and reissuance, or revocation, or a notification of planned changes or anticipated noncompliance, does not stay any permit conditions.

6. Property Rights

This permit does not convey any property rights of any sort or any exclusive privilege.

7. Signatory Requirements

All application, reports, or information submitted to the Director shall be signed and certified as required in 47 C.S.R. 10.4.6. (NPDES Program). If an authorization becomes inaccurate because a different individual or position has responsibility for the overall operation of the project, a new authorization must be submitted to the Director prior to, or together with any reports, information, or applications to be signed by an authorized representative.

8. Transfers

This permit is not transferable to any person, except after written notice to and written approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary. Notice must contain the new owner's name and address.

9. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable specified time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, suspending, or revoking this permit, or to determine compliance with this permit. The permittees shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. Other Information

The permittee shall furnish to the Director any additional, practicable, site-specific information that is determined necessary to protect water quality or has the potential to protect water quality. Where the permittee becomes aware that he/she has failed to submit any relevant facts in a facility registration application form or submitted incorrect information in a facility registration application form or in any report to the Director, he/she shall promptly submit omitted/corrected facts or information.

11. Endangered and Threatened Species and State Historic Preservation Officer

If a site discharges to a stream where a federally endangered or threatened species or its critical habitats are present, the applicant must contact the U.S. Fish and Wildlife Service to ensure that requirements of the federal Endangered Species Act, 16 U.S.C. 1531 et. seq. is met

For those projects that may impact historic preservation sites, the permittee shall coordinate the project with the State Historic Preservation Officer.

12. Inspection and Entry

The permittee shall allow the EPA, Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a) Enter upon the permittee's premises in which any storage, treatment or activity is located, or where records must be kept under the conditions of this permit;
- b) Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
- c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by 47CSR10, any substances or parameters at any locations.

13. Permit Modification

This permit may be modified, suspended, or revoked in whole or in part during its term in accordance with the provisions of Chapter 22, Article 11 of the Code of West Virginia.

Any permittee wishing to modify his coverage for a Large Construction Activity shall submit such request at least 60 days prior to the commencement of the proposed action for modification if no public notice period is required. A modification that requires a public notice period must be submitted at least 100 days prior to construction to allow for the public notice procedure.

Any permittee wishing to modify his coverage for a Minor Construction Activity shall submit such request at least 30 days prior to the commencement of the proposed action for modification if no public notice period is required. A modification that requires a public notice period must be submitted at least 60 days prior to construction to allow for the public notice procedure.

14. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA.

15. Outlet Markers

In accordance with Title 47, Series 11, Section 9 (Special Rules) of the West Virginia Legislative Rules, an outlet marker shall be posted on the stream bank for each outlet covered by this permit

16. Water Withdrawal

If water for hydroseeding, dust control, or hydrostatic testing is to be derived from waters of the state, withdrawals shall only be made during times when stream flow is sufficient to support both aquatic life and the withdrawal. During periods of active withdrawal, the permittee and/or operator shall consult DWWM's Water Withdrawal Guidance Tool daily and document the recommendations. This documentation shall be maintained by the permittee and made available for inspection. Withdrawals shall only be taken when the tool indicates that it is safe by the statement "it should be safe to withdraw from any stream in the area". Use of the tool in itself does not guarantee protection of aquatic life and best professional judgment must still be used when making withdrawals, as the tool cannot account for all localized conditions and may not react to the withdrawal dependent on its proximity to the stream gage. The tool provides useful information on general stream flow adequacy to assist the permittee with withdrawal decisions. The tool may be found at the following link:

<http://www.dep.wv.gov/WWE/wateruse/Pages/WaterWithdrawal.aspx>.

17. Liabilities

17.a. Any person who violates a permit condition is subject to a civil penalty not to exceed \$25,000 per day of such violation as provided in W. Va. Code § 22-11-22. Any person who willfully or negligently violates permit conditions is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one year, or both, as provided in W. Va. Code §22-11-24.

17.b. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both, in accordance with W. Va. Code § 22-11-24.

17.c. Nothing in 17.a. and 17.b. shall be construed to limit or prohibit any other authority the Director may have under the State Water Pollution Control Act, Chapter 22, Article 11 and State Groundwater Protection Act, Chapter 22, Article 12.

18. Reopener Clause

If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge authorized by this General Permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative General Permit in

accordance with Section I.E. of this General Permit or the General Permit may be modified to include different limitations and/or requirements.

The conditions, standards, and limitations of this General Permit shall be reviewed at the time of reissuance for possible revisions that may lead to more or less stringent conditions, standards, and limitations.

Appendix B

I. OPERATION AND MAINTENANCE

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all activities and BMPs which are installed or used by the permittee to achieve compliance with the terms and conditions of the permit.

2. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.

3. Bypass

3.a. Definitions

3.a.1. "Bypass" means the intentional diversion of waste streams from any portion of a BMP; and

3.a.2. "Severe property damage" means substantial physical damage to property, damage to BMPs which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

3.b. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Appendix B 3.c. and 3.d. of this permit.

3.c. Notification of bypass

3.c.1. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the date of the bypass.

3.c.2. If the permittee does not know in advance of the need for bypass, notice shall be submitted as required in E.2. of Part I of this permit.

3.d. Prohibition of bypass

3.d.1. Bypass is permitted only under the following conditions. The Director may take enforcement action against a permittee for bypass, unless;

3.d.1.A. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

3.d.1.B. There were no feasible alternatives to the bypass, such as the use of auxiliary BMPs, retention of untreated sediment, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance. This condition is not satisfied if the sediment and erosion control structures were not installed in the proper sequence; and

3.d.1.C. The permittee submitted notices as required under Appendix B 3.c. of this permit.

3.d.2. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in Appendix B 3.d.1. of this permit.

4. Upset

4.a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with the technology-based permit effluent limits or failure of a BMP that occurs because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

4.b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for temporary noncompliance with the terms and conditions of the permit and the SWPPP if the requirements of Appendix B 4.c. are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

4.c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

4.c.1. An upset occurred, and that the permittee can identify the cause(s) of the upset.

4.c.2. The permitted project was at the time being properly operated.

4.c.3. The permittee submitted notice of the upset in accordance with Part I.D.2.; and

4.c.4. The permittee complied with any remedial measures required under Appendix A 4 of this permit.

4.d. Burden of proof. In any enforcement proceedings, the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Removed Substances

From time to time incidents occur on construction sites that cause materials to be removed. Soils or stormwater affected by fuel spills or other substances may require special handling and disposal. Such shall be disposed of only in a manner and at a site subject to the approval by the Director.

Sediment removed from a trapping device or from a stream, lake or river after deposition by stormwater runoff from a construction related activity shall be removed in a manner consistent with local, state and federal guidelines and placed behind sediment trapping BMPs in a manner that prevents erosion.

Appendix C

I. Definitions:

1. "Access Road" means surface right-of-way for purposes of travel by land vehicles and/or equipment used in Construction activities. A road consists of the entire area within the right-of-way, including the roadbed, shoulders, parking and side areas, approaches, ditches, and other related structures. The term includes access roads constructed, used, reconstructed, improved, or maintained for use in all construction operations.
2. "Application" is the form to be submitted to register a construction project that discharges to sensitive waters.
3. "Best management practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, other management practices and various structural practices such as but not limited to silt fence, sediment traps, seeding and mulching, and rip-rap used to prevent or reduce erosion and sediment runoff and the pollution of surface waters of the State. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
4. "Clearing" means the stage of development in which vegetation is cleared from land. Clearing includes cutting and removing vegetation with chain saws, brush axes, brush hogs and other mechanical means where no soil is disturbed.
5. "Clean Water Act" (CWA) (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 97-117 and Public Law 95-576; 33 U.S.C. 1251 et seq.
6. "Common Plan of Development" is a contiguous construction project where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The "plan" is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions.
7. "Control" is a best management practice such as erosion control or sediment control that will reduce sedimentation on a construction project.
8. "Construction Activity" means land disturbance operations such as clearing, and grubbing, grading, filling, and excavating during site development for residential, commercial or industrial purposes. This includes, but is not limited to, access roads, borrow and spoil areas.

9. "Detailed Site Plan" is a design plan drawing of sufficient scale to depict proposed construction activity, surface drainage patterns, erosion and sediment control best management practices, limits of disturbance boundary, north arrow with drawing oriented north, and containing surface contours on minimum 5-foot contours.
10. "Director" means the Director of the Division of Water and Waste Management, Department of Environmental Protection, or his or her designated representative.
11. "Disturbed Area" is the total area of land disturbing activity that will take place during all phases of a construction project, including, but not limited to, all waste and borrow sites, utility installation, road building, mass grading, and site development.
12. "Diversion" means a stabilized berm or stabilized excavated channel or combination berm and channel constructed across sloping land on a predetermined grade. This includes but is not limited to protecting work areas from upslope runoff and reducing the size of the drainage going to sediment trapping structures (clean water diversion), transporting runoff across a project to minimize erosion and diverting sediment-laden water to an appropriate sediment-trapping structure.
13. "Electronic Submission System (ESS)" refers to the online interactive application registration submittal, review and approval system authorized by the Director.
14. "Enhanced BMPs" means activity schedules or sediment and erosion controls that are more protective of the environment than those routinely employed to quality for coverage under this permit. Use of such practices apply when disturbed areas discharge to Tier 2 and Tier 3 Waters, or to state waters for which a sediment related TMDL has been approved.
15. "Erosion" means the displacement of solids (soil, mud, rock, and other particles) by the agents of wind, water, and ice in response to gravity.
16. "Establishment" means an industrial establishment, mill, factory, tannery, paper and pulp mill, mine, colliery, breaker or mineral processing operation, quarry, refinery, well and each and every industry or plant or works in the operation or process of which industrial wastes, sewage or other wastes are produced.
17. "Estimate" means to be based on a technical evaluation of the sources contributing to the discharge.
18. "Evaluation Point" means the point where the majority of the surface storm water leaves a permitted site.
19. "Excavating" means to engage in digging, hollowing out, or removing, accomplished usually with heavy machinery.

20. "Final stabilization" means long-term stability of soil and rock against slides, slips, erosion and mudflows by covering disturbed areas with permanent protection such as pavement, compacted gravel, permeable pavements/pavers, buildings, stable waterways (riprap, concrete, grass or pipe), a healthy, vigorous stand of grass or natural vegetation that uniformly covers at least 70 percent of the ground, stable outlet channels with velocity dissipation that directs site runoff to a natural watercourse, and any other approved structure or material.
21. "Grading" means disturbing the surface of the land, including land clearing and grubbing, excavations, creating embankments, land development, road upgrade, cut and/or fill operations, and the moving, depositing, stockpiling or storing of soil, rock, or earth materials.
22. "Groundwater" means the water occurring in the zone of saturation beneath the seasonal high-water table or any perched water zones.
23. "Groundwater Protection Plan" (GPP) means groundwater protection practices developed and implemented in accordance with WV Legislative Rules, 47 C.S.R. 58 (Groundwater Protection Rule), submitted as part of the Application.
24. "Grubbing" means physically removing vegetative stumps and roots from the ground and disturbing the earth, usually by heavy machinery.
25. "Inlet Protection" means a sediment filter or an impounding area around or upstream of a storm sewer, drop inlet, or curb inlet which allows sediment to settle out prior to stormwater entering the inlet.
26. "Impaired Streams" means waters that do not meet applicable water quality standards and are listed on the Clean Water Act Section 303(d) list.
27. "Large Construction Activity" mean an activity which disturbs 3 or more acres of land.
28. "Landowner requested trails" refers to a trail the landowner deems desirable as a post-construction accessway to portions of the released site, hereinafter called ATV (All-Terrain Vehicle) Trails.
29. "Limits of Disturbance" is a polygon shown on a map or site drawing depicting the boundary of the construction site to be disturbed.
30. "Minor Construction Activity" means an activity which disturbs one to less than three acres of land and does not discharge to sensitive waters.
31. "National Pollutant Discharge Elimination System" (NPDES) means the national program for issuing, denying, modifying, revoking and reissuing, suspending, revoking,

monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Section 307, 318, 402, and 405 of CWA, including any approved state program.

32. "Natural Vegetative Buffer" is an area of undisturbed vegetation that occurs spontaneously without regular maintenance or management and is adjacent to or surrounds streams or other waters.

33. "Notice of Termination" (NOT) is the form to be submitted by the permittee to terminate coverage under the Construction General Stormwater Permit, after final stabilization has been completed. See Final Stabilization.

34. "Point Source" is any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, and container from which pollutants are or may be discharged to surface waters of the state.

35. "Pollutant" means industrial waste, sewage or other wastes.

36. "Pre-development" means the condition of the land, the amount and health of the ground cover and vegetation prior to development.

37. "Qualified Person" means a person who is knowledgeable in the principles and practices of sediment and erosion controls, pollution prevention, and possesses the education and abilities to assess conditions at the proposed site that could impact stormwater quality and to assess the effectiveness of proposed stormwater controls to meet the requirements of this permit.

38. "Satisfactory Stabilization": means a condition where exposed soils or disturbed areas are provided temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Satisfactory stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

39. "Sediment" means any particulate matter that can be transported by fluid flow and which eventually is deposited as a layer of solid particles on the bed or bottom of a body of water or other liquid.

40. "Sedimentation" means the deposition by settling of a suspended material.

41. "Sediment trap" means a temporary ponding area formed by constructing an embankment or excavation and embankment that will trap the flow of sediment-laden runoff. Sediment traps have a properly stabilized outlet/weir or riser and pipe to detain sediment laden runoff from disturbed areas of five acres or less. Outlets must be designed to extend the detention time and allow the majority of the sediment to settle out.

42. "Sediment basin" means a temporary structure consisting of an earthen embankment, or embankment and excavated area, located in a suitable area to capture sediment-laden runoff from a construction site. A sediment basin reduces the energy of the water through extended detention (48 to 72 hours) to settle out the majority of the suspended solids and sediment and prevent sedimentation in waterways, culverts, streams and rivers. Sediment basins have both wet and dry storage space to enhance the trapping efficiency and are appropriate in drainage areas of five acres and greater.
43. "Sensitive waters" means Tier 2 and Tier 3 Streams, trout streams, or water bodies with an established sediment related TMDL.
44. "Sinkhole" means a depression in the land surface formed by solution or collapse that directs surface runoff into subsurface or to an underground drainage flow.
45. "Stormwater" means stormwater runoff, snowmelt runoff, and surface runoff and drainage.
46. "Stormwater Pollution Prevention Plan" (SWPPP) means a site-specific, written document that, among other things: (1) identifies potential sources of stormwater pollution at the construction site; (2) describes stormwater controls to reduce or eliminate pollutants in stormwater discharges from the construction site; and (3) identifies procedures the operator will implement to comply with the terms and conditions of this general permit.
47. "Tier 1 Waters" means waters that maintains and protects existing uses of a water body and the water quality conditions necessary to support such uses. A waterbody that is listed as impaired on the states 303(d) list is considered a Tier 1 water as it pertains to the specific pollutant listed.
48. "Tier 2 Waters" means waters that maintains and protects "high quality" waters - water bodies where the level of water quality exceeds levels necessary to support recreation and wildlife and the propagation and maintenance of fish and other aquatic life. Tier 2 is the default assignment for a waterbody not listed as impaired on the states 303(d) list.
49. "Tier 3 Waters" means waters as otherwise identified in 47 C.S.R. 2-4.1.c. (Requirements Governing Water Quality Standards).
50. "Total Maximum Daily Load (or TMDL)" is a term in the Clean Water Act that establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality.
51. Trout Streams - Waters which sustain year-round trout populations. Excluded are those waters which receive annual stockings of trout, but which do not support year-round trout

populations. Waters which meet the definition of 47 C.S.R. 2-2.19 (Requirements Governing Water Quality Standards).

52. "Water Quality Standards" are the foundation of the water quality-based control program mandated by the Clean Water Act.

53. "1-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in one year.

54. "2-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in two years.

55. "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in 10 years.

56. "25-year, 24-hour precipitation" means the maximum 24-hour precipitation event with a probable recurrence interval of once in 25 years.

APPENDIX C

Site Information

- Content:**
- 1. General Description Sheet**
 - 2. Schedule Sheet for Soil Disturbing Activities**
 - 3. Soil Data Sheet**
 - 4. Erosion and Sediment Control Site Map**
 - 5. Erosion and Sediment Control Plan**
 - 6. Design Sheets**
 - 7. Design Calculations**
 - 8. Revegetation Plan**
 - 9. Stabilization Practice Schedule**
 - 10. Structural Control Sheet**
 - 11. Construction Site Inspection Report**

CONTRACT #1 – Water Lines and Booster Stations

Unit price contract to provide and install 34,240 LF 4-inch water line; 2,280 LF of 3-inch water line; 1,300 LF 2-inch water line; 1,030 LF of directional drills; 152 LF of highway bores; 50 LF of highway open cuts; 80 LF of stream crossings; 24 gate valves; 6 Air Release Assemblies; 9 Flushout Assemblies; 1 80 GPM hydroconstant booster station; 1 50 GPM booster station; and other work required to provide the complete system improvements project.

CONTRACT #2 – Water Storage Tank

Lump sum contract to construct one (1) water storage tank measuring 11 feet in diameter by 33 feet in height to the overflow with a nominal volume of 24,000 gallons. Contract also includes access road and appurtenances to make a complete operating system.

Schedule Sheet for Soil Disturbing Activities

Estimate Construction Start Date: _____

Estimate Construction End Date: _____

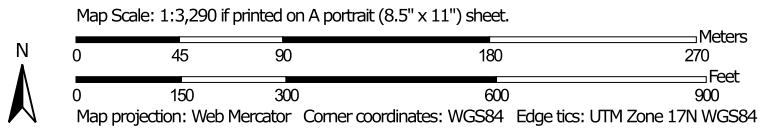
Activity	Estimated Time	Actual Time
Install BMPs		
Land clearing		
Grading		
Excavation		
Filling		
Utilities		
Install foundations, retaining walls, etc		
Paving		
Revegetation		
BMP Removal		

Install erosion control facilities and devices, strip topsoil, commence excavation, install bedding (if necessary), install pipe, backfill, restore surface with top soil, lime, fertilizer, seed, and mulch. Surface restoration must be done within 4 days of commencing excavation. Maintain erosion control measures until vegetative cover is established. Open trench to be sufficient in advance of pipe laying to expose any obstructions that might alter alignment or grade, but not more than can be backfilled at the end of the work day, or 200 feet, whichever is less. No trench will be left open overnight.


























Soil Map—Pendleton County, West Virginia



Soil Map may not be valid at this scale.



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pendleton County, West Virginia
 Survey Area Data: Version 19, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

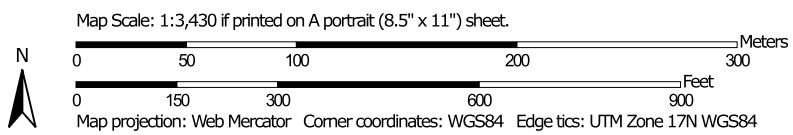
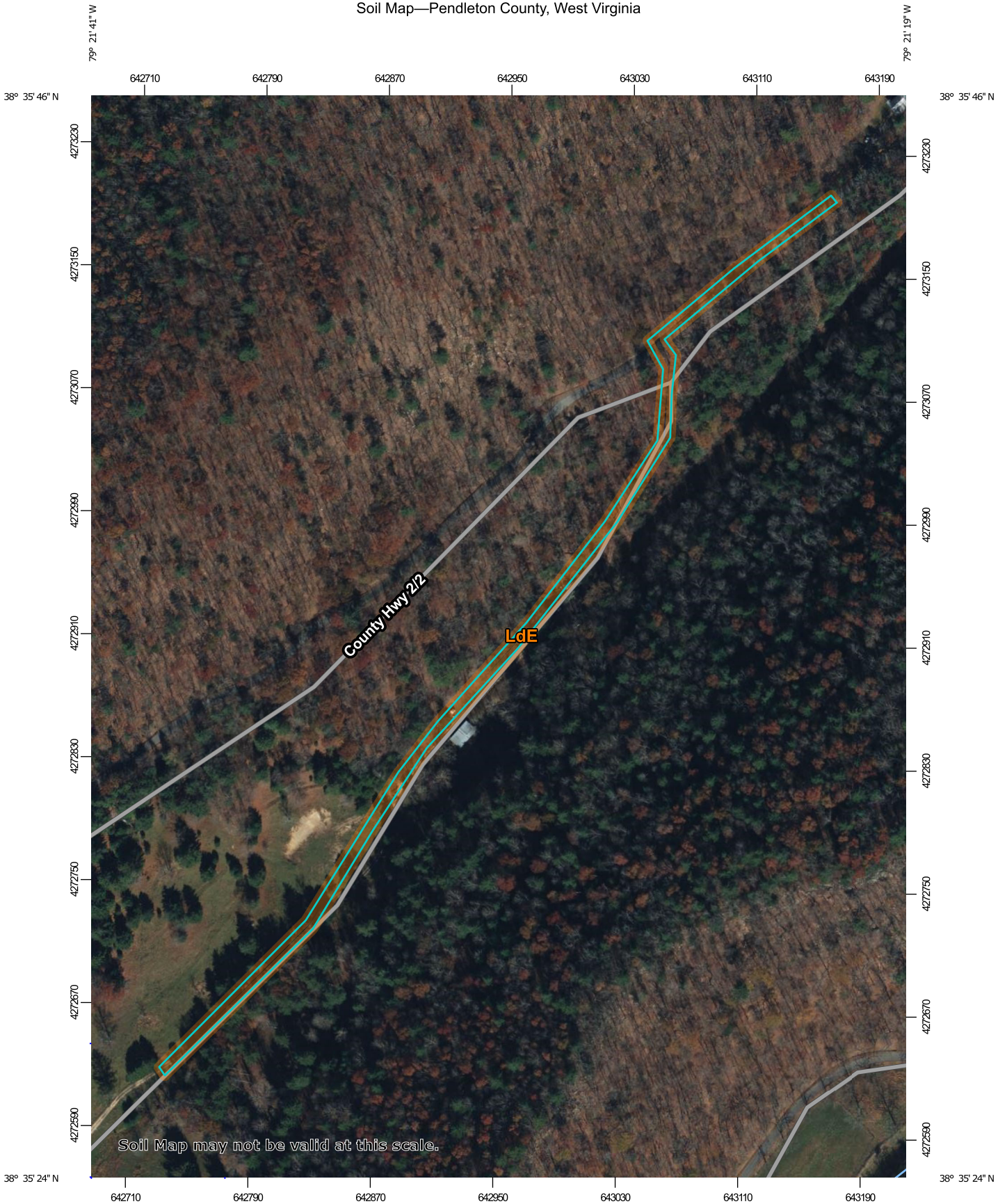
Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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




























Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.6	51.6%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	0.2	15.5%
Pt	Potomac very cobbly fine sandy loam	0.4	33.0%
Totals for Area of Interest		1.2	100.0%

Soil Map—Pendleton County, West Virginia



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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 Survey Area Data: Version 19, Sep 4, 2023

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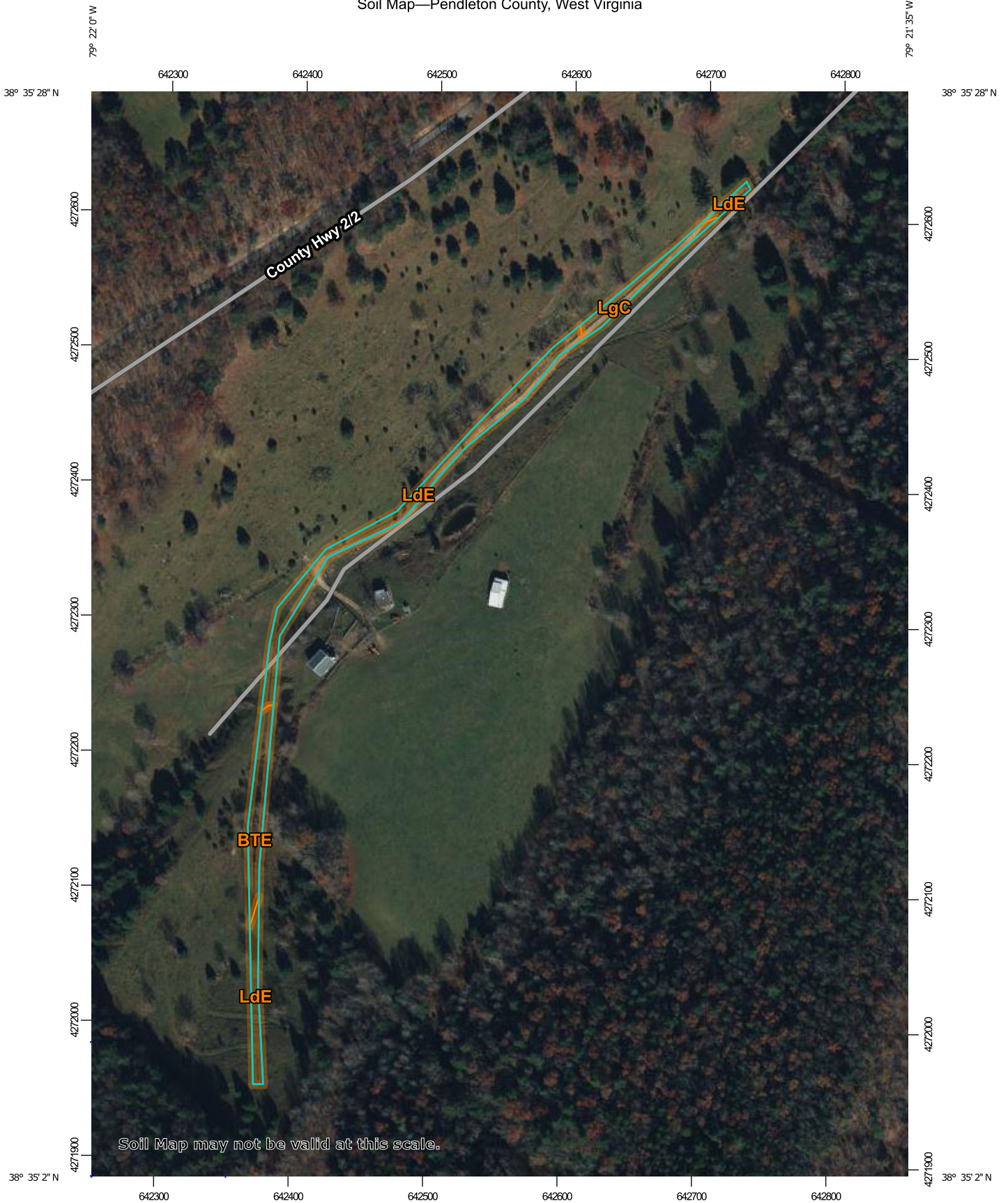
Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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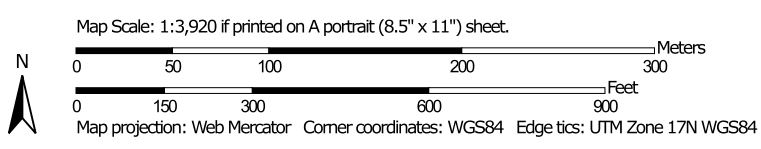
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	1.2	100.0%
Totals for Area of Interest		1.2	100.0%












Soil Map—Pendleton County, West Virginia



Soil Map may not be valid at this scale.



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
	Special Point Features		Water Features
	Blowout		Streams and Canals
	Borrow Pit		Transportation
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow		Background
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BTE	Blackthorn-Dekalb-Elliber association, 15 to 35 percent slopes, stony	0.3	22.0%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	1.0	63.1%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	0.2	14.9%
Totals for Area of Interest		1.6	100.0%

Soil Map—Pendleton County, West Virginia



79° 22' 33" W



Map Scale: 1:4,700 if printed on A landscape (11" x 8.5") sheet.

Meters

0 50 100 200 300

Feet

0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

79° 21' 50" W



Map Scale: 1:4,700 if printed on A landscape (11" x 8.5") sheet.

Meters






























0 50 100 200 300

Feet

0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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 Survey Area Data: Version 19, Sep 4, 2023

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Map Unit Legend

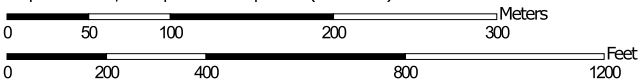
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BTE	Blackthorn-Dekalb-Elliber association, 15 to 35 percent slopes, stony	1.8	54.2%
HdC	Hazleton-Dekalb complex, 3 to 15 percent slopes, stony	1.2	37.2%
HdE	Hazleton-Dekalb complex, 15 to 35 percent slopes, very stony	0.2	7.0%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.1	1.6%
Totals for Area of Interest		3.2	100.0%

Soil Map—Pendleton County, West Virginia



Soil Map may not be valid at this scale.

Map Scale: 1:4,630 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84














Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

12/19/2023
Page 1 of 3

MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features			
	Blowout	Water Features	
	Borrow Pit		Streams and Canals
	Clay Spot	Transportation	
	Closed Depression		Rails
	Gravel Pit		Interstate Highways
	Gravelly Spot		US Routes
	Landfill		Major Roads
	Lava Flow		Local Roads
	Marsh or swamp	Background	
	Mine or Quarry		Aerial Photography
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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 Survey Area Data: Version 19, Sep 4, 2023

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Map Unit Legend

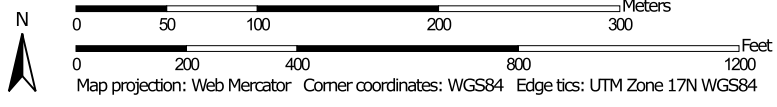
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DEF	Dekalb-Elliber-Blackthorn association, 35 to 55 percent slopes, stony	0.0	0.2%
HdE	Hazleton-Dekalb complex, 15 to 35 percent slopes, very stony	0.2	12.9%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.1	5.7%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	1.3	81.2%
Totals for Area of Interest		1.6	100.0%

Soil Map—Pendleton County, West Virginia
































Soil Map may not be valid at this scale.

Map Scale: 1:4,170 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 17N WGS84

MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

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Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HdE	Hazleton-Dekalb complex, 15 to 35 percent slopes, very stony	0.1	4.2%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.5	25.7%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	1.4	70.1%
Totals for Area of Interest		1.9	100.0%

Soil Map—Pendleton County, West Virginia



Map Scale: 1:5,620 if printed on A portrait (8.5" x 11") sheet.










0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 17N WGS84



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BsC	Blackthorn channery sandy loam, 3 to 15 percent slopes, stony	0.3	14.0%
CkC	Clarksburg channery silt loam, 8 to 15 percent slopes	0.6	24.7%
EdC	Edom channery silt loam, 8 to 15 percent slopes	0.8	36.7%
EID	Elliber extremely channery loam, 15 to 25 percent slopes	0.4	18.2%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	0.1	6.4%
Totals for Area of Interest		2.3	100.0%

Soil Map—Pendleton County, West Virginia



Map Scale: 1:5,560 if printed on A portrait (8.5" x 11") sheet.






























0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

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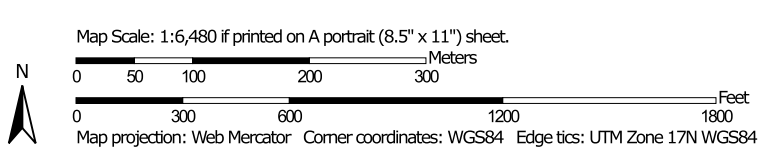
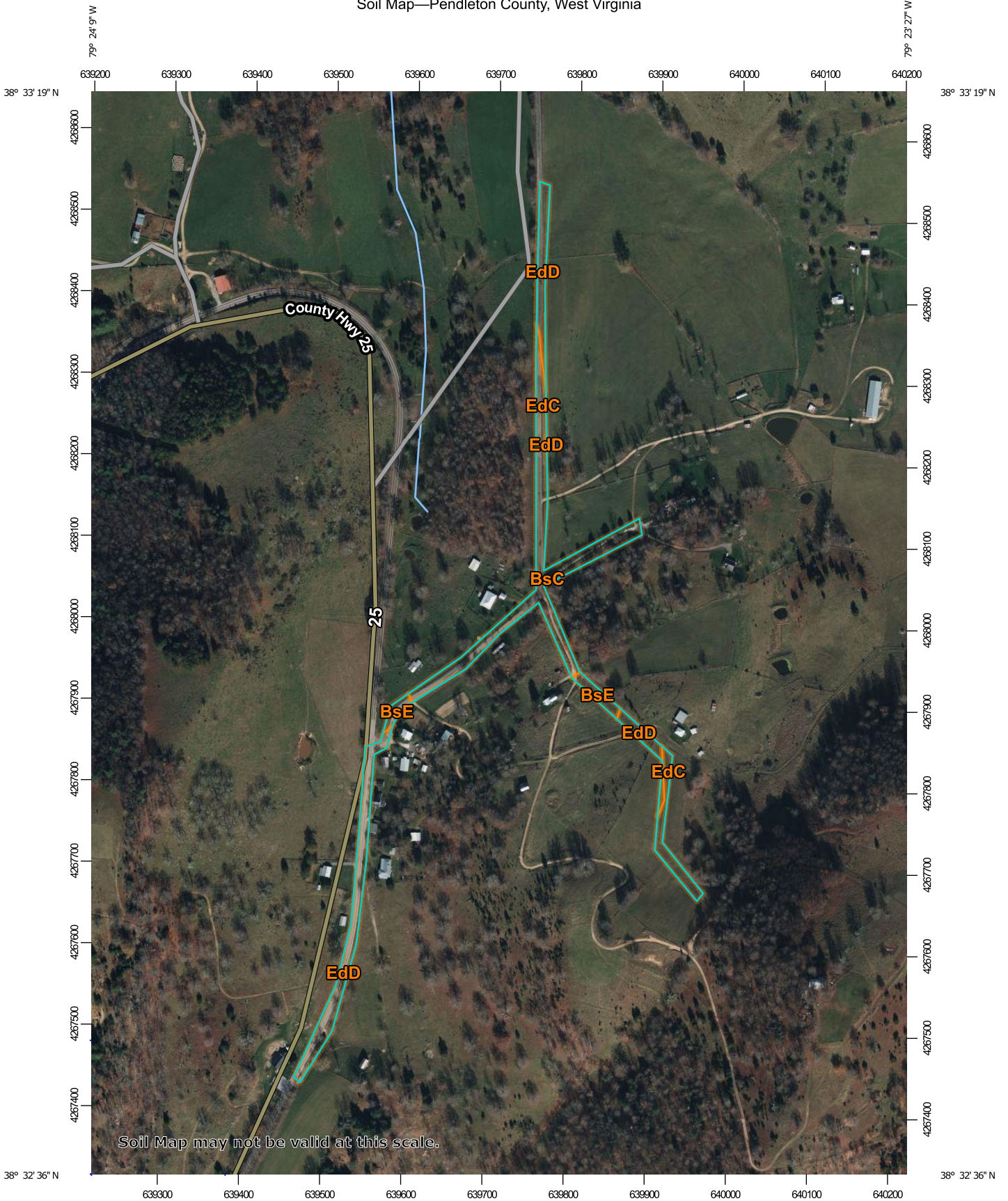
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


























Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EdC	Edom channery silt loam, 8 to 15 percent slopes	1.7	65.9%
EdD	Edom channery silt loam, 15 to 25 percent slopes	0.7	27.6%
OeE	Opequon silt loam, 15 to 35 percent slopes, very rocky	0.2	6.5%
Totals for Area of Interest		2.6	100.0%

Soil Map—Pendleton County, West Virginia



MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Area of Interest (AOI)	 Stony Spot
Soils	 Very Stony Spot
 Soil Map Unit Polygons	 Wet Spot
 Soil Map Unit Lines	 Other
 Soil Map Unit Points	 Special Line Features
Special Point Features	Water Features
 Blowout	 Streams and Canals
 Borrow Pit	Transportation
 Clay Spot	 Rails
 Closed Depression	 Interstate Highways
 Gravel Pit	 US Routes
 Gravelly Spot	 Major Roads
 Landfill	 Local Roads
 Lava Flow	Background
 Marsh or swamp	 Aerial Photography
 Mine or Quarry	
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
 Slide or Slip	
 Sodic Spot	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pendleton County, West Virginia
 Survey Area Data: Version 19, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

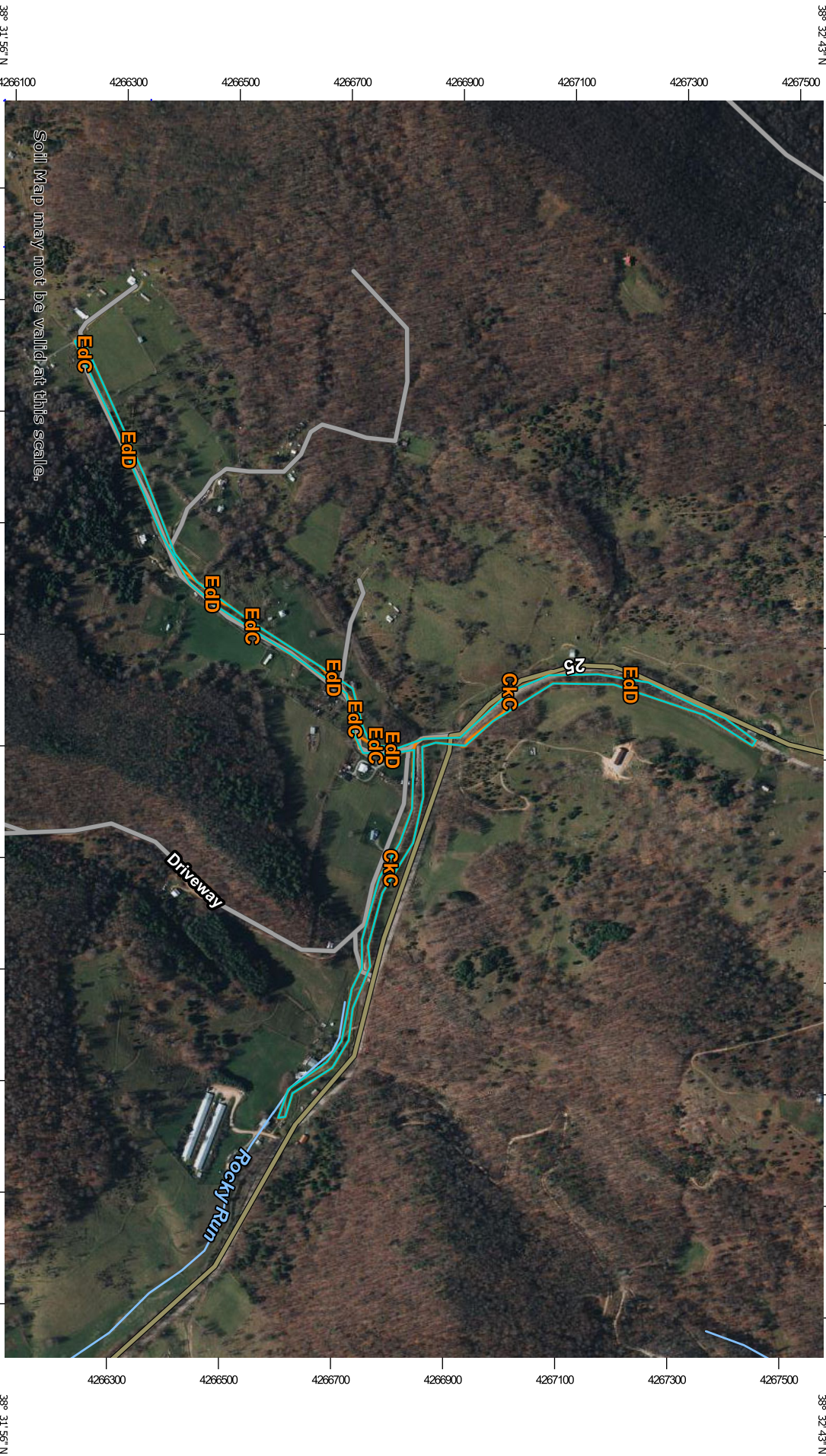
Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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


























Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BsC	Blackthorn channery sandy loam, 3 to 15 percent slopes, stony	2.1	38.2%
BsE	Blackthorn channery sandy loam, 15 to 35 percent slopes, stony	0.4	6.4%
EdC	Edom channery silt loam, 8 to 15 percent slopes	0.9	15.3%
EdD	Edom channery silt loam, 15 to 25 percent slopes	2.2	40.1%
Totals for Area of Interest		5.6	100.0%

Soil Map—Pendleton County, West Virginia



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CkC	Clarksburg channery silt loam, 8 to 15 percent slopes	3.3	38.7%
EdC	Edom channery silt loam, 8 to 15 percent slopes	1.4	16.2%
EdD	Edom channery silt loam, 15 to 25 percent slopes	3.8	45.1%
Totals for Area of Interest		8.5	100.0%

Insert Erosion and Sediment Control Site Development Maps

Insert Erosion and Sediment Control Plan

SPILL PREVENTION, CONTROL & CONTAINMENT NOTES

The Contractor shall provide means to handle spills and waste material disposal. This shall include but not be limited to the following:

- 1) A containment dike shall be provided around any on-site fuel storage tanks. It shall have a capacity of 110% of the size of the storage tank.
- 2) Absorbent pads shall be available on-site for petroleum spills or leaks on ground. Absorbent booms shall be provided for spills in streams.
- 3) Excess concrete shall not be disposed of near streams. Any excess concrete will be taken off site by the concrete supplier.
- 4) Sanitary facilities shall be maintained by the provider, with cleaning and waste disposal on a weekly basis.

EROSION AND SEDIMENT CONTROL DESCRIPTION

- 1) All stream activities will take place during periods of low flow.
- 2) No work shall be performed on the stream crossings during fish spawning season (April - June).
- 3) Sediment and erosion control structures shall be maintained for the duration of the project. Torn or deteriorated materials shall be replaced immediately. All erosion and sediment control devices shall be removed when the area is stabilized. All erosion and sediment control devices to be inspected, at a minimum, of once every seven calendar days and within 24 hours after any storm event greater than 0.25 inches per 24 hour period.
- 4) Sediment build-up shall be removed when it reaches half of the storage volume provided by the control.
- 5) Excavations across streams shall be made using diversion walls and flume pipe. Refer to the construction drawings for details and locations.
- 6) Pumps used for dewatering shall be provided with inlet screens or filters to reduce sucking mud. Pumped water shall be directed to a dewatering bag before being released into the stream. Water will not be pumped directly into streams.
- 7) Stream banks disturbed during installation of the pipe must be reshaped and stabilized with appropriate material the same day the backfill is completed.
- 8) Stream bed smoothing should be kept to a minimum.
- 9) Any areas which cannot be restored to final/finished grade within four (4) days will be temporarily mulched and seeded.
- 10) Slopes with a grade of 2:1 or greater shall be covered with an establishment blanket.
- 11) Refer to the attached specifications (Section 02936) for additional seeding details.

Insert Design Sheets

**Pendleton County PSD
Sandy Ridge Water Extension**

PE40-10W

DISTURBED AREA

Item Description	Unit	Length	
4" Water Line Piping	lf	33,820	
3" Water Line Piping	lf	2,280	
2" Water Line Piping	lf	1,300	
Total Length		37,400	
		2.5 ft/lf	along road in ditchline
SUBTOTAL DISTRURBED AREA OF LINE		93,500 sq ft	
Booster Station	sq ft	100	
Hydroconstant Booster Station	sq ft	100	
20,000 Storage Tank	sq ft	900	
SUBTOTAL DISTRURBED AREA		94,600	
Sq Ft (1) Acre		43,560	
Total Acres Disturbed		2.17	

Insert Design Calculations

Insert Revegetation Plan

SECTION 02936

SEEDING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Seeding and fertilizing.
- B. Seed protection on slopes.
- C. Maintaining seeded areas until acceptance.

1.02 DELIVERY, STORAGE AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.03 EXISTING CONDITIONS

- A. Beginning work means acceptance of existing conditions.

PART 2 PRODUCTS

2.01 GROWING MEDIA

- A. Imported Topsoil: Natural, fertile, agricultural soil typical of locality, capable of sustaining vigorous plant growth, from well drained site free of flooding, not in frozen or muddy condition, not less than 10% organic matter. Free from subsoil, slag, clay, stones, lumps, live plants, roots, sticks, crabgrass, coughgrass, noxious weeds and foreign matter.
- B. Existing Topsoil: Natural, fertile agricultural soil capable of sustaining vigorous plant growth, not in frozen or muddy condition, containing not less than 10% organic matter. Free from subsoil, slag, clay, stones, lumps, live plants, roots, sticks, crabgrass, noxious weeds, and foreign matter.

- C. Peatmoss: Horticultural Grade Class A decomposed plant material, elastic and homogeneous. Free of decomposed colloidal residue, wood, sulphur, and iron. Peatmoss: pH value of 5.9 to 7.0, 60% organic matter by weight, moisture content not exceeding 15% and water absorption capacity of not less than 300% by weight on over dry basis.
- D. Sand: Hard, granular natural beach sand, washed, free of impurities, chemical or organic matter.
- E. Fertilizer: 10-20-10, commercial type with 50% of the elements derived from organic sources.
- F. Lime: Used to correct pH of soil to the range of 6.0 to 6.5 pH.

2.02 SEED

- A. Seed Mixture A: 40 Percent Kentucky Blue grass, 40 percent Creeping Red Fescue, and 20 percent Pennlawn Fescue.
- B. Seed Mixture B: 70% orchard grass, 20% Bird's foot Trefoil, and 10% White Ladino Clover. Include specific inoculation for the trefoil and clover.
- C. Seed Mixture C: Mixture to match existing growth if requested by property owner.
- D. Seed Mixture D: Temporary Seeding (areas which cannot be permanently seeded within 21 days) - rye (grain), 120 lbs. per acre, or mulch, 2 to 3 tons per acre in lieu of seeding.

2.03 ACCESSORIES

- A. Mulching Material: Oat or wheat straw, reasonably free from weeds, foreign matter detrimental to plant life, and in dry condition. Hay or chopped cornstalks is not acceptable except for woodland seeding.

- B. Establishment Blanket: Uniform, open weave jute matting; erosion control mulching fabric consisting of knitted construction of yarn interwoven with strips of biodegradable paper; or organic fiber protective fiber mat consisting of half-inch layer of chopped straw, knitted into mat with thin netting of biodegradable polypropylene.

PART 3 EXECUTION

3.01 PREPARATION

- A. Grade to eliminate rough spots and low areas where ponding may occur. Maintain smooth, uniform grade.
- B. Assure positive drainage away from structures.
- C. Finish ground level firm and sufficient to prevent sinkage pockets when irrigation is applied.

3.02 SPREADING TOPSOIL

- A. Lawns: Use existing topsoil. If additional topsoil is required, imported topsoil is to be used. When suitable topsoil is not available a growing medium consisting of 50% peatmoss, 40% horticultural grade vermiculite, and 10% sand with 1 pound of 10-10-10 fertilizer per 100 cubic feet may be used.
- B. Fields and woodlands: Use existing topsoil.
- C. Seed Bed Cultivation: Spread and cultivate topsoil to depth of 6 inches over area to be seeded. Place during dry weather, and on dry unfrozen subgrade. Rake until surface is smooth.
- D. Remove from site, foreign materials collected during cultivation.
- E. Grade to eliminate rough spots and low areas where ponding may occur. Maintain smooth, uniform grade.
- F. Assure positive drainage away from structures.
- G. Finish ground level firm and sufficient to prevent sinkage pockets when irrigation is applied.

3.03 FERTILIZING

- A. Apply fertilizer, at a rate of 1,000 lbs. per acre (23 lbs. per 1,000 sq. ft.).
- B. Apply lime at a rate of 2 tons per acre (92 lbs. per 1000 sq. ft.). Apply lime after the fertilizer has been applied and before the grass seed, not at the same time.

3.04 SEEDING

- A. Apply Seed Mixture A or C at a rate of 200 lbs. per acre (4-1/2 lbs. per 1,000 sq. ft.) evenly in two intersecting directions. Rake in lightly.
- B. Do not sow immediately following rain, when ground is too dry, or during windy periods.
- C. Immediately following seeding and compacting, apply mulch to a thickness of 1/8 inch. Maintain clear of shrubs and trees.

3.05 SEEDING FIELDS AND WOODLANDS

- A. Apply Seed Mixture B or C at a rate of 100 lbs. per acre (2 lb. per 1,000 sq. ft.) evenly in two intersecting directions. Rake in lightly.
- B. Do not sow immediately following rain, when ground is too dry, or during windy periods.
- C. Apply mulch at a rate of 2 tons per acre (92 lbs. per 1000 sq. ft.).

3.06 SEED PROTECTION ON SLOPES

- A. Cover seeded slopes where grade is 2:1 or greater with establishment blanket. Roll blanket down over slopes without stretching or pulling.
- B. Lay blanket smoothly on soil surface, burying top end of each section in narrow trench, 6 inches deep. Leave 12 inches overlap from top roll over bottom roll. Leave 4 inches overlap over adjacent section.

- C. Staple outside edges and overlaps at 36 inch intervals.
- D. Lightly dress slopes with topsoil to ensure close contact between blanket and soil.
- E. In ditches, unroll blanket in direction of flow. Overlap ends of strips 6 inches with upstream section on top.

3.07 MAINTENANCE

- A. Maintain surfaces and supply additional topsoil where necessary, including areas affected by erosion.
- B. Water where required to ensure uniform seed germination and to keep surface of soil damp.
- C. Apply water slowly so that surface of soil will not puddle and crust.
- D. Replant damaged grass areas showing root growth failure, deterioration, bare or thin spots, and eroded areas.
- E. Control growth of weeds in lawns. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.

3.08 RESTORATION

- A. Restore pavement, concrete, grassed areas, planted areas and structures damaged during execution of work of this section.

3.09 ACCEPTANCE

- A. Seeded areas will be accepted at end of maintenance period when seeded areas are properly established and otherwise acceptable.

END OF SECTION

Structural Control Sheet

Address: _____

Structural Control Selected	Rational

INSPECTION REPORT

Address: _____

Date: _____

Inspector/Title: _____

Erosion and Sediment Control Measure	Satisfactory Yes/No	Comments

Entrance(s): Clear of Mud, Dirt, Debris, or Tracking Yes _____, No _____

Corrective Action _____

Outfall Locations: BMPs are in place and working. Yes _____, No _____

Corrective Action _____

Disturbed Area(s): BMPs are in place and working. Yes _____, No _____

Corrective Action _____

Summary of Findings:

Non-Compliance Issues:

Site is in Compliance Yes _____ No _____

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I also certify that a storm water pollution prevention plan, including both construction and post construction controls, has been prepared for the site in accordance with the permit and that such plan complies with approved State, Tribal and/or local sediment and erosion plans or permits and/or storm water management plans or permits. I am aware that signature and submittal of the Site Registration Application is deemed to constitute my determination of eligibility under one or more of the requirements of Permit Appendix A.I.11., related to the Endangered Species Act requirements. To the best of my knowledge, I further certify that such discharges and discharge related activities will not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage under the permit. I am also aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name and Title

Telephone Number

Signature

Date



January 10, 2024

97 - 14th Street
Wheeling, WV 26003
304.232.5550 (T)
304.233.2512 (F)
mail@cerrone1.com

WV Department of Environmental Protection
Division of Water and Waste Management
Permitting Branch
601 57th Street, SE
Charleston, WV 25304

RE: Pendleton County Public Service District
Sandy Ridge Water Extension
Cerrone Project #PE10-10W
Karst Mitigation Plan Letter Report

ALL:

Pendleton County Public Service District is applying for a General Stormwater Permit for the above reference project. As part of this application, the District is required to provide a Karst Mitigation Plan as part of their Ground Water Protection Plan.

The project involves line extensions in the area of County Route 22, Sandy Ridge Road, to provide potable water service to the residents in this area. The water line extensions follow the following routes:

- 1) CR20
- 2) CR 22
- 3) Private Drive
- 4) CR 25

Enclosed is a copy of the West Virginia Tax Districts Containing Karst Terrain map along with a snapshot of the project area in Pendleton County and the associated soils maps for the project. As these items show, the project area is not near any Limestone, Greenbrier, or other Carbonate outcrops or caverns. This is supported by the enclosed soil maps.

During physical layout of the water lines, there was no evidence of sinkholes (both active and inactive), caves, insurgences, resurgences, or losing streams. Once the new lines are installed, the exiting topography will be returned as it was before construction and therefore not alter the stormwater runoff.





Because there are no outcrops or other Karst features impacted by this project, there is no stand alone karst mitigation plan required.

This letter report will be part of the Ground Water Protection Plan and serve as the mitigation plan. If there is any additional information required, please contact our office.

Respectfully,

CERRONE ASSOCIATES, INC.

A handwritten signature in black ink, appearing to be "D. Cerrone", written over the company name.

Dominick P. Cerrone, PE
Project Engineer

DPC/cm

cc: James Hoffman, General Manager, Central Hampshire
PSD by email



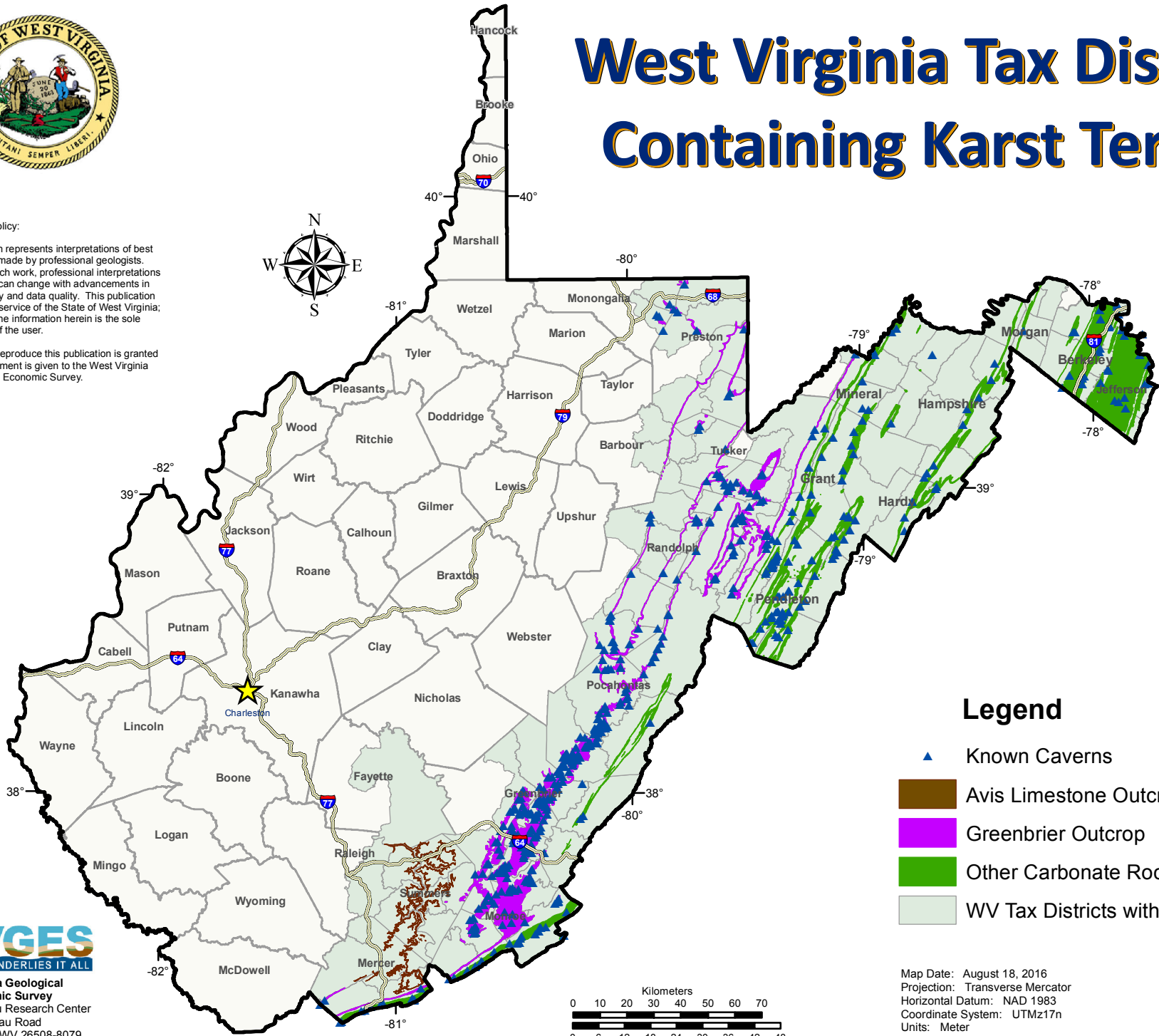


West Virginia Tax Districts Containing Karst Terrain

Publications Policy:

This publication represents interpretations of best available data made by professional geologists. As in all research work, professional interpretations may vary, and can change with advancements in both technology and data quality. This publication is offered as a service of the State of West Virginia; proper use of the information herein is the sole responsibility of the user.

Permission to reproduce this publication is granted if acknowledgement is given to the West Virginia Geological and Economic Survey.

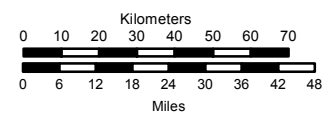


Legend

- ▲ Known Caverns
- Avis Limestone Outcrop
- Greenbrier Outcrop
- Other Carbonate Rocks Outcrop
- WV Tax Districts with Karst Terrain

WVGES
GEOLOGY UNDERLIES IT ALL

West Virginia Geological
and Economic Survey
Mont Chateau Research Center
1 Mont Chateau Road
Morgantown, WV 26508-8079
Phone: (304) 594-2331
Web: www.wvgs.wvnet.edu



Map Date: August 18, 2016
Projection: Transverse Mercator
Horizontal Datum: NAD 1983
Coordinate System: UTMz17n
Units: Meter
Map Scale (for full 8.5" x 11" display): 1:2,000,000

West Virginia Tax Districts Containing Karst Terrain

“Karst terrain” means a terrain, generally underlain by limestone or dolomite, in which the topography is formed chiefly by the dissolving of rock and which may be characterized by sinkholes, sinking streams, closed depressions, subterranean drainage, and caves.

The principal karst-forming carbonate rocks in West Virginia are within the Mississippian Greenbrier Group; Devonian and Silurian Helderberg Group and Tonoloway Limestone; and Ordovician and Cambrian Black River Group, Saint Paul Group, Beekmantown Group, Conococheague Formation, Elbrook Formation, and Tomstown Dolomite. Based on recent geologic mapping in southern West Virginia, the Mississippian Avis Limestone, also known as the Little Stone Gap, can be added to this list.

This map shows the outcrop of these carbonate units and the tax districts in which the outcrops occur. It is based on publications of this agency as well as field observations by experienced Geological and Economic Survey geologists who have conducted detailed geologic mapping in the state.

The only publically-available source of cave locations in West Virginia is West Virginia Geological and Economic Survey Volume 19A by William E. Davies, titled “Caverns of West Virginia.”¹ It was first published in 1949, revised and reprinted in 1958, and reprinted with supplement in 1965. The map shows locations of caves from Volume 19A observed within the carbonate outcrop area. Despite the fact that Davies’ locations were somewhat generalized, they fall on the bands of carbonate outcrop.

Davies book also lists cave locations in other parts of the state, but they are for the most part isolated, very small, in some cases “shelter” caves, or formed in sandstone, and are not part of a karst terrain. Thin marine limestones occur in the coal measures, but where these units crop out in the northern part of the state, isolated caves are few in number and small in size. Similarly, an outcrop of the Greenbrier Limestone occurs in Webster County near Webster Springs, but it is very limited in areal extent and not included in the map.

Therefore, this map identifies those districts that contain outcrops of geological units exhibiting the characteristics of karst, including caves and sinkholes.

¹ Davies, William E., *Caverns of West Virginia*, (Volume 19A): http://www.wvgs.wvnet.edu/wvges2/publications/PubCat_Details.aspx?PubCatID=V-19A

For more detailed geologic mapping:

➔ Please see our “Geologic Mapping, including STATEMAP Projects” page:

<http://www.wvgs.wvnet.edu/www/statemap/statemap.htm>

➔ You can order geospatial files (mostly Open File (OF) reports) from those projects via our Publication Section:

http://www.wvgs.wvnet.edu/wvges2/publications/PubCat_FAQs.aspx

List of Involved Tax Districts by County

Barbour

Cove
Glade

Berkeley

Arden
Falling Waters
Gerrardstown
Hedgesville
Mill Creek
Opequon

Fayette

New Haven

Grant

Grant
Milroy
Union

Greenbrier

Anthony Creek
Blue Sulphur
Falling Springs
Fort Springs
Frankford
Irish Corner
Lewisburg
White Sulphur
Williamsburg

Hampshire

Bloomery
Capon
Gore
Mill Creek
Romney
Sherman
Springfield

Hardy

Capon
Lost River
Moorefield
South Fork

Jefferson

Charles Town
Harpers Ferry
Kabletown
Middleway
Shepherdstown

Mercer

Beaver Pond
East River
Jumping Branch
Plymouth
Rock

Mineral

Cabin Run
Frankfort
New Creek
Piedmont
Welton

Monongalia

Morgan
Union

Monroe

Red Sulphur
Second Creek
Springfield
Sweet Springs
Union
Wolf Creek

Morgan

Allen
Bath
Cacapon
Rock Gap
Timber Ridge

Pendleton

Bethel
Circleville
Franklin
Mill Run
Sugar Grove
Union

Pocahontas

Edray
Greenbank
Huntersville
Little Levels

Preston

Grant
Pleasant
Portland
Reno
Union
Valley

Raleigh

Richmond
Shady Spring

Randolph

Beverly
Dry Fork
Huttonsville
Leadsville
Mingo
New Interest
Roaring Creek
Valley Bend

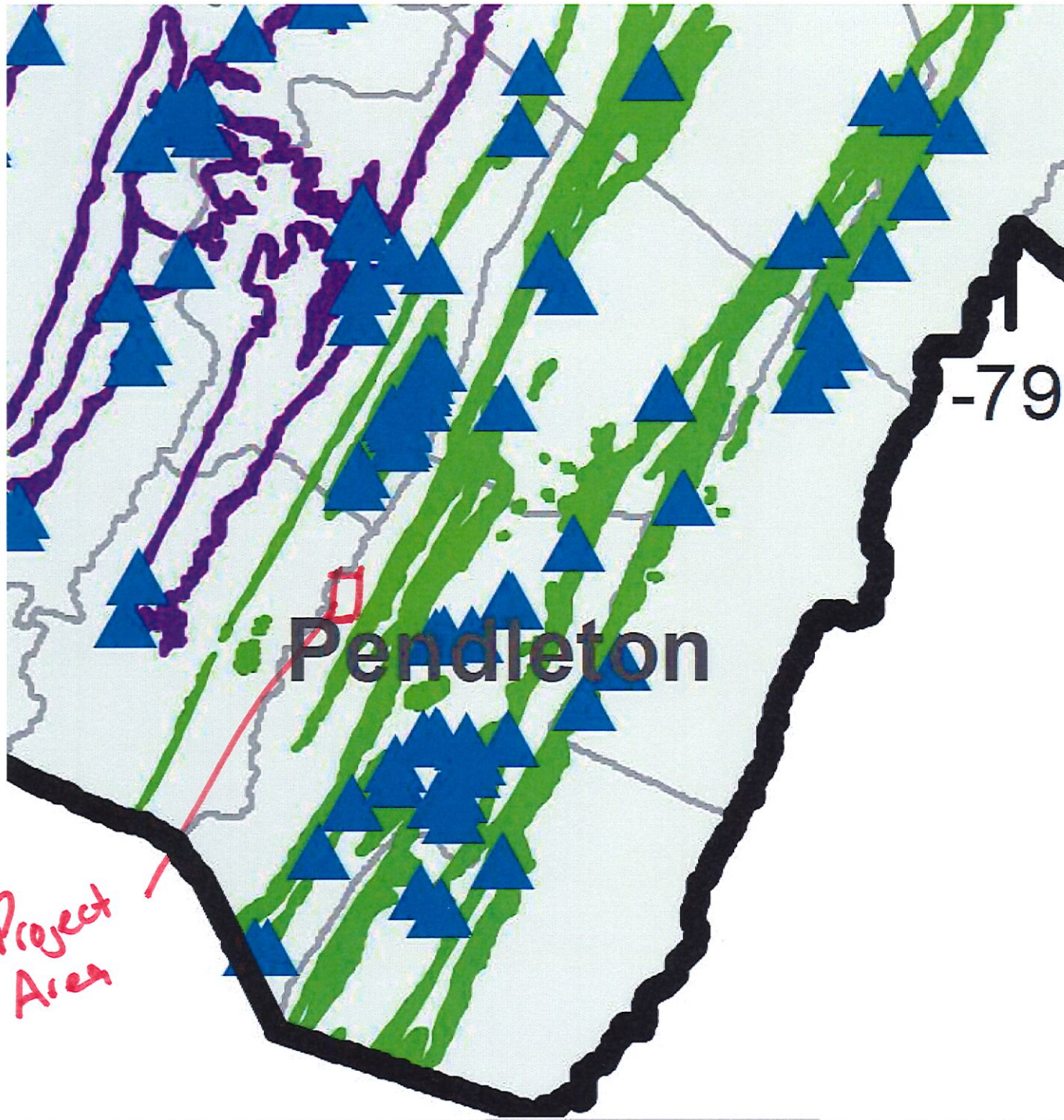
Summers

Forest Hill
Green Sulphur
Greenbrier
Jumping Branch
Pipestem
Talcott

Tucker

Blackfork
Clover
Davis
Dry Fork
Licking
St. George



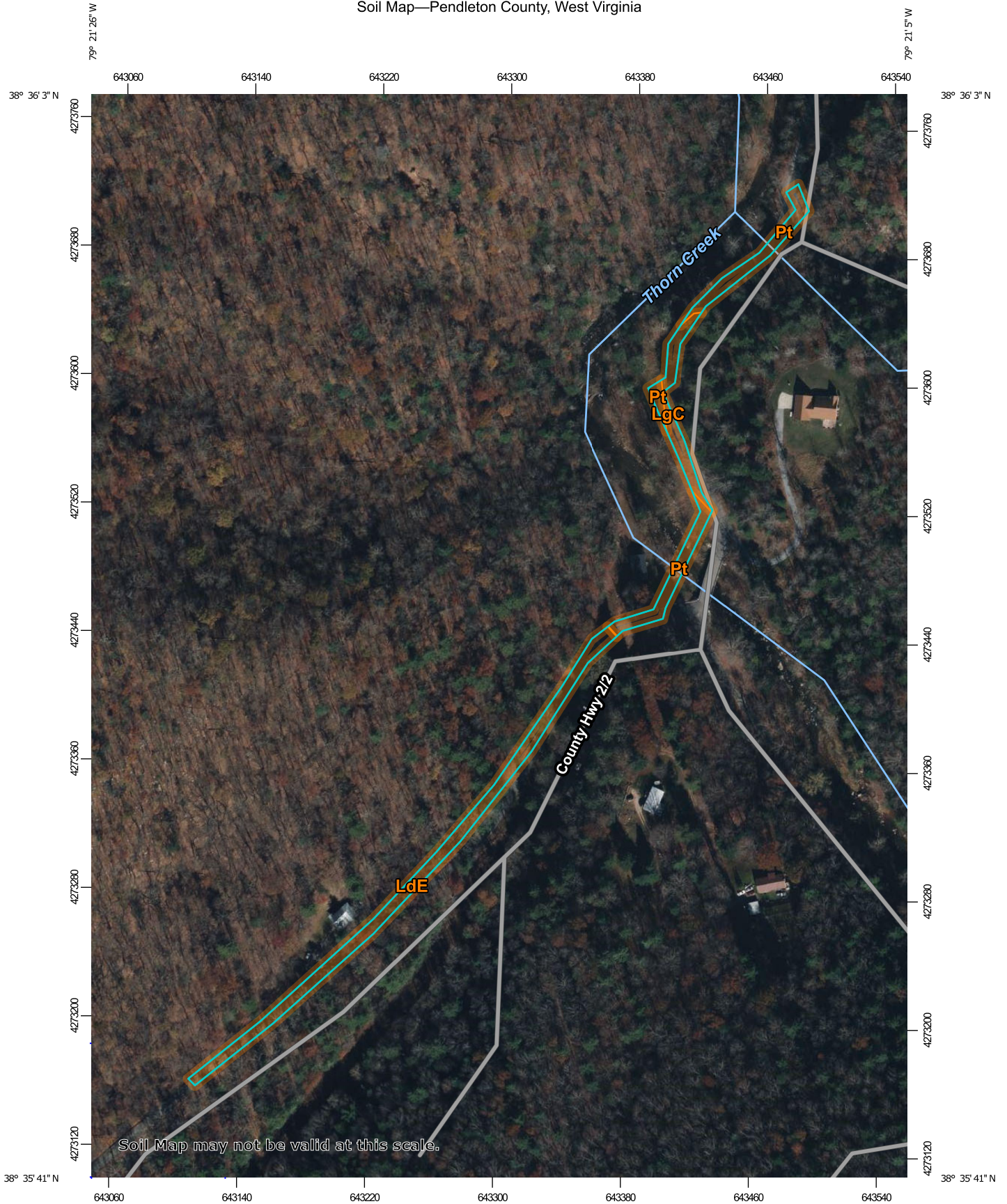


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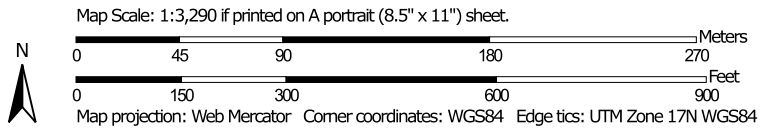
Pendleton

Project Area
































Soil Map—Pendleton County, West Virginia



Soil Map may not be valid at this scale.



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
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Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

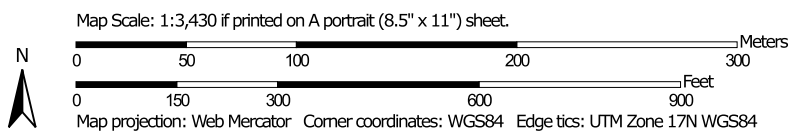
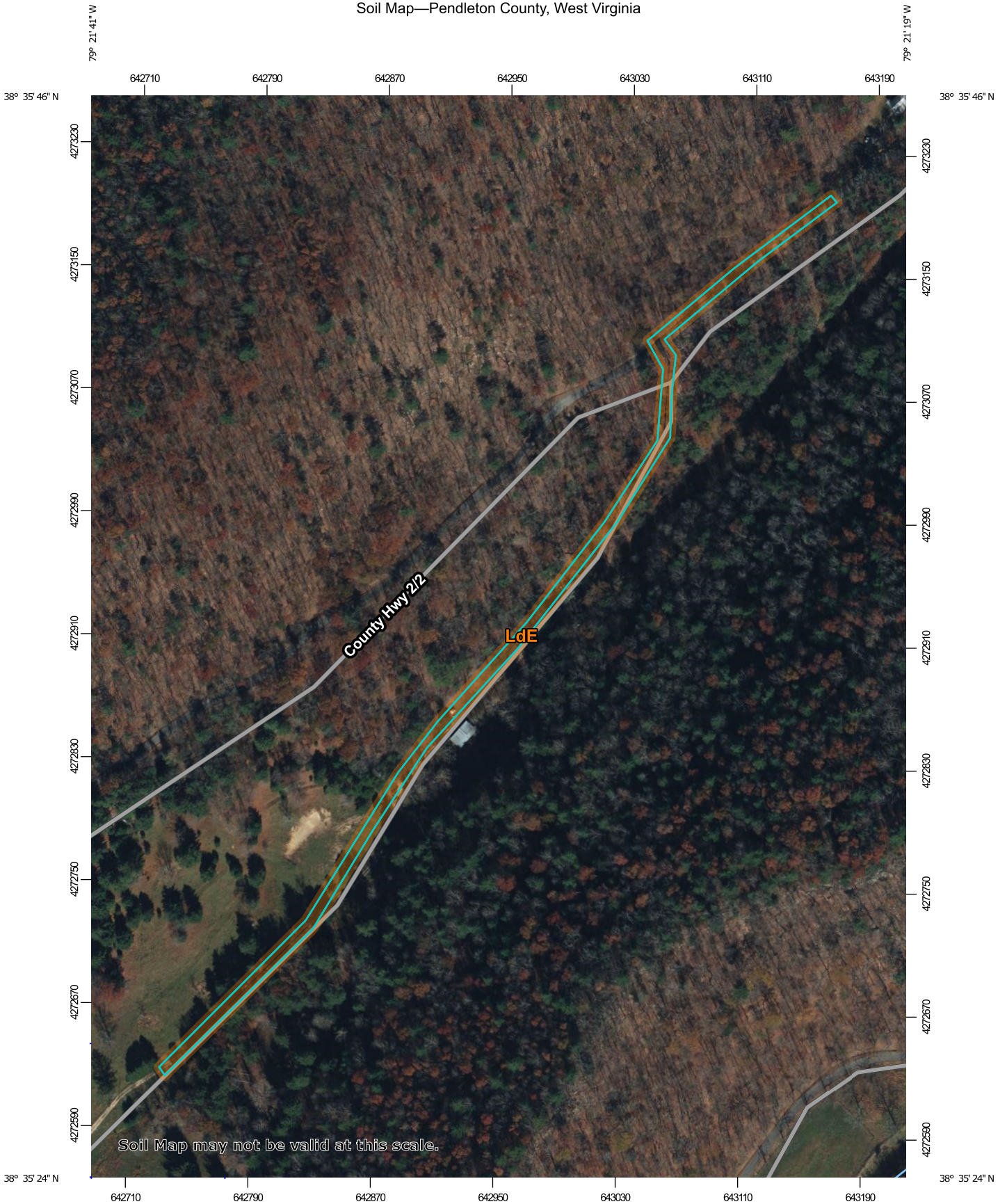
Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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


























Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.6	51.6%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	0.2	15.5%
Pt	Potomac very cobbly fine sandy loam	0.4	33.0%
Totals for Area of Interest		1.2	100.0%

Soil Map—Pendleton County, West Virginia



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pendleton County, West Virginia
 Survey Area Data: Version 19, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

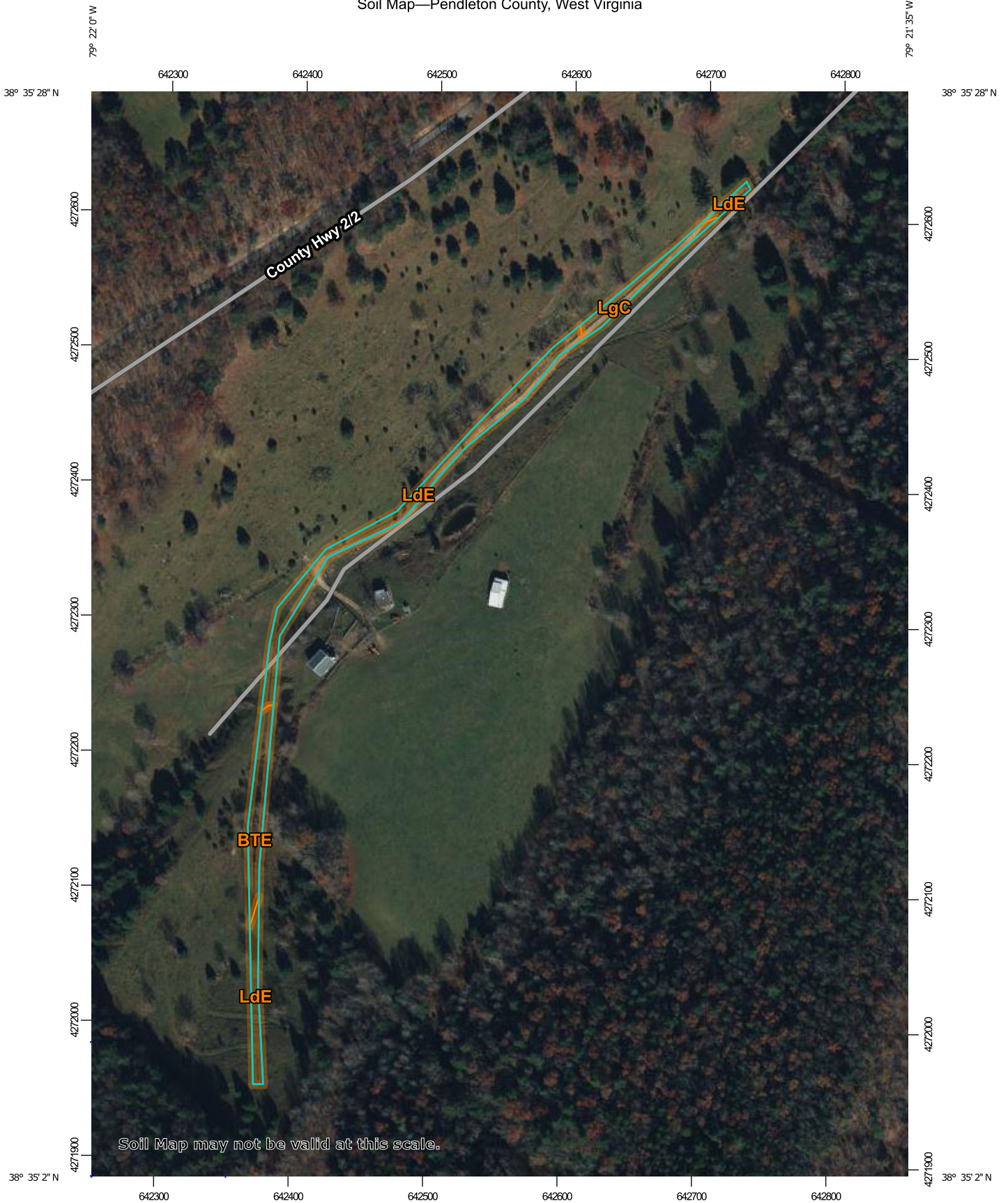
Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	1.2	100.0%
Totals for Area of Interest		1.2	100.0%

Soil Map—Pendleton County, West Virginia



Soil Map may not be valid at this scale.

Map Scale: 1:3,920 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84













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Web Soil Survey
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MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

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Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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 Survey Area Data: Version 19, Sep 4, 2023

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Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BTE	Blackthorn-Dekalb-Elliber association, 15 to 35 percent slopes, stony	0.3	22.0%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	1.0	63.1%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	0.2	14.9%
Totals for Area of Interest		1.6	100.0%

Soil Map—Pendleton County, West Virginia



79° 22' 33" W
































Map Scale: 1:4,700 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

79° 21' 50" W

MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Pendleton County, West Virginia
 Survey Area Data: Version 19, Sep 4, 2023

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Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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Map Unit Legend

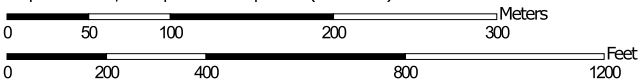
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BTE	Blackthorn-Dekalb-Elliber association, 15 to 35 percent slopes, stony	1.8	54.2%
HdC	Hazleton-Dekalb complex, 3 to 15 percent slopes, stony	1.2	37.2%
HdE	Hazleton-Dekalb complex, 15 to 35 percent slopes, very stony	0.2	7.0%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.1	1.6%
Totals for Area of Interest		3.2	100.0%

Soil Map—Pendleton County, West Virginia



Soil Map may not be valid at this scale.

Map Scale: 1:4,630 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84







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12/19/2023
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MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
	Special Point Features		Water Features
	Blowout		Streams and Canals
	Borrow Pit		Transportation
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow		Background
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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 Survey Area Data: Version 19, Sep 4, 2023

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Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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Map Unit Legend

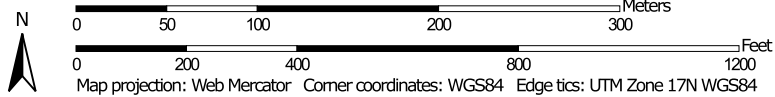
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DEF	Dekalb-Elliber-Blackthorn association, 35 to 55 percent slopes, stony	0.0	0.2%
HdE	Hazleton-Dekalb complex, 15 to 35 percent slopes, very stony	0.2	12.9%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.1	5.7%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	1.3	81.2%
Totals for Area of Interest		1.6	100.0%

Soil Map—Pendleton County, West Virginia































Soil Map may not be valid at this scale.

Map Scale: 1:4,170 if printed on A portrait (8.5" x 11") sheet.



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Interstate Highways
	Closed Depression		Rails
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow		Background
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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 Survey Area Data: Version 19, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HdE	Hazleton-Dekalb complex, 15 to 35 percent slopes, very stony	0.1	4.2%
LdE	Laidig channery loam, 15 to 35 percent slopes, stony	0.5	25.7%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	1.4	70.1%
Totals for Area of Interest		1.9	100.0%

Soil Map—Pendleton County, West Virginia



Map Scale: 1:5,620 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84
































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MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

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Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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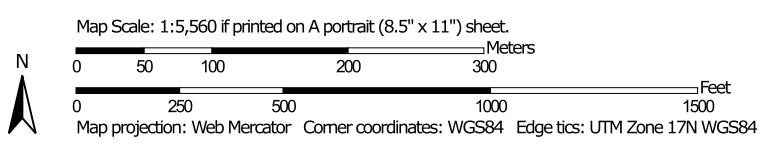
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BsC	Blackthorn channery sandy loam, 3 to 15 percent slopes, stony	0.3	14.0%
CkC	Clarksburg channery silt loam, 8 to 15 percent slopes	0.6	24.7%
EdC	Edom channery silt loam, 8 to 15 percent slopes	0.8	36.7%
EID	Elliber extremely channery loam, 15 to 25 percent slopes	0.4	18.2%
LgC	Laidig and Buchanan soils, 3 to 15 percent slopes, stony	0.1	6.4%
Totals for Area of Interest		2.3	100.0%














Soil Map—Pendleton County, West Virginia



Soil Map may not be valid at this scale.



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
	Special Point Features		Water Features
	Blowout		Streams and Canals
	Borrow Pit		Transportation
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
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	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

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Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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 Survey Area Data: Version 19, Sep 4, 2023

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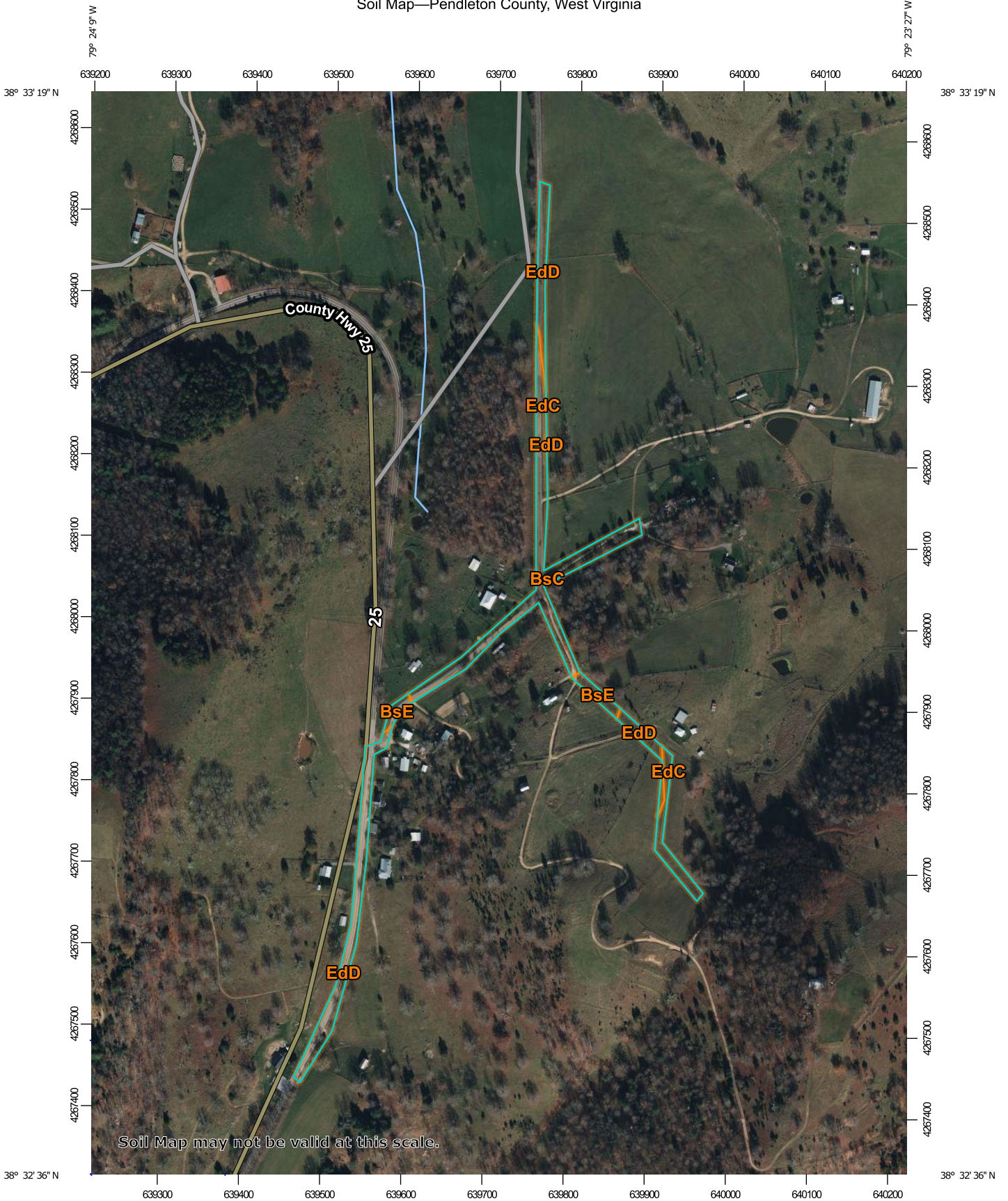
Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EdC	Edom channery silt loam, 8 to 15 percent slopes	1.7	65.9%
EdD	Edom channery silt loam, 15 to 25 percent slopes	0.7	27.6%
OeE	Opequon silt loam, 15 to 35 percent slopes, very rocky	0.2	6.5%
Totals for Area of Interest		2.6	100.0%

Soil Map—Pendleton County, West Virginia



Map Scale: 1:6,480 if printed on A portrait (8.5" x 11") sheet.











0 50 100 200 300 Meters

0 300 600 1200 1800 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

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 Survey Area Data: Version 19, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

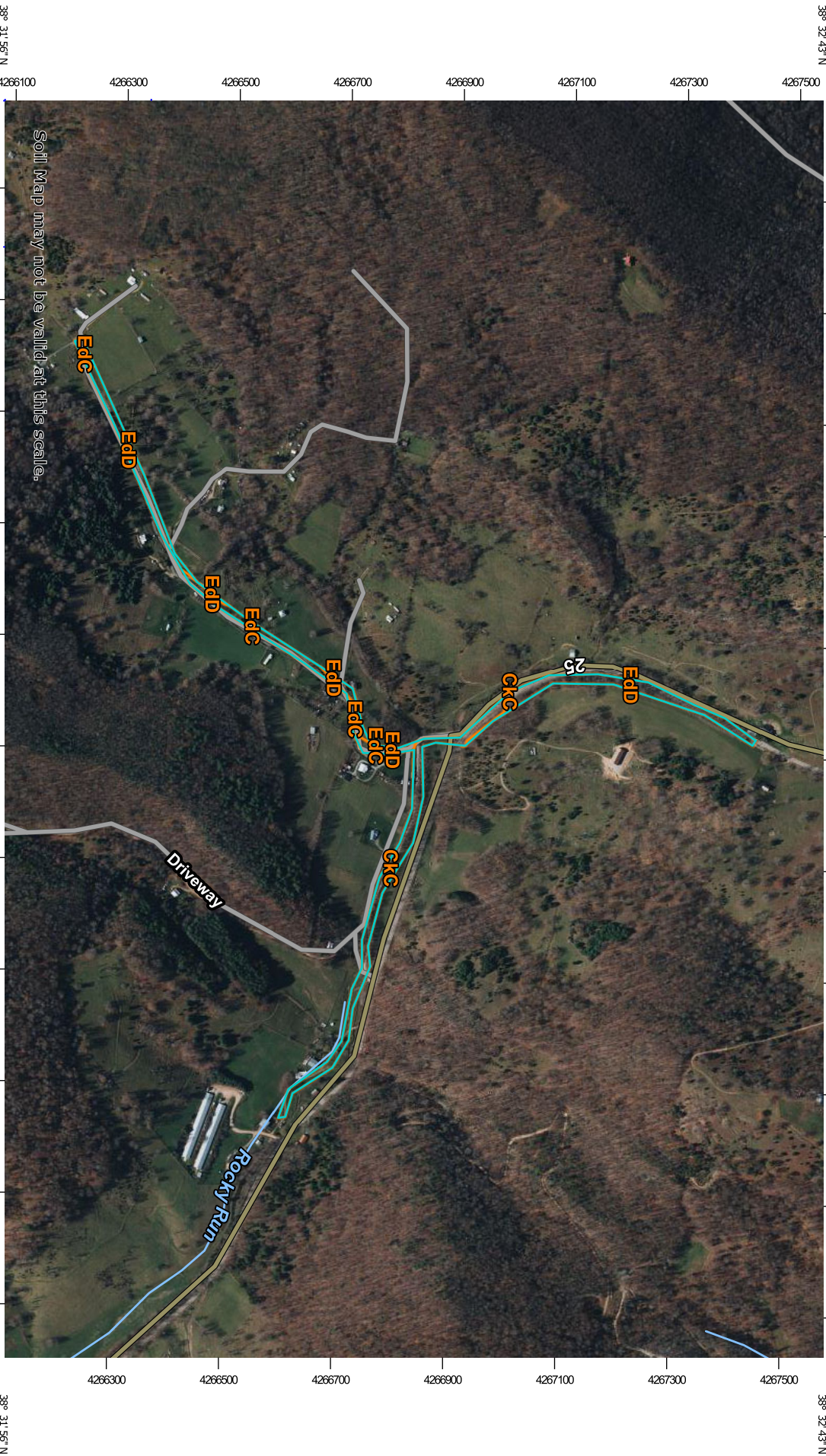
Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BsC	Blackthorn channery sandy loam, 3 to 15 percent slopes, stony	2.1	38.2%
BsE	Blackthorn channery sandy loam, 15 to 35 percent slopes, stony	0.4	6.4%
EdC	Edom channery silt loam, 8 to 15 percent slopes	0.9	15.3%
EdD	Edom channery silt loam, 15 to 25 percent slopes	2.2	40.1%
Totals for Area of Interest		5.6	100.0%

Soil Map—Pendleton County, West Virginia



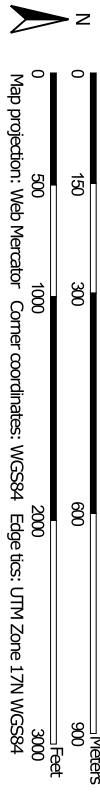
38° 31' 56" N
79° 24' 46" W

38° 32' 43" N
79° 24' 46" W

79° 23' 12" W
38° 31' 56" N

79° 23' 12" W
38° 32' 43" N

Map Scale: 1:10,300 if printed on A landscape (11" x 8.5") sheet.
































Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pendleton County, West Virginia
 Survey Area Data: Version 19, Sep 4, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 23, 2020—Nov 3, 2020

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CkC	Clarksburg channery silt loam, 8 to 15 percent slopes	3.3	38.7%
EdC	Edom channery silt loam, 8 to 15 percent slopes	1.4	16.2%
EdD	Edom channery silt loam, 15 to 25 percent slopes	3.8	45.1%
Totals for Area of Interest		8.5	100.0%