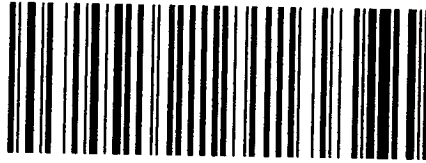
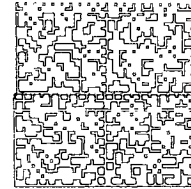


CERTIFIED MAIL®

Doddridge County Office of Emergency Management
George Eidel, Floodplain Manager
101 Church Street, Suite 102
West Union, WV 26456



7019 1640 0001 3402 6866



HASLER

\$006.70⁰⁰

04/27/2020 ZIP 26456
012E14643162

US POSTAGE

William J. & Karen L. Riffle
P.O. Box 875
Oaks, PA 19456

NIXIE 176 DE 1 0005/02/20

RETURN TO SENDER
REFUSED
UNABLE TO FORWARD

REF

BC: 26456119427 *0271-05500-27-44

4045 920 510 1



PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT
OF RETURN ADDRESS, FOLD AT BOTTOM TO
ENVELOPE

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

William J. & Karen L. Riffle
P.O. Box 875
Oaks, PA 19456



9590 9402 4783 8344 2630 46

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Doddridge County Office of
Emergency Management/Floodplain Management
105 Court Street, Suite 3
304-873-1343
doddridgecountyfpm@gmail.com



Dear Sir or Ma'am,

April 25, 2020

You are receiving this letter because you have been identified as a land surface and/or mineral rights owner for property or adjacent property related to the proposed development/project identified by the following page.

No action is required of you. This letter is simply to inform you of the proposed development.

If you would like to comment on this proposed project, or would like additional information, you may contact the Doddridge County Floodplain Manager at the above address.

Respectfully yours,

A handwritten signature in black ink, appearing to read "George Eidel". The signature is written in a cursive style with a large initial "G".

George Eidel, CFM, OEM Director/Floodplain Manager

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

**Eugene Chipps
304 Tymber Creek Drive
Clarksburg, WV 26301**



9590 9402 4783 8344 2630 39

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Budget Choice
 of Earth Agent

B. Received by (Printed Name) *Budget Choice* C. Date of Delivery
4-7-88

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

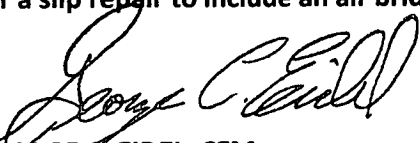
3. Service Type
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |



Doddridge County Floodplain Permits

(Week of April 20, 2020)

Please take notice that on the **(16th) of (April), 2020, (Antero Midstream)** filed an application for a Floodplain Permit **(#20-573)** to develop land located at or about **(Sam Cavins Rd)**; **Coordinates: 39.318873, -80.823208**. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by **(May 11, 2020)** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. **This project is for a slip repair to include an air bridge.**



GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager

9989 2046 3402 6866
7019 1640 0000 0000 0947 6102

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

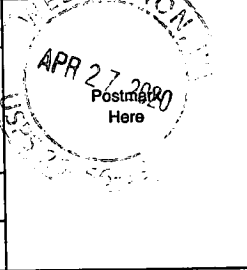
For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)
 Return Receipt (hardcopy) \$ 2.75
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
\$.50
Total Postage and Fees
\$ 6.70

Sent To
William J. & Karen L. Riffle
Street and Apt. No., or PO Box No.
P.O. Box 875
City, State, ZIP+4®
Oaks, PA 19456 20-573
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



4985 2040 1000 0906 6102

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

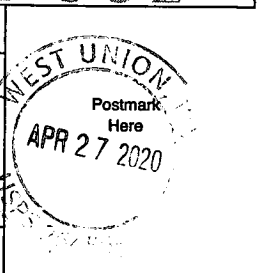
For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)
 Return Receipt (hardcopy) \$ 2.75
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
\$.50
Total Postage and Fees
\$ 6.70

Sent To
Eugene Chipps
Street and Apt. No., or PO Box No.
304 Timber Creek Dr.
City, State, ZIP+4®
Clarksburg, WV 26301 20-573
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



4299 2046 1000 0471 6102

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

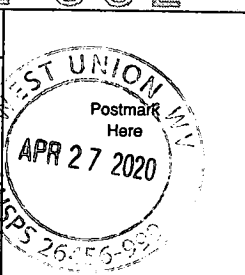
For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)
 Return Receipt (hardcopy) \$ 2.75
 Return Receipt (electronic) \$
 Certified Mail Restricted Delivery \$
 Adult Signature Required \$
 Adult Signature Restricted Delivery \$

Postage
\$.50
Total Postage and Fees
\$ 6.70

Sent To
Paul D. & Catherine Oliveria
Street and Apt. No., or PO Box No.
2804 Miletus Rd.
City, State, ZIP+4®
Salem, WV 26426 20-571
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions





Floodplain Development Permit

Doddridge County, WV Floodplain Management

This permit gives approval for the development/ project listed that impacts the FEMA-designated floodplain and/or floodway of Doddridge County, WV, pursuant to the rules and regulations established by all applicable Federal, State and local laws and ordinances, including the Doddridge County Floodplain Ordinance. This permit must be posted at the site of work as to be clearly visible and must remain posted during entirety of development.

Permit: #20-573

Date Approved: May 11, 2020 **Expires: May 11, 2021**

Issued to: Antero Midstream **POC: Daniel Buliam**

Company Address: 535 White Oaks Blvd. Bridgeport, WV 26330

Project Address: Sam Cavins Road West Union, WV 26456

Firm: 54017C0105C **Lat/Long: 39.240026N, -80.624101W**

Purpose of Development: Slip Repair w/Air Bridge

Issued by: George C. Eidel, CFM, OEM Director/Doddridge County FPM (or designee)

Date: May 11, 2020

For additional information regarding this permit, please contact
Doddridge County Floodplain Manager at 304.873.2631, or via email at
doddridgecountyfpm@gmail.com
118 East Court Street; West Union, WV 26456

COPY

COPY

COPY


COPY

11114

KLEINFELDER OFFICE CHECKING
 550 WEST C STREET SUITE 200
 SAN DIEGO, CA 92101

DATE 4/15/2020 19-10/280

PAY TO THE ORDER OF Dodge County Commission \$ 1,025.00

One - thousand twenty five 00/100 DOLLARS  Security Features Included. Details on Back.

usbank.

FOR A/R: Crystal Lake PL Sta 111+001

⑈011114⑈ ⑆125000105⑆ 157519869794⑈

Jan M. [Signature]

COPY

COPY

FP # 20-573

FLOODPLAIN PERMIT #20-573

Antero Midstream, Sam Cavins Rd , Slip Repair with Air Bridge, 39.318873, -80.823208

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	4/16/2020	
US ARMY CORP. ENGINEERS (USACE)		
US FISH & WILDLIFE SERVICES (USFWS)		
WV DEPT. NATURAL RESOURCES (WVDNR)		
WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)		
STATE HISTORIC & PRESERVATION OFFICE (SHPO)		
OFFICE of LAND & STREAM (OLS)		
DATE OF COMMISSION READING	4/21/2020	No Reading at commission meeting due to the Coronavirus (COVID-19) emergency. All permits processed during this time will be done as though they have been read
DATE AVAILABLE TO BE GRANTED	5/11/2020	
PERMIT GRANTED		
COMPLETE		

7018 3090 0001 0402 5864

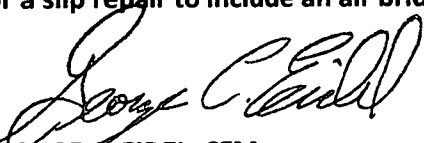
7019 1640 0001 3402 6866



Doddridge County Floodplain Permits

(Week of April 20, 2020)

Please take notice that on the **(16th) of (April), 2020, (Antero Midstream)** filed an application for a Floodplain Permit **(#20-573)** to develop land located at or about **(Sam Cavins Rd); Coordinates: 39.318873, -80.823208**. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by **(May 11, 2020)** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. **This project is for a slip repair to include an air bridge.**



GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager



51 Dutilh Road
Suite 240
Cranberry Township, PA
16066
o | 724.772.7072
f | 724.772.7079

TRANSMITTAL

To: Mr. George Eidel
Floodplain Manager
105 Court Street, Suite #3
West Union, WV 26456

Date: April 15, 2020

cc: Project File

APR 15 2020 3:01 PM

Subject:	Revised Floodplain Permit Application Antero Midstream Crystal Lake Pipeline Station 111+00 Landslide Doddridge County, West Virginia
	<input checked="" type="checkbox"/> Attached <input type="checkbox"/> Under separate cover

Via:

- Messenger/Courier
- First Class Mail
- FedEx
- United Parcel
- DHL
- Lone Star Overnight
- Freight
- Other

Transmitted:

- As Requested
- For Approval
- For Your Use
- For Review & Comment

Remarks:

Since submittal of the February 21, 2020 Floodplain Application, the scope of work associated with the Site has expanded to include the movement of landslide material and installation of rip-rap material for earth stabilization. As a result, we are submitting a revised Floodplain Application.

Enclosed please find the following documents to facilitate your review of the above referenced application:

- Attachment A – Floodplain Application
- Attachment B – No Rise Certification
 - Appendix A - West Virginia Flood Tool Map
 - Appendix B – Conceptual Plans
 - Appendix C – National Streamflow Statistics – Drainage Area
 - Appendix D – Comparison for Calculated Flows – HEC-RAS Excel Data
- Attachment C – Permitting & Coordination

The check for fee associated with the February 21, 2020 submittal was \$100.00. The revised project budget is \$125,000.00 within the Floodplain resulting in a permit fee of \$1,125.00. However, per our conversation on March 25, 2020, the \$100.00 application fee from the previous submittal can be deducted from the revised permit fee bringing the permit fee to \$1,025.00.

By: **Matthew Albright**
Project Manager



ATTACHMENT A
FLOODPLAIN APPLICATION



Permit# 20-573
Project Sam CAVINS, Air Bridge Name: Antero Resources
Permittees Name: Antero Resources

APR 16 20 3:40 PM

Doddridge County, WV

Floodplain Development Permit Application

This document is to be used for projects that impact/potentially impact the FEMA---designated floodplain and/or floodway of Doddridge County, WV pursuant to the rules and regulations established by all applicable Federal, State and local laws and ordinances, including the Doddridge County Floodplain Ordinance.

SECTION 1: GENERAL PROVISIONS (APPLICANT TO READ AND SIGN)

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. The permit will expire if no work is commenced within six months of issuance.
5. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal requirements.
6. Applicant hereby gives consent to the Floodplain Administrator/Manager or his/her representative to make inspections to verify compliance.
7. I THE APPLICANT CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

APPLICANT'S SIGNATURE *Daniel Bulian*

DATE_ 04/15/2020

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Applicant Information:

Please provide all pertinent data.

Applicant Information		
Responsible Company Name: Antero Midstream		
Corporate Mailing Address: 1615 Wynkoop Street		
City: Denver	State: CO	Zip: 80202
Corporate Point of Contact (POC): N/A		
Corporate POC Title: N/A		
Corporate POC Primary Phone: N/A		
Corporate POC Primary Email: N/A		
Corporate FEIN: N/A	Corporate DUNS: N/A	
Corporate Website: www.anteroresources.com		
Local Mailing Address: 535 White Oaks Blvd		
City: Bridgeport	State: WV	Zip: 26330
Local Project Manager (PM): Daniel Bulian		
Local PM Primary Phone: 304 842 4093		
Local PM Secondary Phone: N/A		
Local PM Primary Email: dbulian@anteroresources.com		
Person Filing Application: Daniel Bulian		
Applicant Title: Environmental Specialist III		
Applicant Primary Phone: 304 842 4093		
Applicant Secondary Phone: N/A		
Applicant Primary Email: dbulian@anteroresources.com		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Project Narrative:

Describe in detail the proposed development including project name/title, type of development, estimated start and completion timeline, and its potential impact on the floodplain. Use additional copies of this page as needed.

Project Narrative:

Since the submittal of the June 12, 2019 floodplain application and subsequent approval for installation of a temporary air bridge (39.318873, -80.823208) to allow access across Arnold Creek from County Route 11 (Sam Cavins Road) to cut trees associated with a landslide, a second landslide has occurred. As a result, Antero Midstream is proposing additional work within the floodplain of Arnold Creek consisting of the installation of temporary erosion and sediment controls, construction of temporary tree/brush piles, movement of landslide material from the east side to the west side of Sam Cavins Road and placing rip-rap material for earth stabilization on the east side of Sam Cavins Road. Once construction activities are completed, the air bridge, erosion and sediment controls, and tree/brush piles will be removed from the floodplain, while landslide material and limited amounts of rip-rap material will remain within the floodplain. Due to the permanent placement of material in the floodplain, a No-Rise Certification is included as Attachment B.

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Proposed Development:

Please check all elements of the proposed project that apply.

DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES)

A. STRUCTURAL DEVELOPMENT

<u>ACTIVITY</u>	<u>STRUCTURAL TYPE</u>
<input type="checkbox"/> New Structure	<input type="checkbox"/> Residential (1 – 4 Family)
<input type="checkbox"/> Addition	<input type="checkbox"/> Residential (more than 4 Family)
<input type="checkbox"/> Alteration	<input type="checkbox"/> Non-residential (floodproofing)
<input type="checkbox"/> Relocation	<input type="checkbox"/> Combined Use (res. & com.)
<input type="checkbox"/> Demolition	<input type="checkbox"/> Replacement
<input type="checkbox"/> Manufactured/Mobil Home	

B. OTHER DEVELOPMENT ACTIVITIES:

- Fill Mining Drilling Pipelining
- Grading
- Excavation (except for STRUCTURAL DEVELOPMENT checked above)
- Watercourse Alteration (including dredging and channel modification)
- Drainage Improvements (including culvert work)
- Road, Street, or Bridge Construction
- Subdivision (including new expansion)
- Individual Water or Sewer System
- Other (please specify)

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Development Site/Property Information:

Please provide physical description of the site/property, along with pertinent ownership (surface and mineral rights) data as applicable. Attach appropriate maps from the WV Flood Tool showing location of proposed development. Use additional copies of this page if development spans multiple property boundaries. Designate each property by number (i.e. Property 1 of 1, Property 2 of 7, etc.)

Property Designation: 1 of 2

Site/Property Information:		
Legal Description: Arnolds Creek		
Physical Address/911 Address: County Route 11		
Decimal Latitude/Longitude: 39.318873		
DMS Latitude/Longitude: -80.823208		
District: 01	Map: 4	Parcel: 13
Land Book Description: N/A		
Deed Book Reference: N/A		
Tax Map Reference: N/A		
Existing Buildings/Use of Property: N/A		

Floodplain Location Data: (to be completed by Floodplain Manager or designee)			
Community:	Number:	Panel:	Suffix:
Location (Lat/Long):		Approximate Elevation:	
		Estimated BFE:	
Is the development in the floodway? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is the development in the floodplain? <input type="checkbox"/> Yes <input type="checkbox"/> No Zone: _____	
Notes:			

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Development Site/Property Information:

Please provide physical description of the site/property, along with pertinent ownership (surface and mineral rights) data as applicable. Attach appropriate maps from the WV Flood Tool showing location of proposed development. Use additional copies of this page if development spans multiple property boundaries. Designate each property by number (i.e. Property 1 of 1, Property 2 of 7, etc.)

Property Designation: 2 of 2

Site/Property Information:		
Legal Description: Arnold's Creek		
Physical Address/911 Address: 2937 Sam Cavins Road, West Union, WV, 26456 & 650 Sam Cavins Road, West Union, WV, 26456		
Decimal Latitude/Longitude: 39.319050		
DMS Latitude/Longitude: -80.823476		
District: 01	Map: 4	Parcel: 13.1
Land Book Description: N/A		
Deed Book Reference: N/A		
Tax Map Reference: N/A		
Existing Buildings/Use of Property: N/A		

Floodplain Location Data: (to be completed by Floodplain Manager or designee)			
Community:	Number:	Panel:	Suffix:
Location (Lat/Long):		Approximate Elevation:	
		Estimated BFE:	
Is the development in the floodway? Yes <input type="checkbox"/> No <input type="checkbox"/>		Is the development in the floodplain? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Zone: _____	
Notes:			

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Property Owner Data:

Please provide data on current site/property landowner(s), both surface and mineral rights (as applicable). Use additional copies of this page as needed. Designate each page in relation to each property listed above.

Property Designation: 1 of 2

Property Owner Data:		
Name of Primary Owner (PO): Eugene Chipps		
PO Address: 304 Tymber Creek Drive		
City: Clarksburg	State: WV	Zip: 26301
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Surface Rights Owner Data:		
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Mineral Rights Owner Data: (As Applicable)		
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Property Owner Data:

Please provide data on current site/property landowner(s), both surface and mineral rights (as applicable). Use additional copies of this page as needed. Designate each page in relation to each property listed above.

Property Designation: 2 of 2

Property Owner Data:		
Name of Primary Owner (PO): William J. & Karen L. Riffle		
PO Address: PO Box 875		
City: Oaks	State: PA	Zip: 19456
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Surface Rights Owner Data:		
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Mineral Rights Owner Data: (As Applicable)		
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Contractor Data:

Please provide all pertinent data for contractors and sub---contractors that may be participating in this project. Use additional copies of this page as needed. Designate each page in relation to each property listed above.

Property Designation: 1 of 1

Contractor/Sub--Contractor (C/SC) Information:		
C/SC Company Name: J Wood Contracting		
C/SC WV License Number: WV039424		
C/SC FEIN: N/A	C/SC DUNS: N/A	
Local C/SC Point of Contact (POC): N/A		
Local C/SC POC Title: N/A		
C/SC Mailing Address: PO Box 100		
City: Elkview	State: WV	Zip--Code: 20571
Local C/SC Office Phone: 304-965-5815		
Local C/SC POC Phone: 304-965-5815		
Local C/SC POC E--Mail: N/A		

Engineer Firm Information:		
Engineer Firm Name: Kleinfelder, Inc.		
Engineer WV License Number: 021122 (Samantha Pretzel)		
Engineer Firm FEIN: 94-1532513	Engineer Firm FEIN: 94-1532513	
Engineer Firm Primary Point of Contact (POC): Matt Albright		
Engineer Firm Primary POC Title: Project Manager		
Engineer Firm Mailing Address: 51 Dutilh Rd., Suite 240		
City: Cranberry Township	State: PA	Zip: 16066
Engineer Firm Office Phone: (724) 772-7072		
Engineer Firm Primary POC Phone: (609) 947-5296		
Engineer Firm Primary POC E- MALbright@kleinfelder.com		

Adjacent and/or Affected Landowners Data

Please provide data for all adjacent and/or affected surface owners (both up and down stream) whose property may be impacted by proposed development as demonstrated by a floodplain study or survey. Use additional copies of this page as needed.

Adjacent Property Owner Data: Upstream & Downstream		
Name of Primary Owner (PO): - Brian Michael James Parcel # 09-01-0004-0012-0000		
Physical Address: 510 Sam Cavins Road (Mailing Address)		
City: West Union	State: Wv	Zip: 26456
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO): John Kelley Parcel # 09-01-0004-0009-0000		
Physical Address: 602 Kelley James Lane (Mailing Address)		
City: West Union	State: WV	Zip: 26456
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Eugene Chipps Parcel # 09-01-0004-0014-0000		
Physical Address: 304 Tymber Creek Drive (Mailing Address)		
City: Clarksburg	State: WV	Zip: 26301
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): N/A		
Physical Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Site Plan

A Site Plan is an accurate and detailed map of the proposed development for this project. It shows the size, shape, location and special features of the project property, and the size and location of any development planned to the property, especially as that development will impact the floodplain and/or floodway. Site plans show what currently exists on the project property, and any changes or improvements you are proposing to make. **A certified and licensed engineering firm should complete site plans.**

A SITE PLAN MUST CONTAIN THE FOLLOWING INFORMATION:

1. Legal description of the parcel, north arrow and scale
2. All property lines and their dimensions
3. Names of adjacent roads, location of driveways
4. Location of sloughs, tributaries, streams, rivers, wetlands, ponds, and lakes, with setbacks indicated, and including FEMA floodplain data based on most updated FIRM.
5. Location, size, shape of all buildings, existing and proposed, with elevation of lowest floor indicated.
6. Location and dimensions of existing or proposed on-site sewage systems.
7. Location of all propane tanks, fuel tanks or other liquid storage tanks whether above ground or below ground level.
8. Location and dimensions of any proposed pipeline placement(s) into floodplain/floodway.
9. Location and dimensions of any roadway development into floodplain/floodway. *(Includes initial development access roads)*
10. Location and dimensions of any bridge and/or culvert development into floodplain/floodway.
11. Location and dimensions of any storage yard or facility into the floodplain/floodway.
12. Location of any existing utilities and/or proposed utility placement and/or displacement.
13. Location, dimensions and depth of any existing or proposed fill on site.
14. A survey showing the **existing ground elevations** of at least location on the building site. **ELEVATION NOTE:** All vertical datum will reference either NGVD 29 or NAVD 88. Assumed datum will not be acceptable unless the property is located in an area where vertical datum has not been published. For those areas where vertical datum has not been established, a site plan with contours, elevations using assumed datum, high water marks and existing water levels of sloughs, rivers, lakes or streams and proposed lowest floor elevation.

Applicant

Please read print name, sign and date below:

- I certify that I am authorized to submit this application for the primary project developer.
- I certify that the information included in this application is to the best of my knowledge true and complete.
- I certify that all required Federal, State, and local permits required by law and/or ordinance for the above described development of this project have will be properly attained, are current and valid, and must be presented prior to a Doddridge County Floodplain Permit being issued.
- I understand that if in the course of the development project additional permits become required that were not needed during the initial proposal, the primary developer must notify the Doddridge County Floodplain Manager within 48 hours of such need, and that a "Stop Work" order may be issued for all project work directly impacting the floodplain or floodway, until such time the required additional permits are acquired.
- I understand that once the floodplain permit is submitted, the application will be entered into official public record at the next regularly scheduled Doddridge County Commission meeting after the date of submittal.
- I understand that from the date of submittal of the fully completed permit application, the Doddridge County Floodplain Manager has ninety (90) days to make a determination to either grant or deny said permit application. During this approval period, the Doddridge County Floodplain Manager may, at his or her discretion, conduct a review and/or additional study of provided documentation by means of an independent engineering firm. All costs associated with said review and/or study must be reimbursed to the County before issuance of approved permit.
- I understand that during the approval period, the Doddridge County Floodplain Manager or designee may at his or her discretion conduct site visits and document conditions of proposed development pursuant to the permit application.
- I understand that once the Floodplain Permit is granted, the permit will be entered into official public record. Appeals to the permit may be made no later than twenty (20) days after said issuance. If a valid appeal is submitted, as determined by the Doddridge County Floodplain Manager, a "Stop Work" order will be issued for all project development directly involving the floodplain or floodway. A public hearing by the Doddridge County Appeals Board will be scheduled no less than ten (10) days after the next regularly scheduled Doddridge County Commission meeting.
- I understand that all decisions of the Doddridge County Appeals Board shall be final.
- **I understand issuance of a Floodplain Permit authorizes me to proceed with construction as proposed.**
- In signing this application, the primary developer hereby grants the Doddridge County Floodplain Manager or designee the right to enter onto the above---described location to inspect the development work proposed, in progress, and/or completed.
- I understand that if I do not follow exactly the site---plan submitted and approved by this permit that a "Stop Work" order may be issued by the Doddridge County Floodplain Manager and that I must stop all construction immediately until discrepancies of actual work vs. proposed work is resolved.

Applicant Signature: *Daniel Bulian* Date: 04/15/2020

Applicant Printed Name: Daniel J Bulian



ATTACHMENT B
NO RISE CERTIFICATION



This is to certify that I am a duly qualified registered professional engineer licensed to practice in the State of West Virginia.

It is further to certify that based on the information provided to me, and the attached technical data supports the fact that the proposed Crystal Lake Pipeline Station 111+00 Landslide (Site) will not impact the 100-year flood elevation of Arnold Creek at the published section in the Flood Insurance Study for Doddridge County (Community ID 540024) effective 10/04/2011 and will not impact the 100-year flood elevation at unpublished cross-sections in the vicinity of the proposed landslide mitigation areas.

The Site involves the removal of materials from the landslide area, placement of said material in a field on the opposite side of Arnold Creek via a temporary stream crossing, and installation of rip-rap material to stabilize the area and allow for effective drainage at the Site. The installation of rip-rap material within the floodplain is assumed to be a net-neutral activity, as the intent is to stabilize the area and restore the area to approximate pre-landslide topography. Therefore, this proposed area of repairs and the associated temporary stream crossing are assumed, based on the provided information, to not affect the 100-year flood elevation of Arnold Creek.

The addition of the material removed from the landslide repair area on the opposite side of Arnold Creek, is the focus of this Hydrologic Engineering Center-River Analysis System (HEC-RAS) analysis as it was shown to be within Flood Zone A. Much of the work will be performed in the floodplain, and the extent of the additional material to be stored is shown on the attached West Virginia Flood Tool Map and conceptual plans. The total watershed (drainage basin) for the Site was shown to be 23.201 square miles, which was calculated utilizing the National Streamflow Statistics application available online. A HEC-RAS analysis was completed, based on the drainage area above and associated flows, to verify that no influence will occur due to the proposed activities within the floodplain of Arnold Creek. The flows compared for the affected area are attached.

Attached are the following documents that support my findings:

West Virginia Flood Tool Map

Conceptual Plans

National Streamflow Statistics – Drainage Area

Comparison for Calculated Flows – HEC-RAS Excel Data



Date: 04/02/2020

Signature: Sathle Pretzel

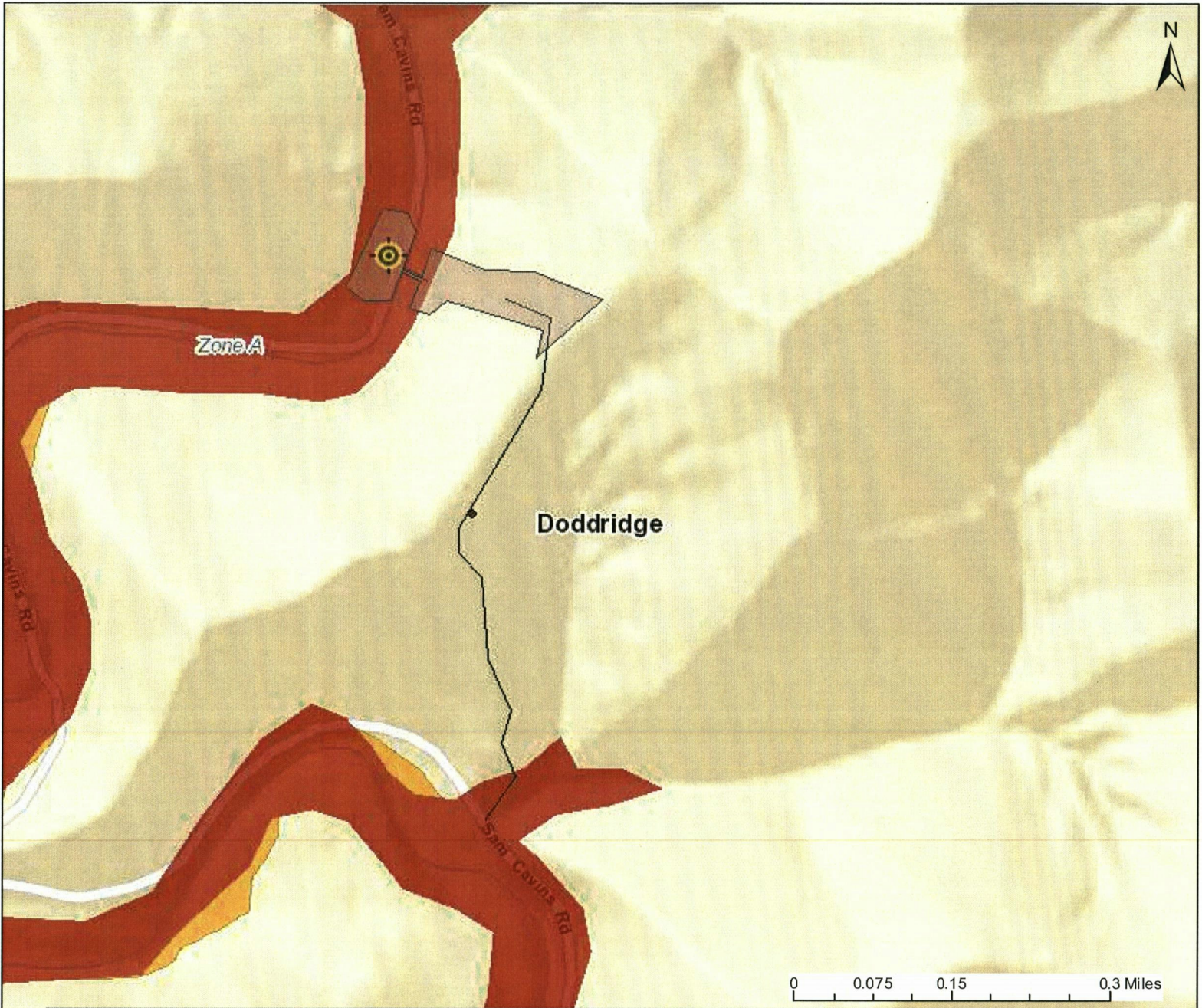
Title: Senior Professional






APPENDIX A
West Virginia Flood Tool Map

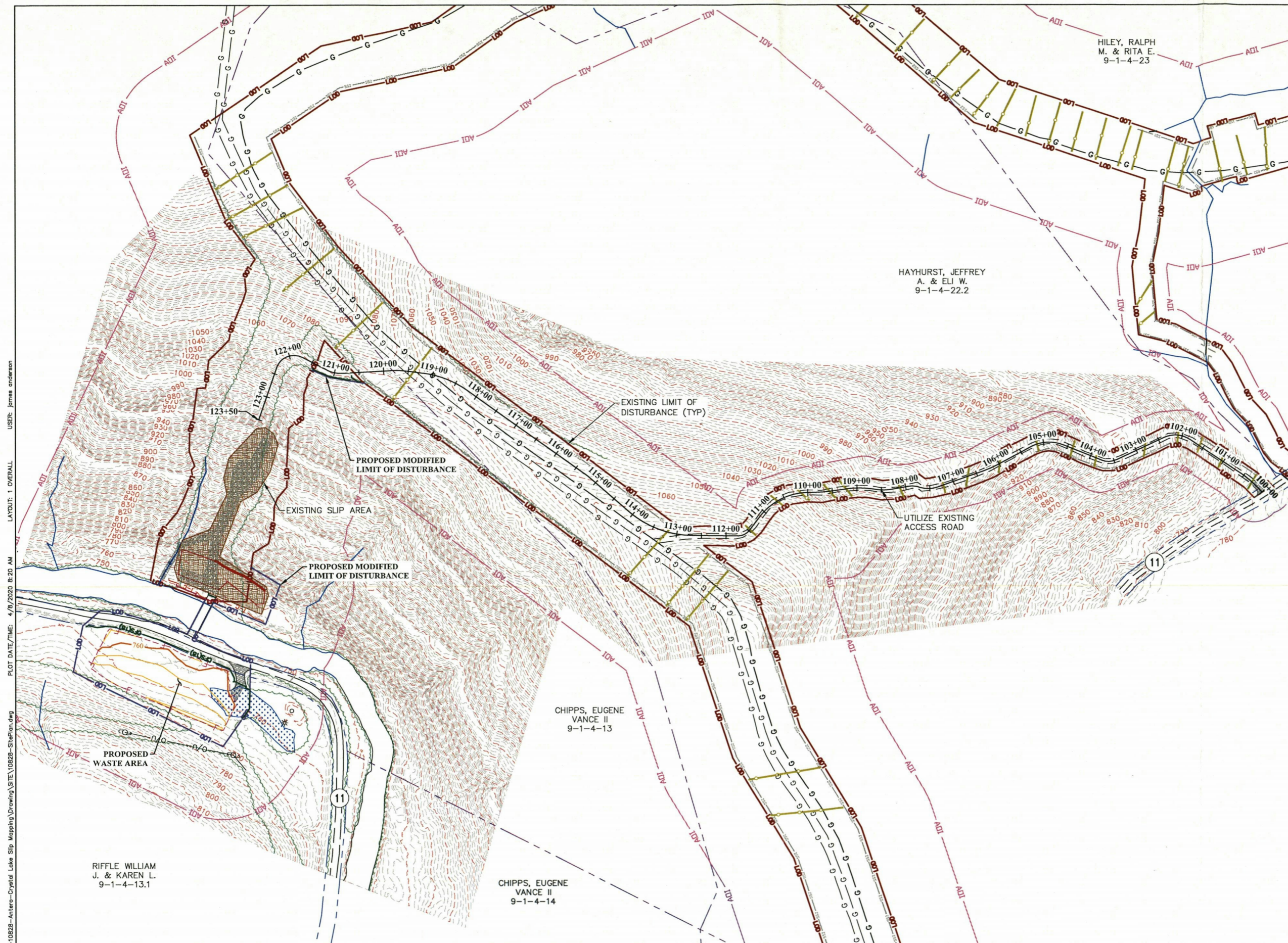
Flood Map-Crystal Lake PL Sta 111+00 Landslide



This map is not the official regulatory FIRM or DFIRM. Its purpose is to assist with determining potential flood risk for the selected location.

H I G H R I S K	Regulatory Floodway	 Flood Info Location <i>Map created on 4/1/2020</i> User Notes Flood Hazard Area Location is WITHIN the FEMA 100-year floodplain. Advisory Flood Heights available. Flood Zone A (Advisory Flood Heights available) Stream Arnold Creek Watershed (HUC8) Little Musringum-Middle Island (5030201) Flood Height About 759 ft (Source: AFH) Water Depth About 1.2 ft (Source: HEC-RAS) Elevation About 758 ft (Source: SAMS 2003) Community & ID Doddridge County (ID: 540024) FEMA Map & Date 54017C0105C; Effective Date: 10/4/2011 Location (lat, long) (39.319086, -80.823531) Parcel ID 09-01-0004-0013-0001 E-911 Address multiple addresses
	Zone AE	
	Zone A	
	Advisory	
Download the Full Legend for all flood tool symbols https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf		
Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (https://www.MapWV.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.		

APPENDIX B
Conceptual Plans



PLAN LEGEND

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	PROPOSED MODIFIED LIMIT OF DISTURBANCE
	EXISTING PROPERTY LINE
	EXISTING DOH RIGHT OF WAY
	EXISTING WETLAND
	EXISTING STREAM
	EXISTING BRIDGE
	EXISTING UNPAVED ROAD
	EXISTING OVERHEAD UTILITY
	EXISTING SILT SAVER BSRF-P1
	EXISTING SILT SAVER BSRF-P2
	EXISTING WATER BAR
	EXISTING SOUTH CANTON GAS LINE
	AS-BUILT WEST END CONNECTOR GAS LINE
	AS-BUILT 24-IN GAS LINE
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 5. MODIFIED LIMIT OF DISTURBANCE = 1.63 AC (ADDITIONAL)

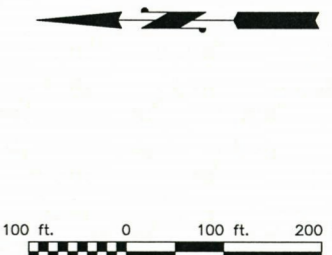
- ### CONSTRUCTION SEQUENCE
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 4. PLACE STONE OVER SLIP AREA AS SHOWN IN THE PLANS.
 5. SEED AND MULCH ALL DISTURBED AREAS.
 6. REMOVE TEMPORARY SEDIMENT AND EROSION CONTROLS AFTER 70% GROWTH HAS BEEN ESTABLISHED OVER THE CONTRIBUTING DRAINAGE AREAS.
 7. COMPLETE FINAL PROJECT CLEAN UP.

ESTIMATED QUANTITIES

DESCRIPTION	QUANTITY	UNITS
UNCLASSIFIED EXCAVATION	2,800	CY
TOPSOIL REMOVAL/RESPREAD	1,300	CY
LEVEL SPREADER	1	LS
R6-STONE	1,200	TN
ROCK CONSTRUCTION ENTRANCE	1	EA
18-IN COMPOST FILTER SOCK	580	LF
ACF SMARTFENCE 42-IN	205	LF
E&S CONTROL MAINTENANCE	1	LS
EROSION CONTROL MATTING	2,630	SY
SEED AND MULCH	1.90	AC

ENVIRONMENTAL IMPACTS SUMMARY

FEATURE ID	PERMANENT DISTURBANCE	UNITS
KLF-STREAM101 (EPH)	101	LF
KLF-WETLAND01 (PEM)	0.083	AC



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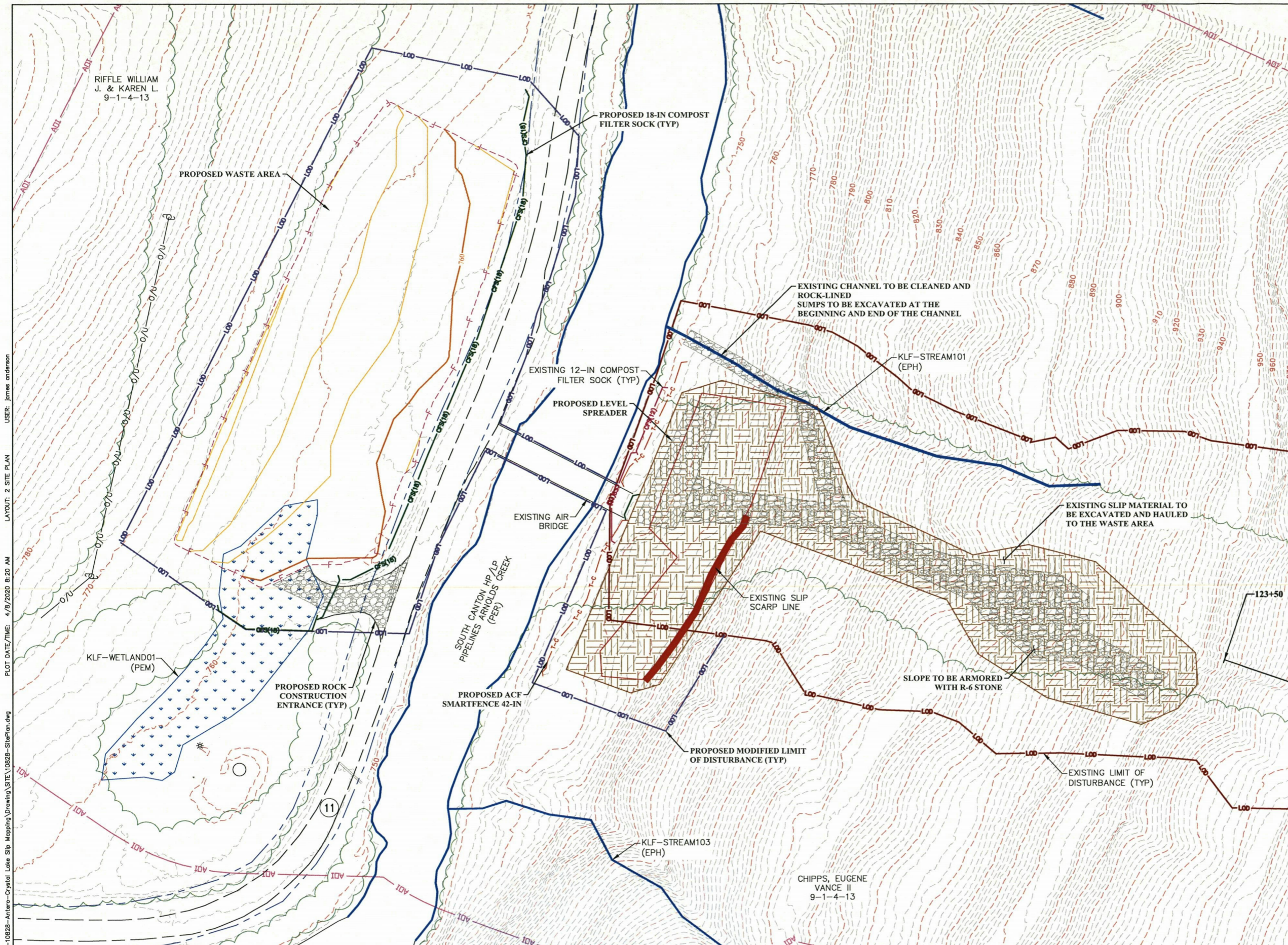
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 PHONE (304) 624-4108 • FAX (304) 624-7831

PHASE No.	
CONTRACT No.	
PROJECT No.	101-050-10828

ANTERO MIDSTREAM LLC
 CONCEPTUAL SLIP REPAIR PLANS FOR
 CRYSTAL LAKE PIPE LINE
 DODDRIDGE COUNTY, WEST VIRGINIA
 OVERALL

SHEET No.
1



PLAN LEGEND

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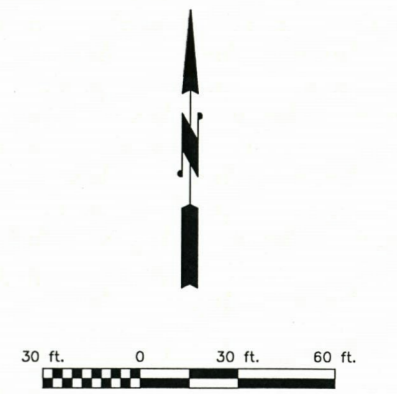
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FIELD BOOK No.:	

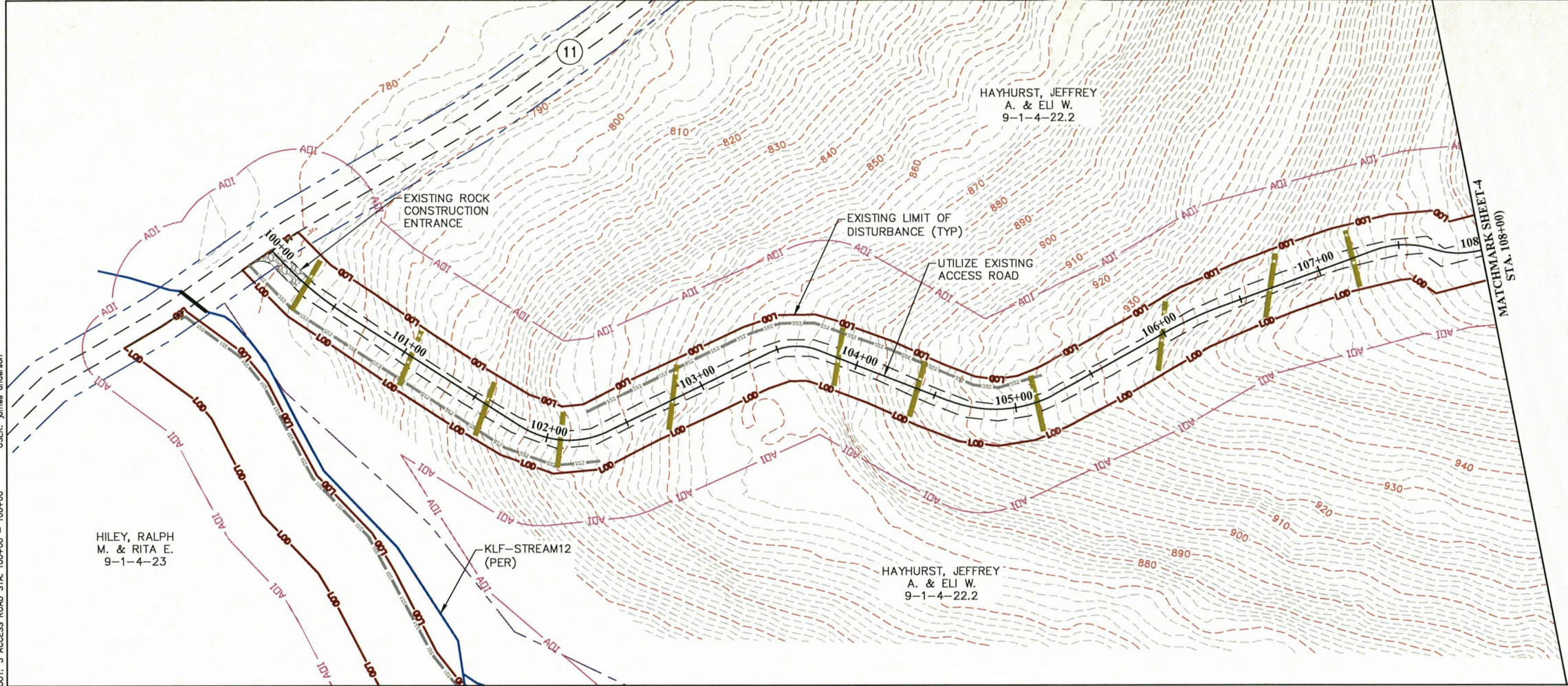
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101-050-10828

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 CONCEPTUAL SLIP REPAIR PLANS FOR
 CRYSTAL LAKE PIPE LINE
 DODDRIDGE COUNTY, WEST VIRGINIA
 SITE PLAN

SHEET No.
2

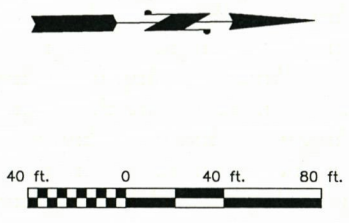
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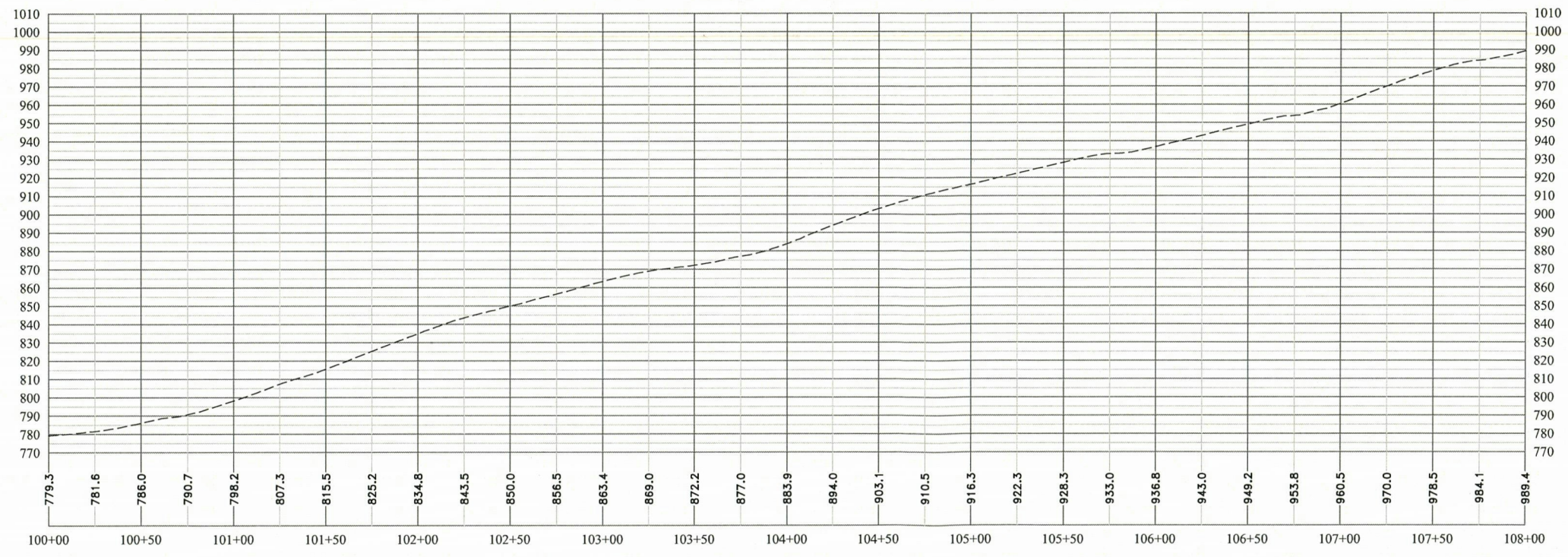
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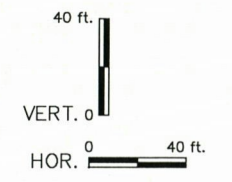


EXISTING-SLIP-ACCESS-ROAD PROFILE



PROFILE LEGEND

EXISTING GROUND



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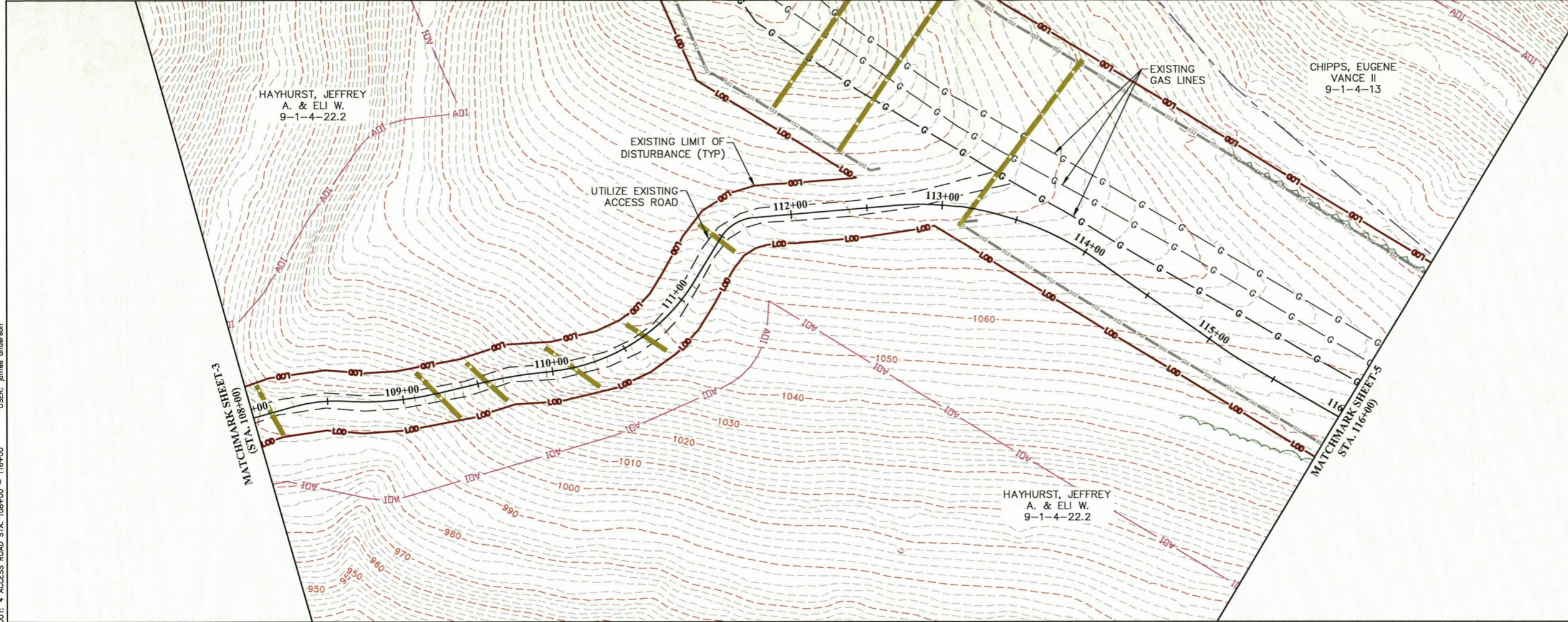


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 CRYSTAL LAKE PIPE LINE
 DODDRIDGE COUNTY, WEST VIRGINIA
 ACCESS ROAD STA. 100+00 - 108+00

SHEET No.
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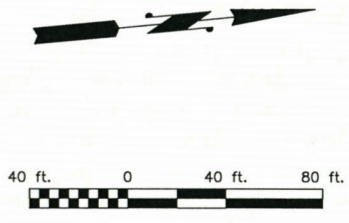
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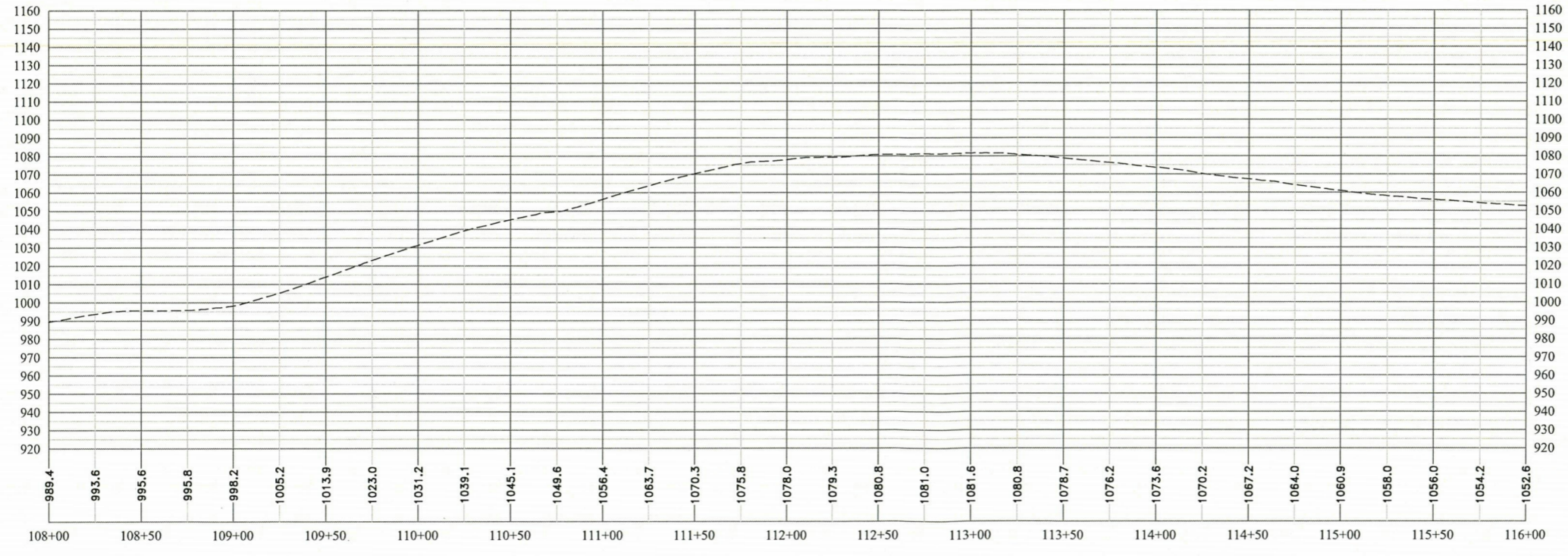
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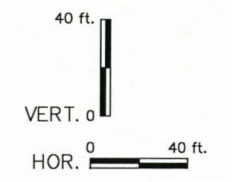


EXISTING-SLIP-ACCESS-ROAD PROFILE



PROFILE LEGEND

EXISTING GROUND



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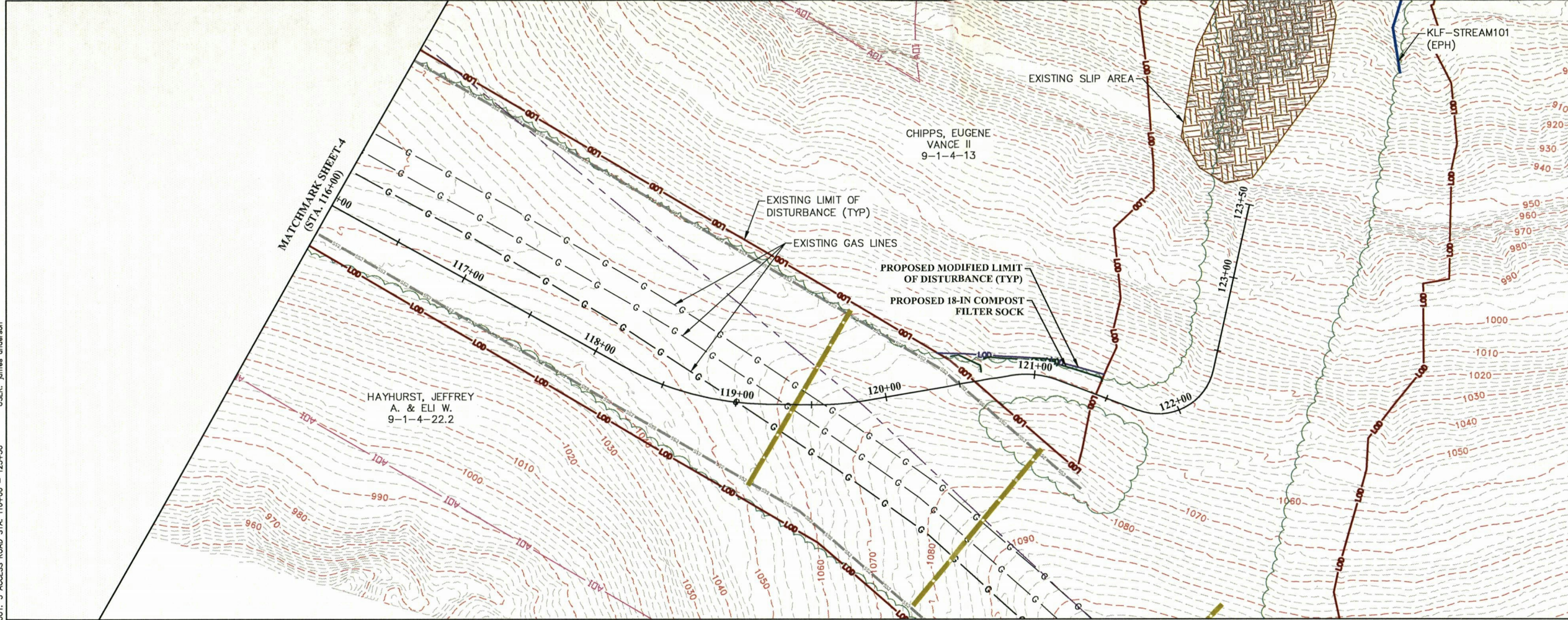


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 ACCESS ROAD STA. 108+00 - 116+00

SHEET No.
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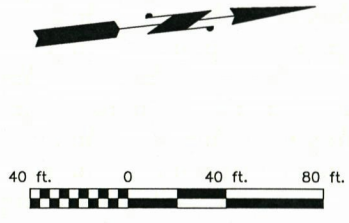
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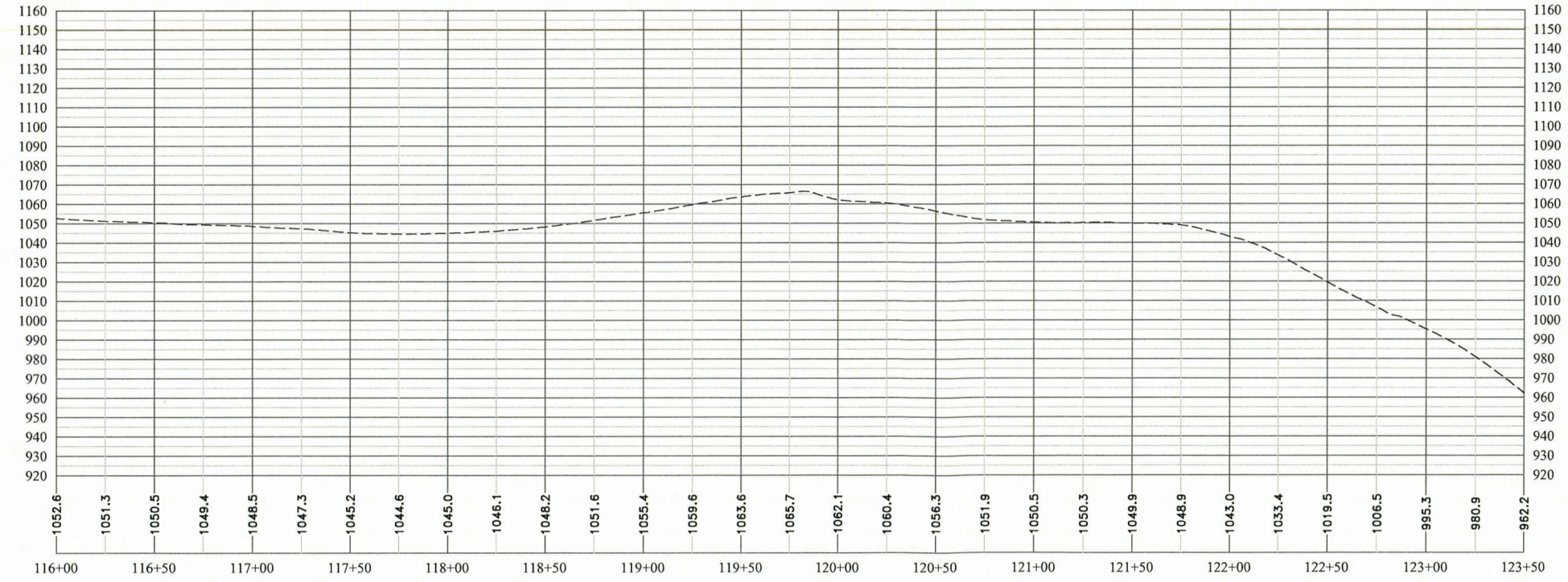
PLAN LEGEND

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 3. EXISTING E&S CONTROLS ALONG THE GAS LINE R/W AND EXISTING ACCESS ROAD SHALL BE MAINTAINED AND REPAIRED/REPLACED PER WVDEP GUIDELINES.
 4. CONTRACTOR SHALL REMOVE EXISTING SLIP MATERIAL FROM PREVIOUS SLIP AND PLACE IN WASTE AREA.

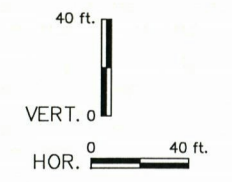


EXISTING-SLIP-ACCESS-ROAD PROFILE



PROFILE LEGEND

EXISTING GROUND



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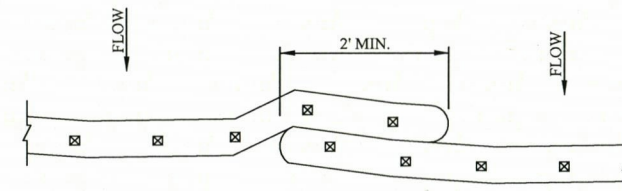
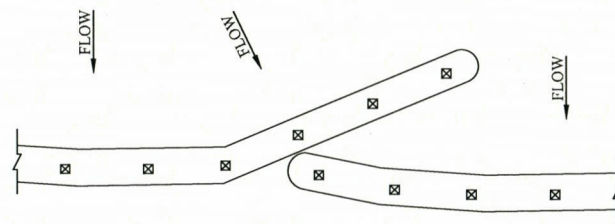
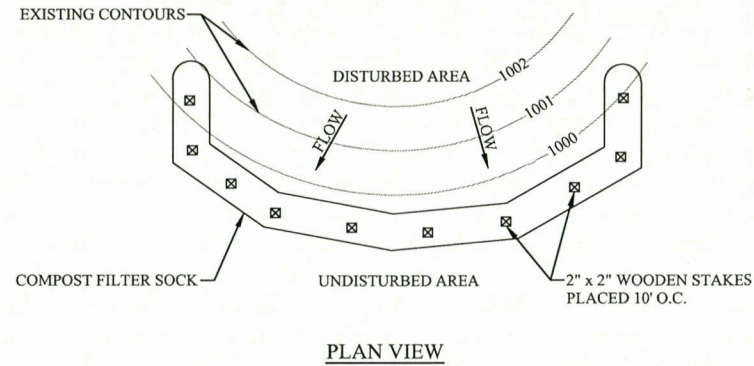
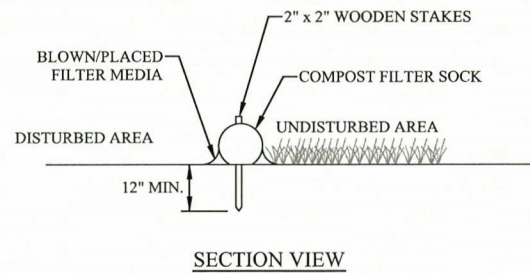
PHASE No.
 CONTRACT No.
 PROJECT No.
101-050-10828

ANTERO MIDSTREAM LLC
 CONCEPTUAL SLIP REPAIR PLANS FOR
 CRYSTAL LAKE PIPE LINE
 DODDRIDGE COUNTY, WEST VIRGINIA
 ACCESS ROAD STA. 116+00 - 123+50

SHEET No.
5

NOTES:

1. INSPECT COMPOST FILTER SOCK(S) AT LEAST ONCE A WEEK AND AFTER EACH RAIN EVENT GREATER THAN 0.5 INCHES.
2. REPAIR OR REPLACE SPLIT, TORN, RAVELING, OR SLUMPING COMPOST FILTER SOCKS.
3. REMOVE SEDIMENT ACCUMULATIONS WHEN EXCEEDING 1/2 THE HEIGHT BETWEEN THE TOP OF THE COMPOST FILTER SOCK AND THE GROUND SURFACE.
4. REPAIR ANY RILLS OR GULLIES PROMPTLY.
5. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.



END-TO-END SOCK JOINING

REPRODUCED FROM FILTREXX LOW IMPACT DESIGN MANUAL PAGE 324.

Slope Percent	Maximum Slope Length Above Sediment Control in Feet (Meters) *				
	8-IN (200-mm)	12-IN (300-mm)	18-IN (450-mm)	24-IN (600-mm)	32-IN (800-mm)
	Sediment Control 6.5-IN (160-mm) **	Sediment Control 9.5-IN (240-mm) **	Sediment Control 14.5-IN (360-mm) **	Sediment Control 19-IN (480-mm) **	Sediment Control 26-IN (650-mm) **
2 (or less)	600 (180)	750 (225)	1000 (300)	1300 (400)	1650 (500)
5	400 (120)	500 (150)	550 (165)	650 (200)	750 (225)
10	200 (60)	250 (75)	300 (90)	400 (120)	500 (150)
15	140 (40)	170 (50)	200 (60)	325 (100)	450 (140)
20	100 (30)	125 (38)	140 (42)	260 (80)	400 (120)
25	80 (24)	100 (30)	110 (33)	200 (60)	275 (85)
30	60 (18)	75 (23)	90 (27)	130 (40)	200 (60)
35	60 (18)	75 (23)	80 (24)	115 (35)	150 (45)
40	60 (18)	75 (23)	80 (24)	100 (30)	125 (38)
45	40 (12)	50 (15)	60 (18)	80 (24)	100 (30)
50	40 (12)	50 (15)	55 (17)	65 (20)	75 (23)

* Based on a failure point of 36-IN (0.9-m) super silt fence (wire reinforced) at 1000-FT (303-m) of slope, watershed width equivalent to receiving length of sediment control device, 1-IN/24-HR (25-mm/24-HR) rain event.
 ** Effective height of Sediment Control after installation and with constant head from runoff as determined by Ohio State University.

RESTRICTIONS

- (1) COMPOST FILTER SOCK WILL NOT BE PLACED IN ANY AREA OF CONCENTRATED FLOWS SUCH AS SWALES, DITCHES, CHANNELS, ETC.
- (2) COMPOST FILTER SOCK WILL NOT BE USED IN AREA WHERE ROCK OR ROCKY SOILS PREVENT THE FULL AND UNIFORM ANCHORING OF THE COMPOST FILTER SOCK.
- (3) COMPOST FILTER SOCK WILL NOT BE PLACED ACROSS THE ENTRANCES TO PIPES OR CULVERTS AND WILL NOT BE WRAPPED AROUND THE PRINCIPAL SPILLWAY STRUCTURES OF SEDIMENT TRAPS OR BASINS.

INSTALLATION

- (1) COMPOST FILTER SOCK WILL BE INSTALLED WITH LITTLE, IF ANY DISTURBANCE TO THE DOWNSLOPE SIDE OF THE COMPOST FILTER SOCK.

COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS MAXIMUM

COMPOST FILTER SOCK TO BE INSTALLED IN ACCORDANCE WITH FILTREXX MANUFACTURER SPECIFICATIONS, OR AN APPROVED EQUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8' UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY DIAMETER SOCK SHALL NOT EXCEED THAT SHOWN ON BELOW TABLE.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.

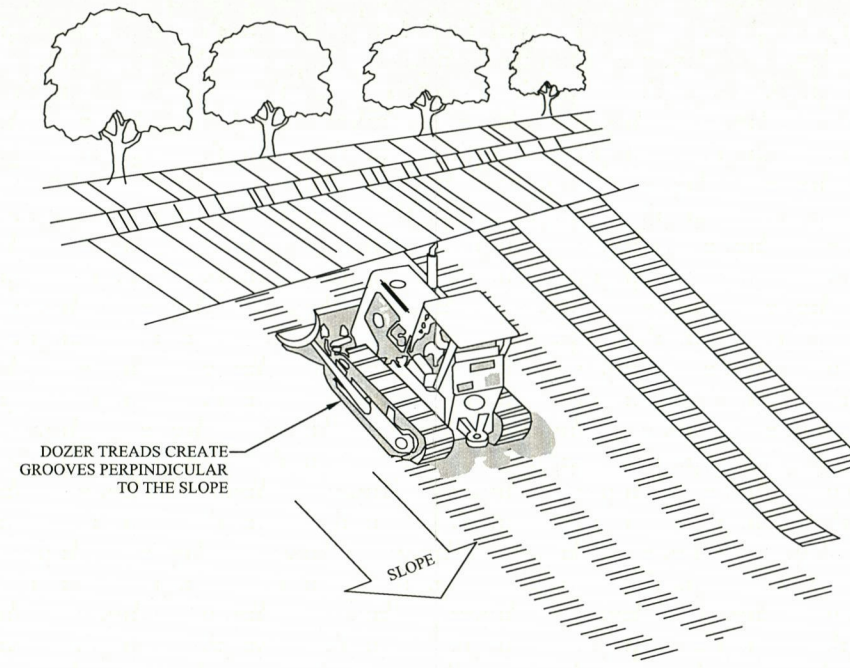
ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

SOCKS SHALL BE INSPECTED AS DESCRIBED IN THE MAINTENANCE AND INSPECTION NOTES IN THE EROSION AND SEDIMENT CONTROL NOTES OF THESE PLANS. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1YR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, ALL STAKES SHALL BE REMOVED. DEGRADABLE FILTER SOCK MAY BE LEFT IN PLACE AND VEGETATED - THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT PRIOR TO SEEDING. THE MESH FROM ALL POLYPROPYLENE FILTER SOCKS SHALL BE REMOVED - THE MULCH SHALL BE SPREAD AS A SOIL SUPPLEMENT PRIOR TO SEEDING.

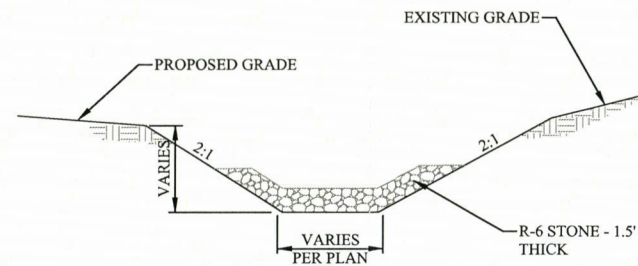
COMPOST FILTER SOCK
NOT TO SCALE



TRACKING
NOT TO SCALE

NOTES:

INSTALL ROCK LINED DITCH WHERE DITCHLINE SLOPE IS 8% OR STEEPER OR AS SHOWN ON THE PLANS.



ROCK LINED DITCH
NOT TO SCALE

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 USER: james anderson

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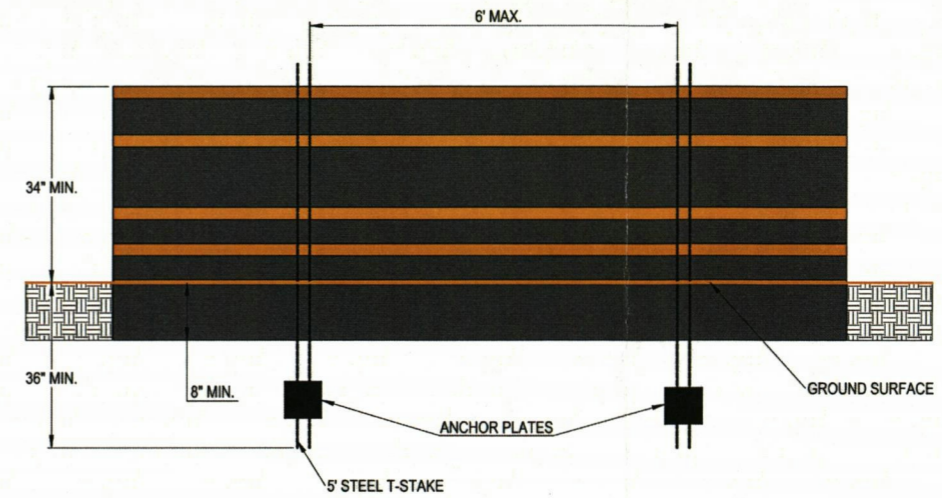
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CRYSTAL LAKE PIPE LINE
DODDRIDGE COUNTY, WEST VIRGINIA
DETAILS

SHEET No.

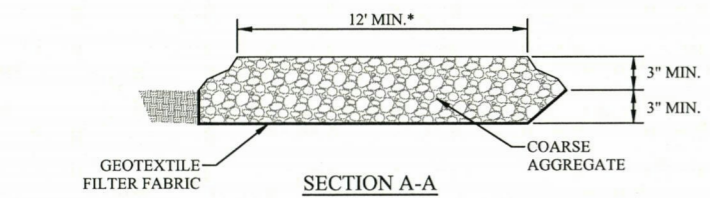
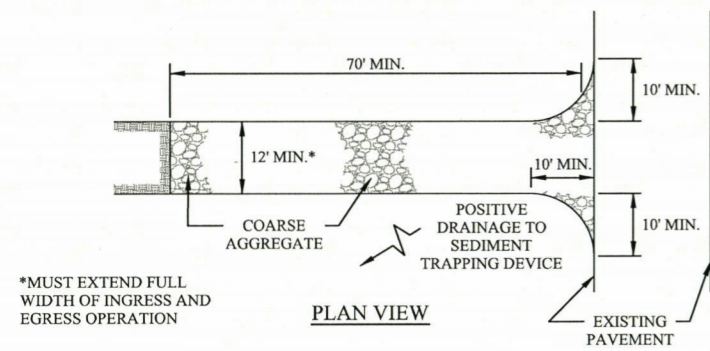
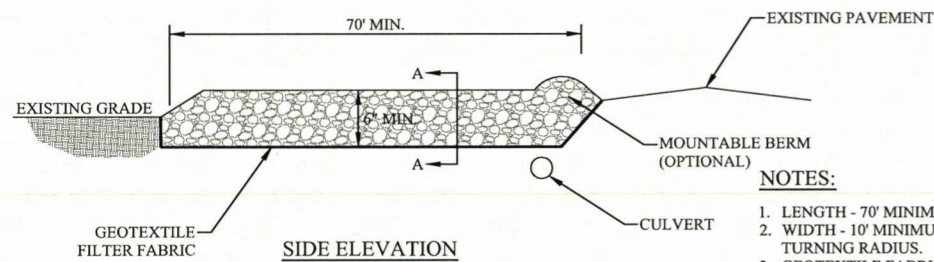
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CATEGORY	PRODUCT
TYPE A	1 - SILT SAVER SILT FENCE PRIORITY 2 (BELTED)
	2 - ACF ENVIRONMENTAL FILTRATION BARRIER (SMART FENCE FB) WITH WOOD POSTS
	3 - MEDIUM DUTY WOVEN BELTED WBSF2S-6 SILT FENCE 2 STAGE
TYPE B	1 - SILT SAVER SILT FENCE PRIORITY 1 (BELTED)
	2 - ACF ENVIRONMENTAL FILTRATION BARRIER SMART FENCE 36 (SD) WITH WOOD POSTS
	3 - ACF ENVIRONMENTAL FILTRATION BARRIER (SMART FENCE FB) ORANGE WITH WOOD POSTS
	4 - HEAVY DUTY WOVEN BELTED WBSF2S-4 SILT FENCE 2 STAGE
TYPE C	1 - ACF ENVIRONMENTAL SMARTFENCE 42
	2 - SUPER SILT FENCE

BMP CATEGORIES

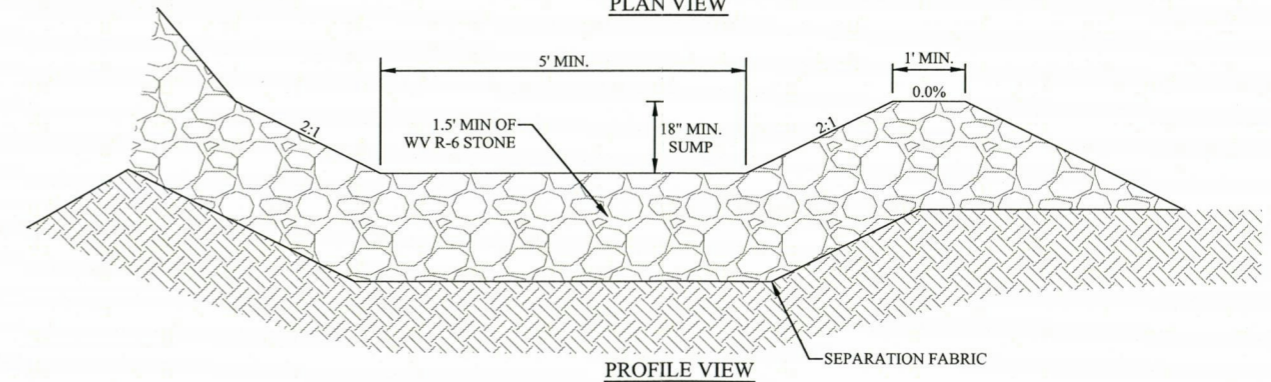
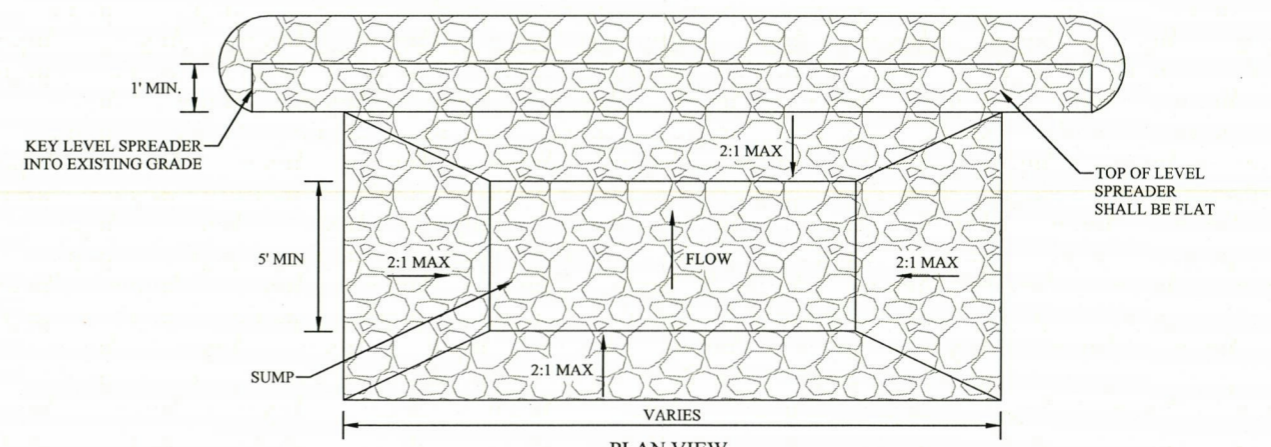


ACF ENVIRONMENTAL SMARTFENCE 42
NOT TO SCALE



- NOTES:**
1. LENGTH - 70' MINIMUM
 2. WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
 4. STONE - CRUSHER AGGREGATE (2" - 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
 5. SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE MAINTAINING POSITIVE DRAINAGE. PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE MUST BE SIZED ACCORDING TO THE DRAINAGE AND THE AMOUNT OF RUN OFF TO BE CONVEYED. A 6" DIAMETER MINIMUM WILL BE REQUIRED. WHEN THE STABILIZED CONSTRUCTION ENTRANCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY A PIPE WILL NOT BE NECESSARY.
 6. LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE VEHICLES LEAVING THE SITE MUST TRAVEL THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.
 7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8. WHEELS ON ALL VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO APPROVED SEDIMENT TRAPPING DEVICE. IF THE STREET IS WASHED PRECAUTIONS MUST BE TAKEN TO PREVENT MUDDY WATER FROM RUNNING INTO WATERWAYS OR STORM SEWERS.
 9. INSPECTION AND NEEDED MAINTENANCE SHOULD BE PROVIDED DAILY BUT AT A MINIMUM OF SEVEN DAYS EVERY RAIN OF 0.5 INCH OR GREATER.

ROCK CONSTRUCTION ENTRANCE
NOT TO SCALE



LEVEL SPREADER
NOT TO SCALE

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FIELD BOOK No.:	DATE:

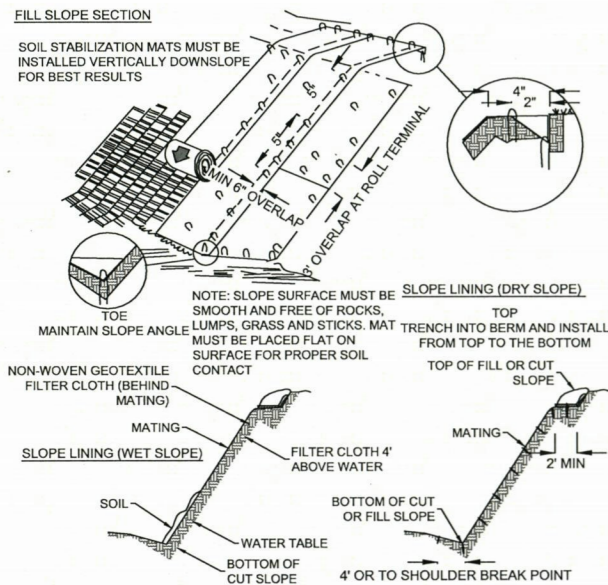


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CONTRACT No.	
PROJECT No.	101-050-10828

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CONCEPTUAL SLIP REPAIR PLANS FOR
CRYSTAL LAKE PIPE LINE
DODDRIDGE COUNTY, WEST VIRGINIA
DETAILS

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D2

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 USER: jones anderson
 LAYOUT: D3 DETAILS
 PLOT DATE/TIME: 4/8/2020 8:21 AM



ROLLED EROSION CONTROL PRODUCTS
NOT TO SCALE

Temporary Stabilization Seeding		
March 15 – September 15	Annual Rye	250 – 350 lbs per acre
September 15 – March 15	Annual Winter Wheat	100 – 125 lbs per acre

TEMPORARY SEEDING CHART
NOT TO SCALE

Antero Midstream Default Pasture Mix (200 - 225 LBS per Acre)	
Named Variety of Forage Perennial Ryegrass	20%
Named Variety of Forage Tall Fescue (not Fawn)	20%
Climax Timothy	15%
Orchardgrass	10%
Birdsfoot Trefoil	10%
Medium Red Clover	5%
Ladino Clover	5%
Kentucky Bluegrass VNS	5%
Alsike Clover	5%
Alfalfa	5%
* All seed mixes require double inoculation	
Antero Midstream Default Wildlife Mix (150 - 175 LBS per Acre)	
Medium Red Clover	20%
Buckwheat	10%
Oats (Spring & Summer) or Wheat (Fall & Winter)	10%
Ladino White Clover	20%
Birdsfoot Trefoil	10%
Alfalfa	10%
Named Variety of Forage Perennial Ryegrass	10%
Annual Ryegrass	10%
* All seed mixes require double inoculation	
Antero Midstream General Contractor Mix (200 - 250 LBS per Acre)	
Named Variety of Forage Tall Fescue (not Fawn)	50%
Named Variety of Forage Perennial Ryegrass	20%
Annual Ryegrass	15%
Ladino Clover	5%
Alsike Clover	5%
Birdsfoot Trefoil	5%
* All seed mixes require double inoculation	

PERMANENT SEEDING CHART
NOT TO SCALE

Alternative (Fescue-Free) Antero Midstream Default Pasture Mix (200 - 225 LBS per Acre)	
Named Variety of Forage Perennial Ryegrass	30%
Climax Timothy	20%
Orchardgrass	15%
Birdsfoot Trefoil	10%
Medium Red Clover	5%
Ladino Clover	5%
Kentucky Bluegrass VNS	5%
Alsike Clover	5%
Alfalfa	5%
* All seed mixes require double inoculation	
Alternative (Fescue-Free) Antero Midstream Default Wildlife Mix (200 - 250 LBS per Acre)	
Named Variety of Forage Perennial Ryegrass	40%
Annual Ryegrass	15%
Climax Timothy	20%
Orchardgrass	10%
Ladino Clover	5%
Alsike Clover	5%
Birdsfoot Trefoil	5%
* All seed mixes require double inoculation	

PERMANENT SEEDING CHART (CONT.)
NOT TO SCALE



NOTES:

A BONDED FIBER MATRIX (BFM) IS AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. BMFs MAKE USE OF A CROSS-LINKED HYDROCOLLOID TACKIFIER TO BOND THERMALLY PROCESSED WOOD FIBERS. APPLICATION RATES VARY ACCORDING TO SITE CONDITIONS. FOR SLOPES UP TO 3H:1V THE BFM SHOULD BE APPLIED AT A RATE OF 3,000 LB/ACRE. STEEPER SLOPES MAT NEED AS MUCH AS 4,000 LB/ACRE.

BMFs SHOULD ONLY BE USED WHEN NO RAIN IS FORECASTED FOR AT LEAST 48 HOURS FOLLOWING THE APPLICATION. THIS IS TO ALLOW THE TACKIFIER SUFFICIENT TIME TO CURE PROPERLY. ONCE PROPERLY APPLIED, A BFM IS TYPICALLY 90% EFFECTIVE IN PREVENTING ACCELERATED EROSION. BMFs SHOULD NOT BE APPLIED BETWEEN SEPTEMBER 30 AND APRIL 1.

A POLYMER STABILIZED FIBER MATRIX (PSFM) CAN ALSO BE AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. PSFMs MAKE USE OF A LINEAR SOIL STABILIZING TACKIFIER THAT WORKS DIRECTLY ON SOIL TO MAINTAIN SOIL STRUCTURE, MAINTAIN PORE SPACE CAPACITY AND FLOCCULATE DISLODGED SEDIMENT THAT WILL SIGNIFICANTLY REDUCE RUNOFF TURBIDITY. PROPERLY APPLIED, A PSFM MAY BE AS MUCH AS 99% EFFECTIVE.

NOTES:

UNLIKE ROLLED BLANKETS, THERE IS NO NEED TO SMOOTH THE SLOPE PRIOR TO APPLICATION OF HYDRAULICALLY APPLIED BLANKETS. IN FACT SOME ROUGHENING OF THE SURFACE, EITHER NATURAL OR MECHANICALLY INDUCED, IS PREFERABLE. HOWEVER, LARGE ROCKS, THOSE > 9 INCHES, AND EXISTING RILLS SHOULD BE REMOVED PRIOR TO APPLICATION. TRACKING OR GROOVING OF SLOPES SHOULD BE CONSIDERED TO SLOW WATER FLOWS DURING A STORM EVENT. SLOPE INTERRUPTION DEVICES SUCH AS STAIR STEP GRADING OR BENCHING SHOULD BE APPLIED PRIOR TO THE APPLICATION. MIXING AND APPLICATION RATES SHOULD FOLLOW MANUFACTURER'S RECOMMENDATIONS.

HYDRAULICALLY APPLIED BLANKETS ARE TYPICALLY APPLIED IN TWO STAGES. UNLESS SPECIFICALLY RECOMMENDED TO BE APPLIED IN ONE APPLICATION BY THE MANUFACTURER, THE SEED MIXTURE AND SOIL AMENDMENTS SHOULD BE APPLIED FIRST. IF THE SEED IS APPLIED AT THE SAME TIME AS THE HYDRAULICALLY APPLIED BLANKET, THE BONDED FIBERS MAY KEEP THE SEED FROM MAKING SUFFICIENT CONTACT WITH THE SOIL TO GERMINATE. AFTER THE SEED MIXTURE IS APPLIED, THE BFM, FGM, OR PSFM SHOULD BE SPRAYED OVER THE AREA AT THE REQUIRED APPLICATION RATE. (SEE ABOVE TABLES)

Typical Polymer Stabilized Fiber Matrix Application Rates							
Maximum Rainfall of ≤ 20"							
SLOPE	6:1	5:1	4:1	3:1	2:1	1.5:1	1:1
Soil Stabilizer (gals/acre)	4	5	6	7	8	9	10
Fiber (lb/acre)	1,500	1,500	1,500	1,800	2,000	2,500	3,000

Maximum Rainfall of > 20" and for Site Winterization			
SLOPE	≤5:1	4:1	≥3:1
Soil Stabilizer (gals/acre)	6	8	10
Fiber (lb/acre)	2,000	2,500	3,000

BONDED FIBER MATRIX HYDROMULCH
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DETAILS

SHEET No.

D3



APPENDIX C
National Streamflow Statistics – Drainage Area

Legend

Input Coordinate

examples: 38 15 30.1, -81 25 15.2 (lat, lon) 38.123456, -81.123456 (lat, lon) 500000, 4200000 (UTM as easting, northing)

39 19 04.48, -80 49 29.82

Lat/Lon WGS 1984

zoom to point

Go

7Q10 Query Results

Stream Name Arnold Creek Stream Code OMN-13-DA WV Code WVOMI-40 Drainage Area 23.201 sq mi

Exceptions and Warnings

Regulated Flow N Regulated Flow Info NA Known Losing Stream N Potential Karst Influence N Potential Non-Perennial N

Gage-based Estimates

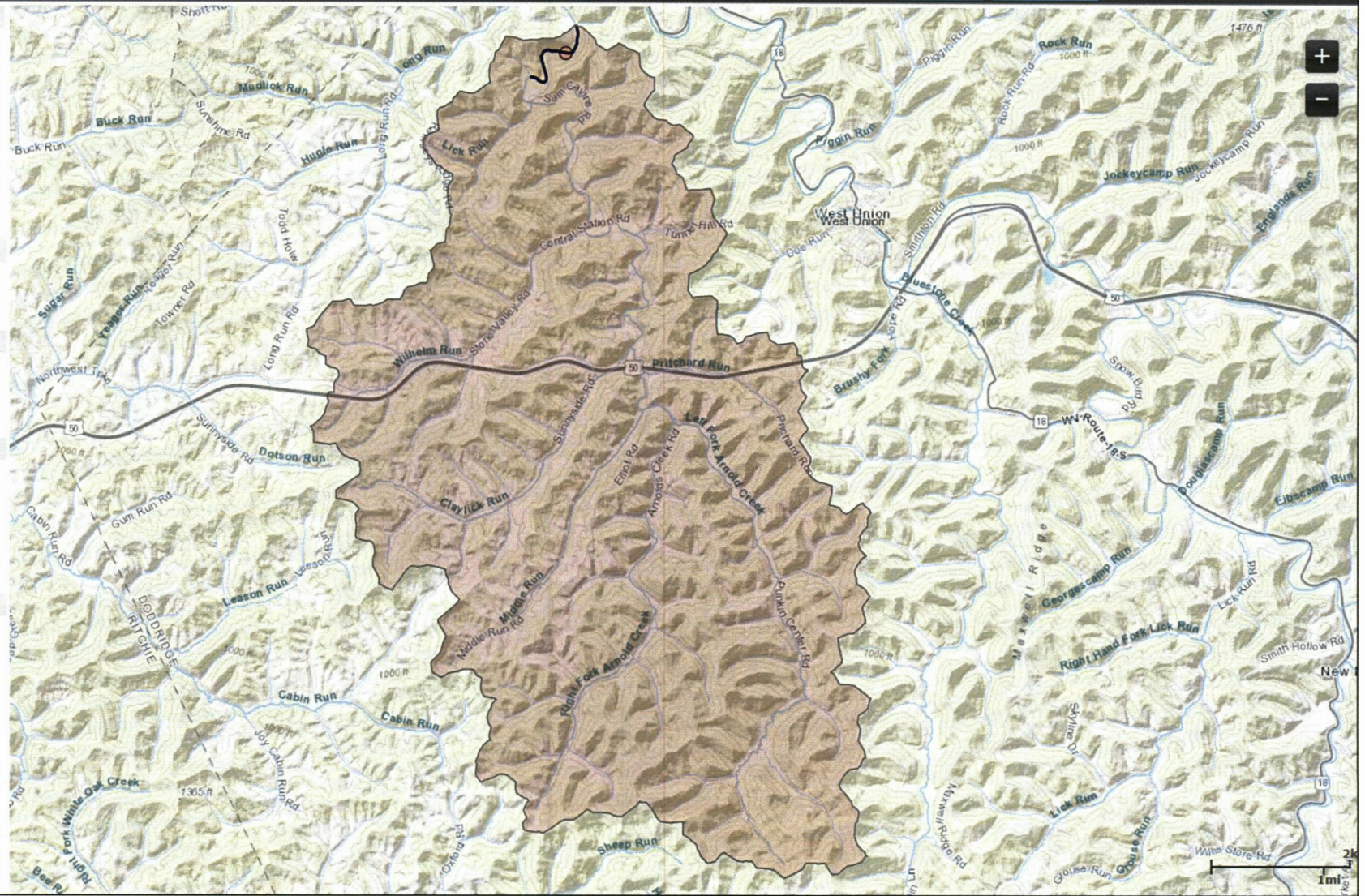
Method Upstream Gage Downstream Gage Annual 7Q10 cfs Spring 7Q10 cfs Summer 7Q10 cfs Fall 7Q10 cfs Winter 7Q10 cfs

Regional Estimates

Annual 7Q10 0.011 cfs Spring 7Q10 0.282 cfs Summer 7Q10 0.012 cfs Fall 7Q10 0.060 cfs Winter 7Q10 1.996 cfs Spring D50 10.384 cfs Summer D50 1.069 cfs Fall D50 4.511 cfs Winter D50 26.703 cfs D75 1.550 cfs Harmonic Mean 0.560 cfs

Guidance: this stream is not proximate to a stream gage. Use the regional estimate.

low calculation methods



National Streamflow Statistics (NSS)

File Graph Help

Analysis Type: Peak Probability Other

State: Site Name:

Rural

Rural 1

Rural 1
 Basin Drainage Area: 23.2 square miles
 1 Region
 Region: Peak_Flow_Western_Plateaus_Region_2010_5033
 Drainage_Area = 23.2 square miles
 Crippen & Bue Region 4

Statistic	Value, ft3/s	Standard Error, %	Equivalent Years
PK1_5	1010	34	2.8
PK2	1280	32	2.8
PK5	2060	30	4.4
PK10	2630	30	5.9
PK25	3400	30	7.9
PK50	4020	31	9.1
PK100	4640	33	10
PK200	5290	34	11
PK500	6190	36	11

maximum: 39300 (for C&B region 4)

Urban

No Scenarios Available



APPENDIX D
Comparison for Calculated Flows - HEC-RAS
Excel Data

Reach	River Sta	Profile	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Vel Chnl (ft/s)	Top Width (ft)
Arnold Creek	1223.61	PF 5	Arnold Creek Exist	4640.00	745.99	756.56	6.26	139.27
Arnold Creek	1223.61	PF 5	ArnoldCreekProp	4640.00	745.99	756.56	6.26	139.27
Arnold Creek	1173.54	PF 5	Arnold Creek Exist	4640.00	745.89	756.56	5.39	148.86
Arnold Creek	1173.54	PF 5	ArnoldCreekProp	4640.00	745.89	756.56	5.39	148.86
Arnold Creek	1123.72	PF 5	Arnold Creek Exist	4640.00	745.82	756.48	5.22	160.26
Arnold Creek	1123.72	PF 5	ArnoldCreekProp	4640.00	745.82	756.48	5.22	160.26
Arnold Creek	1073.28	PF 5	Arnold Creek Exist	4640.00	745.69	756.34	6.19	138.92
Arnold Creek	1073.28	PF 5	ArnoldCreekProp	4640.00	745.69	756.34	6.19	138.92
Arnold Creek	1022.61	PF 5	Arnold Creek Exist	4640.00	745.59	756.31	5.81	152.31
Arnold Creek	1022.61	PF 5	ArnoldCreekProp	4640.00	745.59	756.31	5.81	152.31
Arnold Creek	995.47	PF 5	Arnold Creek Exist	4640.00	745.51	756.35	4.76	149.34
Arnold Creek	995.47	PF 5	ArnoldCreekProp	4640.00	745.51	756.35	4.76	149.34
Arnold Creek	971.41	PF 5	Arnold Creek Exist	4640.00	745.49	756.27	4.57	143.59
Arnold Creek	971.41	PF 5	ArnoldCreekProp	4640.00	745.49	756.27	4.57	143.59
Arnold Creek	919.3	PF 5	Arnold Creek Exist	4640.00	745.39	755.98	5.92	129.83
Arnold Creek	919.3	PF 5	ArnoldCreekProp	4640.00	745.39	755.98	5.92	129.83
Arnold Creek	867.42	PF 5	Arnold Creek Exist	4640.00	745.28	755.85	6.48	117.08
Arnold Creek	867.42	PF 5	ArnoldCreekProp	4640.00	745.28	755.85	6.48	117.08
Arnold Creek	815.09	PF 5	Arnold Creek Exist	4640.00	745.17	755.80	5.44	115.85
Arnold Creek	815.09	PF 5	ArnoldCreekProp	4640.00	745.17	755.80	5.44	115.85
Arnold Creek	790.51	PF 5	Arnold Creek Exist	4640.00	745.13	755.70	6.14	118.13
Arnold Creek	790.51	PF 5	ArnoldCreekProp	4640.00	745.13	755.70	6.14	118.13
Arnold Creek	764.06	PF 5	Arnold Creek Exist	4640.00	745.06	755.48	5.15	116.02
Arnold Creek	764.06	PF 5	ArnoldCreekProp	4640.00	745.06	755.48	5.15	116.02
Arnold Creek	723.39	PF 5	Arnold Creek Exist	4640.00	744.99	755.51	6.21	109.49
Arnold Creek	723.39	PF 5	ArnoldCreekProp	4640.00	744.99	755.51	6.21	109.49
Arnold Creek	688.37	PF 5	Arnold Creek Exist	4640.00	744.91	755.48	6.05	108.75
Arnold Creek	688.37	PF 5	ArnoldCreekProp	4640.00	744.91	755.48	6.05	108.75
Arnold Creek	649.2	PF 5	Arnold Creek Exist	4640.00	744.85	755.41	6.19	109.79
Arnold Creek	649.2	PF 5	ArnoldCreekProp	4640.00	744.85	755.41	6.19	109.79
Arnold Creek	602.94	PF 5	Arnold Creek Exist	4640.00	744.74	755.37	6.08	112.75
Arnold Creek	602.94	PF 5	ArnoldCreekProp	4640.00	744.74	755.37	6.08	112.75
Arnold Creek	562.22	PF 5	Arnold Creek Exist	4640.00	744.65	755.06	7.34	116.44
Arnold Creek	562.22	PF 5	ArnoldCreekProp	4640.00	744.65	755.06	7.34	116.44
Arnold Creek	512.71	PF 5	Arnold Creek Exist	4640.00	744.52	755.06	6.71	108.45
Arnold Creek	512.71	PF 5	ArnoldCreekProp	4640.00	744.52	755.06	6.71	108.45
Arnold Creek	496.54	PF 5	Arnold Creek Exist	4640.00	744.52	755.08	6.38	107.11
Arnold Creek	496.54	PF 5	ArnoldCreekProp	4640.00	744.52	755.08	6.38	107.11
Arnold Creek	457.4	PF 5	Arnold Creek Exist	4640.00	744.45	754.89	7.13	105.55
Arnold Creek	457.4	PF 5	ArnoldCreekProp	4640.00	744.45	754.89	7.13	105.55

HEC-RAS River: Arnold Creek Reach: Arnold Creek Profile: PF 5 (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Vel Chnl	Top Width
				(cfs)	(ft)	(ft)	(ft/s)	(ft)
Arnold Creek	364.28	PF 5	Arnold Creek Exist	4640.00	744.25	755.00	5.21	111.35
Arnold Creek	364.28	PF 5	ArnoldCreekProp	4640.00	744.25	755.00	5.21	111.35
Arnold Creek	295.94	PF 5	Arnold Creek Exist	4640.00	744.12	754.80	5.99	138.94
Arnold Creek	295.94	PF 5	ArnoldCreekProp	4640.00	744.12	754.80	5.99	138.94
Arnold Creek	247.89	PF 5	Arnold Creek Exist	4640.00	743.99	754.80	5.69	142.45
Arnold Creek	247.89	PF 5	ArnoldCreekProp	4640.00	743.99	754.80	5.69	142.45
Arnold Creek	191.1	PF 5	Arnold Creek Exist	4640.00	743.89	754.58	6.58	117.52
Arnold Creek	191.1	PF 5	ArnoldCreekProp	4640.00	743.89	754.58	6.58	117.52
Arnold Creek	155.38	PF 5	Arnold Creek Exist	4640.00	743.82	754.33	7.43	107.98
Arnold Creek	155.38	PF 5	ArnoldCreekProp	4640.00	743.82	754.33	7.43	107.98
Arnold Creek	131.7	PF 5	Arnold Creek Exist	4640.00	743.77	754.54	5.88	144.84
Arnold Creek	131.7	PF 5	ArnoldCreekProp	4640.00	743.77	754.54	5.88	144.84
Arnold Creek	66.76	PF 5	Arnold Creek Exist	4640.00	743.64	754.13	7.12	108.13
Arnold Creek	66.76	PF 5	ArnoldCreekProp	4640.00	743.64	754.13	7.12	108.13
Arnold Creek	0	PF 5	Arnold Creek Exist	4640.00	743.50	752.20	13.00	83.95
Arnold Creek	0	PF 5	ArnoldCreekProp	4640.00	743.50	752.20	13.00	83.95



ATTACHMENT C
PERMITTING & COORDINATION



Permitting & Coordination for Crystal Lake Pipeline Station 111+00 Landslide

Permitting Agency	Permit/Coordination Required	Submitted	Received (Anticipated)	Status
USACE ¹	Nationwide Permit # 12	04/15/2020	(05/30/2020)	Pending
WVDNR-OLS ²	Stream Activity Application	02/27/2020	(03/28/2020)	Pending
County Floodplain Manager	Doddridge County Floodplain Permit	04/15/2020	(05/15/2020)	Pending
WVDEP ³	Construction Stormwater General Permit	04/13/2020	(05/13/2020)	Pending

- 1 United States Army Corps of Engineers
- 2 West Virginia Division of Natural Resources Office of Land and Streams
- 3 West Virginia Department of Environmental Protection



George Eidel <doddridgecountyfpm@gmail.com>

OXF43 Temporary Water Line Project - Floodplain Permit Extension

6 messages

Jordan Wilcox <jwilcox@thethrashergroup.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Tue, Jun 1, 2021 at 6:38 AM

Good Morning George,

A floodplain development permit (**Permit #20-573**) was issued for the EQT Production Company – OXF43 Temporary Water Line Project on June 8, 2020. The activities in the floodplain included a temporary above-ground water line installation and temporary water withdrawals.

It is expected that water line operations will continue beyond the expiration date of the approved permit (June 8, 2021). Do we need to request an extension and how do you typically handle those requests?

If you have any questions, feel free to give me a call.

Thanks!

Jordan P. Wilcox
Environmental Project Manager II | The Thrasher Group, Inc.

office: 304-326-6395 | 800-273-6541

mobile: 304-918-8117
600 White Oaks Blvd | Bridgeport, WV 26330

www.thethrashergroup.com

90 Day
Extension
To END
Aug 11, 2021

George Eidel <doddridgecountyfpm@gmail.com>
To: Jordan Wilcox <jwilcox@thethrashergroup.com>

Tue, Jun 1, 2021 at 7:57 AM

Jordan,

Good morning, extensions are only good for 90 days. You can renew the permit (good for another year), just resend a new permit application (just resend the same one as before) with all of the other permits that were required. You will also need to pay the fee as well. If you have any other questions let me know.

George
[Quoted text hidden]

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George C. Eidel, CFM, OEM Director/Floodplain Manager

Doddridge County Office of Emergency Management
101 Church Street Suite 102

West Union, WV 26456-2095
Work Phone: 1-304-873-1343
Mobile Phone: 1-304-281-7407
Fax: 1-304-873-1840
doddridgecountyfpm@gmail.com

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Jordan Wilcox <jwilcox@thethrashergroup.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Tue, Jun 1, 2021 at 8:22 AM

Thanks George!

Would I need to request an extension first to allow for any review time of the re-issuance beyond June 8th so that we are still in compliance?

Thanks!

Jordan P. Wilcox
Environmental Project Manager II | The Thrasher Group, Inc.

office: 304-326-6395 | 800-273-6541

mobile: 304-918-8117
600 White Oaks Blvd | Bridgeport, WV 26330

www.thethrashergroup.com

From: George Eidel <doddridgecountyfpm@gmail.com>
Sent: Tuesday, June 1, 2021 7:58 AM
To: Jordan Wilcox <jwilcox@thethrashergroup.com>
Subject: Re: OXF43 Temporary Water Line Project - Floodplain Permit Extension

CAUTION: External E-mail

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Jordan Wilcox <jwilcox@thethrashergroup.com>

Tue, Jun 1, 2021 at 8:33 AM

No, the permit has already been approved so basically the new one just has to go through the process, unless you are changing anything from the original permit application. If changes are being made I will go through to ensure they meet the NFIP requirements and our ordinance before going through the process.

[Quoted text hidden]

Jordan Wilcox <jwilcox@thethrashergroup.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Mon, Jun 28, 2021 at 3:01 PM

Afternoon George,

To follow up on my voicemail from this afternoon, we would like to request an extension of permit #20-573. Construction is currently removing all installed temporary water line and associated structures and is expected to finish by the end of July.

Let me know if you need anything else or have any questions.

Thanks!

Jordan P. Wilcox

Environmental Project Manager II | The Thrasher Group, Inc.

office: 304-326-6395 | 800-273-6541

mobile: 304-918-8117
600 White Oaks Blvd | Bridgeport, WV 26330

www.thethrashergroup.com

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Jordan Wilcox <jwilcox@thethrashergroup.com>

Tue, Jun 29, 2021 at 7:53 PM

Jordan,

I will have an extension done for it, it will be good for 90 days.

Sent from my iPhone

On Jun 28, 2021, at 3:01 PM, Jordan Wilcox <jwilcox@thethrashergroup.com> wrote:

[Quoted text hidden]