

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 #: 16-414

Date Approved: April 1, 2016

Expires: April 1, 2017

Issued to: Antero Midstream LLC

POC: Rachel Grzybek

Company Address: 1615 Wynkoop Street, Denver, CO. 80202

Project Address: Cabin Run Rd. Doddridge County, WV

Firm: 54017C0200C (10/4/11)

Lat/Long: 39.242545 , -80.895094

Purpose of development: Buried 16" Water Line and 10" Low Pressure Gas Line

Issued by: George C. Eidel, Doddridge County FPM (or designee)

Date: April 1, 2016

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



We answer to you.

By:	CJF
Date:	2/15/2016
Checked by:	
Date:	

Antero - Dotson Holland Addendum

16" HDPE Pipeline Construction Cost Estimate - Construction within the 100-yr Floodplain in Doddridge County

RETTEW Project No. 095454000

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	ITEM TOTAL
	16" HDPE PIPE (COMPLETE-IN-PLACE)	LF	50	\$ 150.00	\$ 7,500.00
	FILTER SOCK, 12" DIAMETER	LF	200	\$ 8.00	\$ 1,600.00
	SITE RECLAMATION (SEEDING AND MULCHING)	AC	1	\$ 4,000.00	\$ 4,000.00
	SAFETY FENCE	LF	500	\$ 10.00	\$ 5,000.00
			10% Contingency		\$ 1,810.00
				Total:	\$ 19,910.00

Notes: Unit prices provided by Antero.



We answer to you.

3020 Columbia Avenue, Lancaster, PA 17603 • Phone: (800) 738-8395
E-mail: rettew@rettew.com • Web site: rettew.com

Engineers
Planners
Surveyors
Landscape
Architects
Environmental
Consultants

February 15, 2016

Mr. George Eidel
Floodplain Manager
Doddridge County Office of Emergency Services
118 East Court Street, Room 102
West Union, WV 26456

RE: Doddridge County Floodplain Development Permit Application
Dotson Pipeline—Dotson Holland Addendum
Doddridge and Ritchie Counties, West Virginia

Dear Mr. Eidel,

Doddridge County previously approved a Floodplain Development Permit Application for the Dotson Pipeline Project (**Attachment A**) located in Doddridge and Ritchie Counties, West Virginia. On behalf of our client, Antero Midstream LLC (Antero), RETTEW Associates, Inc. is submitting a Floodplain Development Permit for a related project located in the same project area as the Dotson Pipeline Project.

The Dotson Holland Addendum Pipeline project will include a 16-inch buried waterline proposed to be constructed within most of the previously cleared Dotson Pipeline ROW. The approximately 3.3-mile pipeline addendum route will begin at the Clearwater Treatment Facility (39.268850, -80.891276) and will follow the existing corridor to the approximate southern end of the original LOD where it would tie into the Primm West Pipeline (39.234175, -80.895326). Please refer to **Figures 1 and 2** in **Attachment B** for project mapping. The crossing location from the original Dotson Pipeline Project within the floodplain of Cabin Run will be used for the new waterline. Only existing access roads will be used for the Dotson Holland Addendum project. No above-ground structures will be constructed within the floodplain, therefore there will be no negative effects to the floodplain. A large portion of the Cabin Run floodplain within the project area is located in Ritchie County; a Floodplain Permit Application has already been submitted to Ritchie County's Floodplain Manager.

Pipeline installation methods will remain the same as they were for the Dotson Pipeline. All disturbance will be temporary, and there will be no change to the base flood elevation of Cabin Run. The Dotson Run floodplain will be avoided completely by the Dotson Holland Addendum project. The Floodplain Development Permit Application is included in **Attachment C**, the Property Owner Table is included in **Attachment D**, and the Site Plan is included in **Attachment E**. Please contact me at teby@rettew.com or (717) 394-3721 with any questions regarding the permit application.

Sincerely,

Tom Eby
Environmental Scientist

Enclosures

copy: Rachel Grzybek, Antero

I:\Projects\09545\095454000-Gas\NS\Floodplain Coordination\Doddridge County\Ltr-Dotson Holland Addendum Floodplain Application.docx



FILED

2016 FEB 24 AM 11:15

BETH A. ROGERS
COUNTY CLERK
DODDRIDGE COUNTY, WV



Antero Resources
535 White Oaks Blvd.
Bridgeport, WV 26330
Office 304.842.4100
Fax 304.842.4102

February 12, 2016

Doddridge County Commission
Attn: George Eidel, Doddridge County Floodplain Manager
118 East Court Street, Room 102
West Union, WV 26456

Mr. Eidel:

Antero Midstream, LLC would like to submit a Doddridge County Floodplain permit application for our Dotson Holland Addendum Pipeline. Our project is located in Doddridge County, Central District where the pipeline will begin at the Clearwater Treatment Facility at coordinates 39.268850 N, 80.891276 W and will continue to Ritchie County at coordinates 39.234175 N, 80.895326 W. Per the FIRM Map #54017C0200C, this location is in the floodplain.

Attached you will find the following:

- No-Rise Certificate (RETTEW)
- Original Dotson Pipeline Floodplain Permit (#14-200)
- Project Mapping
- Doddridge County Floodplain Permit Application
- Surface Property Owner Information
- Site Plan
- Bid Sheet

If you have any questions please feel free to contact me at (304) 842-4008.

Thank you in advance for your consideration.

Sincerely,

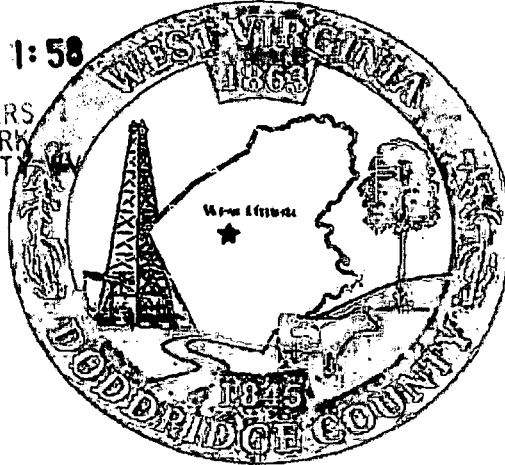
Rachel Grzybek
Environmental Specialist I
Antero Midstream, LLC

Enclosures

FILED

2016 FEB 24 PM 1:58

BETH A. ROGERS
COUNTY CLERK
DODDRIDGE COUNTY



Permit# _____

Project Name: _____

Permittees Name: _____

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. Development shall not be used or occupied until a Certificate of Compliance is issued.
5. The permit will expire if no work is commenced within six months of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal requirements.
7. Applicant hereby gives consent to the Floodplain Administrator/Manager or his/her representative to make inspections to verify compliance.
8. 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

Brian A. Mann

DATE

2-16-16

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Applicant Information:

Please provide all pertinent data.

Applicant Information:		
Responsible Company Name: Antero Midstream LLC		
Corporate Mailing Address: 1615 Wynkoop Street		
City: Denver	State: CO	Zip: 80202
Corporate Point of Contact (POC): Rachel Grzybek		
Corporate POC Title:		
Corporate POC Primary Phone: (304) 842-4008		
Corporate POC Primary Email: rgrzybek@anteroresources.com		
Corporate FEIN:	Corporate DUNS:	
Corporate Website:		
Local Mailing Address:		
City:	State:	Zip:
Local Project Manager (PM):		
Local PM Primary Phone:		
Local PM Secondary Phone:		
Local PM Primary Email:		
Person Filing Application:		
Applicant Title:		
Applicant Primary Phone:		
Applicant Secondary Phone:		
Applicant Primary Email:		

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:
The Dotson Holland Addendum Pipeline project will include one 16" buried
waterline proposed to be constructed within most of the previously cleared
Dotson Pipeline ROW. The pipeline addendum route will begin at the
Clearwater Treatment Facility (39.268850, -80.891276). The approximately
3.3-mile waterline will follow the existing corridor to the approximate
southern end of the original LOD where it would tie into the Primm West
Pipeline (39.234175, -80.895326). The crossing location within the 100-year
floodplain of Cabin Run from the original Dotson Pipeline Project will be used
for the new pipeline, and is approximately 65 feet in length. Only existing
access roads will be used for the Dotson Holland Addendum project. No
above-ground structures will be constructed within the floodplain, and no
permanent impacts to the floodplain are proposed. Construction is expected
to begin in March of 2016 and be completed in October of 2016.

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:

- | | | | |
|-------------------------------|---------------------------------|-----------------------------------|--|
| <input type="checkbox"/> Fill | <input type="checkbox"/> Mining | <input type="checkbox"/> Drilling | <input checked="" type="checkbox"/> 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 1

Site/Property Information:		
Legal Description:		
Physical Address/911 Address:		
Decimal Latitude/Longitude: 39.242545, -80.895094		
DMS Latitude/Longitude: N 39° 14' 33.1614", W 80° 53' 42.3384"		
District: Central Tax District	Map: FIRM 54017C0200C (10/4/11)	Parcel:
Land Book Description: CABIN RUN 111.1 AC ASSESSED SUR		
Deed Book Reference:		
Tax Map Reference:		
Existing Buildings/Use of Property: No buildings		

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?		Is the development in the floodplain?	
Yes No		Yes No 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: ____ of ____

Property Owner Data:		
Name of Primary Owner (PO): See attached Property Owner Table		
PO Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

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

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: ___ of ___

Contractor/Sub-Contractor (C/SC) Information:		
C/SC Company Name: TBD		
C/SC WV License Number:		
C/SC FEIN:	C/SC DUNS:	
Local C/SC Point of Contact (POC):		
Local C/SC POC Title:		
C/SC Mailing Address:		
City:	State:	Zip-Code:
Local C/SC Office Phone:		
Local C/SC POC Phone:		
Local C/SC POC E-Mail:		

Engineer Firm Information:		
Engineer Firm Name: RETTEW Associates, Inc.		
Engineer WV License Number: 19074		
Engineer Firm FEIN: 23-1712637	Engineer Firm DUNS:	
Engineer Firm Primary Point of Contact (POC): Eric Hershey		
Engineer Firm Primary POC Title: Senior Engineer		
Engineer Firm Mailing Address: 3020 Columbia Ave		
City: Lancaster	State: PA	Zip-Code: 17603
Engineer Firm Office Phone: (800) 738-8395		
Engineer Firm Primary POC Phone:		
Engineer Firm Primary POC E-Mail: ehershey@rettew.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		
Name of Primary Owner (PO): See attached Property Owner Table		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

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

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 been properly attained, are current and valid, and must be presented with this application before a Doddridge County Floodplain Permit may be 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 at the next scheduled Doddridge County Commission meeting after the date of issuance. 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. A Certificate of Compliance is required upon substantial completion of the project.
- 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 Wirt County Floodplain Manager and that I must stop all construction immediately until discrepancies of actual work vs. proposed work is resolved.

Applicant Signature: _____

Date: 2-16-16

Applicant Printed Name: _____

BRIAN GUARNERS

ATTACHMENT D

PROPERTY OWNER TABLE

Property Owner Table - Doddridge County Floodplain Permit (Cabin Run)

Antero Midstream LLC - Dotson Holland Addendum

Property Owner Name	Mailing Address	Floodplain Crossing	Parcel ID	Deed Book Reference	Land Book Description
HOST PROPERTY (INSIDE FLOODPLAIN)					
Morris, I L (Ike)	PO BOX 397 GLENVILLE WV 26351	Cabin Run	3-37-1	Book 255, Page 718	CABIN RUN 111.1 AC ASSESSED SUR
PROPERTY OWNERS ABUTTING HOST PROPERTIES (INSIDE FLOODPLAIN)					
Coastal Lumber Co	P.O. BOX 709 BUCKHANNON WV 26201 0709	Cabin Run	3-32-8	Book 226, Page 655	CABIN RUN 39.09 A(LOT #8) SUR CO RD 10
Church, Earvin	P.O. BOX 668 PINEVILLE WV 24874 0668	Cabin Run	3-32-9.1	Book 266, Page 547	CABIN RUN 2 AC SURF CO RD 10
Coastal Lumber Co	P.O. BOX 709 BUCKHANNON WV 26201 0709	Cabin Run	3-32-7	Book 226, Page 655	CABIN RUN 57.6 CO RD 10/2
Church, Earvin	P.O. BOX 668 PINEVILLE WV 24874 0668	Cabin Run	3-32-9	Book 266, Page 547	CABIN RUN 5.86 AC SUR CO RD 10
MacKay, Jack D & Peale Anita G	Jack D. Mackay Rt 1 Box 206-2, West Union, WV 26456-9727	Cabin Run	3-37-3.3	Book 280, Page 972	18.88 LYNN CAMP CO RD 10/4
	Anita G. Peale 105 Colechester Lane, Palm Coast, FL 32137-9062				
Morris, I L (Ike)	PO BOX 397 GLENVILLE WV 26351	Cabin Run	1-11-8	Book 230, Page 307	CABIN RUN 259.50 AC RT.19
Heartwood Forestland Fun	2911 EMERSON AVE SUITE A PARKERSBURG WV 26104	Cabin Run	1-11-6	Book 253, Page 671	CABIN RUN 73.92 AC OFF RT.19 OVER 3

ATTACHMENT E

SITE PLAN

ATTACHMENT A

ORIGINAL DOTSON PIPELINE FLOODPLAIN DEVELOPMENT PERMIT

Shayelyn Marshall

From: Lorena Slater <blslater.4774@yahoo.com>
Sent: Wednesday, May 21, 2014 10:58 AM
To: Shayelyn Marshall
Subject: APPROVED PERMIT #14-200 DOTSON P/L

Commercial/Industrial Floodplain Development Permit Doddridge County, WV Floodplain Management

This permit has been issued to ANTERO, and is for the approved commercial and/or industrial development project associated with this permit 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: #14-200

Date Approved:05/21/2014

Expires:05/21/2015

Issued to: ANTERO RESOURCES CORP

POC: SHAYE MARSHALL

303-357-6412 Company Address: 1615 WYNKOOP

ST

DENVER CO. 80202

Project Address: COUNTY RT. 19/TAYLOR DRAIN

Firm: 54017C0100C/54017C0200C

Lat/Long: 39.272881/-80.873298

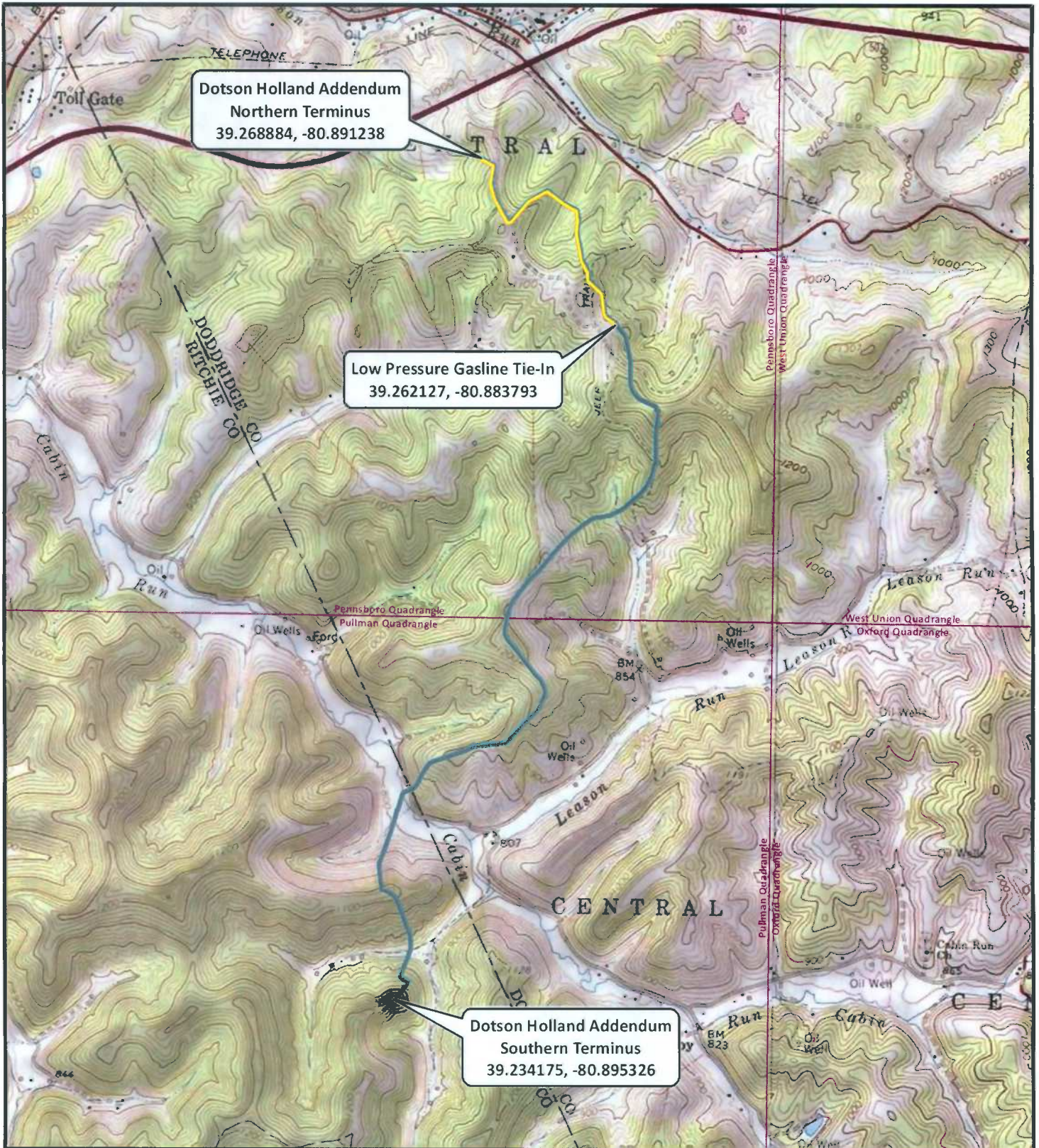
39.234034/-80.895810

Purpose of development:PIPELINE

Issued by: Edwin L. "Bo" Wriston, Doddridge County FPM (or designee)

Date:05/21/2014

ATTACHMENT B
PROJECT MAPPING



Dotson Holland Addendum
Northern Terminus
39.268884, -80.891238

Low Pressure Gasline Tie-In
39.262127, -80.883793

Dotson Holland Addendum
Southern Terminus
39.234175, -80.895326

- Proposed Gasline (0.83 Miles)
- Proposed Waterline (3.38 Miles)

Antero Midstream LLC
Dotson Holland Addendum

Figure 1 - Topographic Basemap
Project No. 095454000

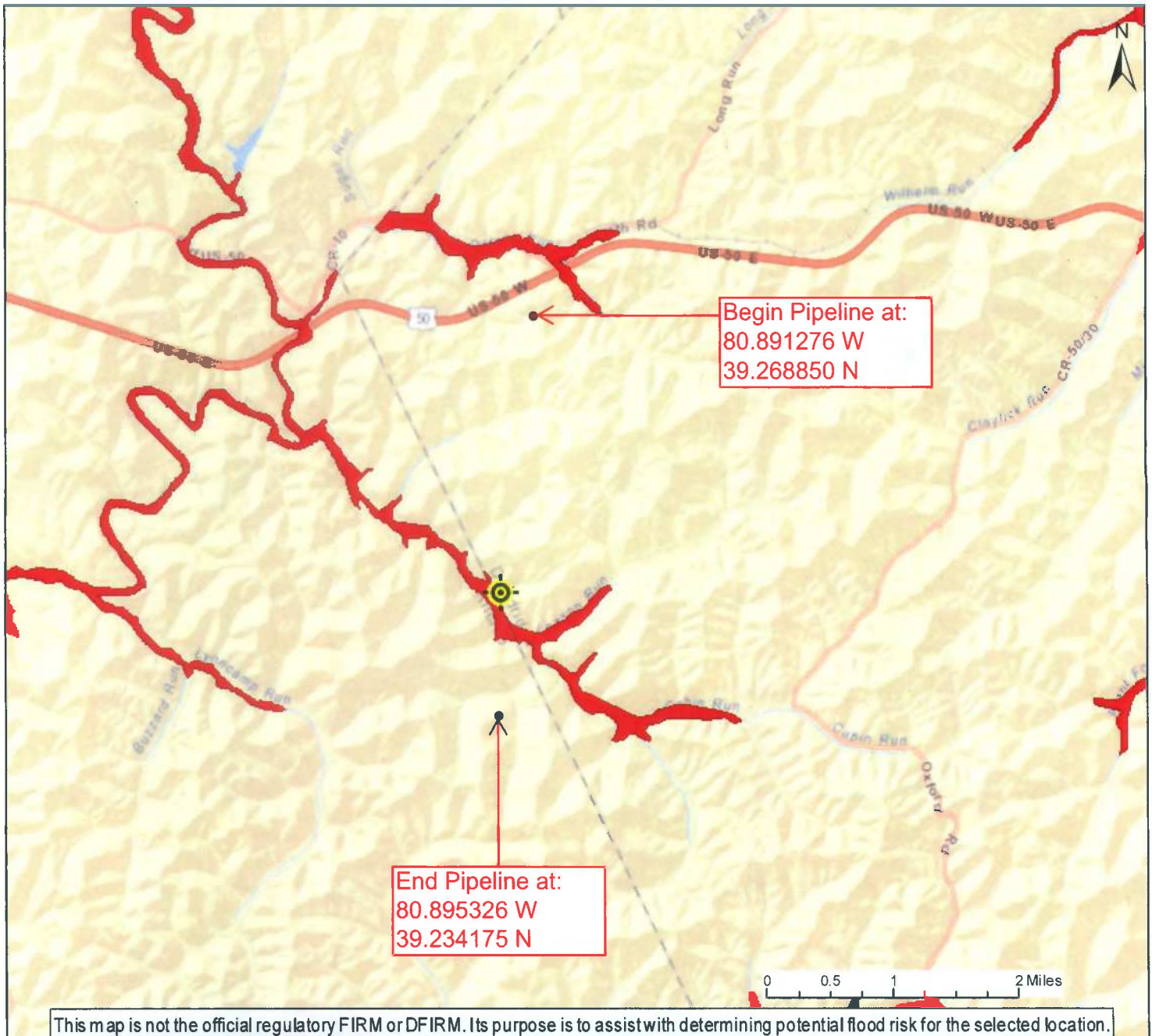


Central Tax District, Doddridge County and Clay Tax District, Ritchie County, WV
Pennsboro, Pullman, WV USGS 7.5' Topographic Quadrangles

1/6/2016

Service Layer Credits: Copyright: © 2013 National Geographic Society, i-cubed

WV Flood Map



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

User Notes:

- Flood Hazard Zone
- ⊙ Flood Point of Interest

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. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at www.msc.fema.gov.
WV Flood Tool (<http://www.MapWV.gov/flood>) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.

Map created on February 11, 2016

Flood Hazard Area:

Flood Hazard Area: Location is WITHIN the FEMA 100-year floodplain.

FEMA Issued Flood Map: 54017C0200C

Watershed (HUC8): Little Kanawha (5030203)

Elevation: About 801 ft

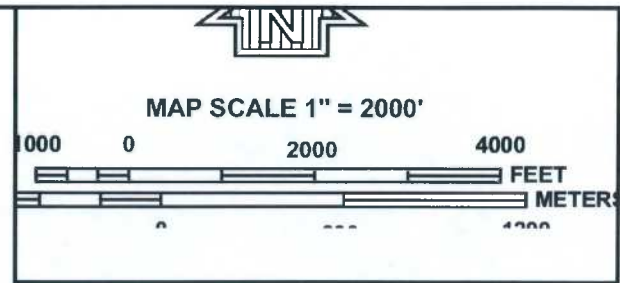
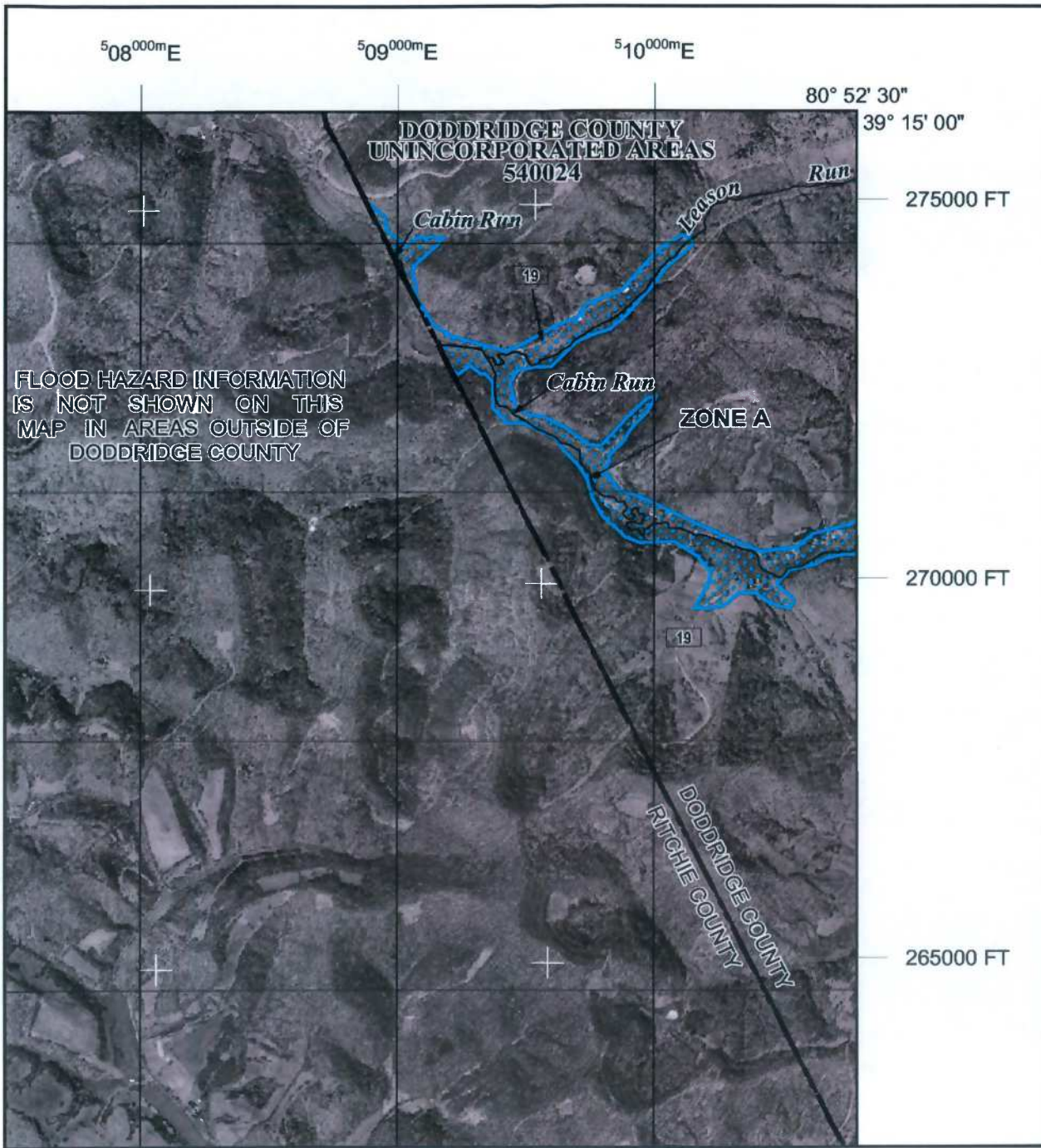
Location (long, lat): (80.895160 W, 39.244891 N)

Location (UTM 17N): (509047, 4343957)

Contacts: Doddridge

CRS Information: N/A

Parcel Number:



NIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0200C

FIRM
FLOOD INSURANCE RATE MAP
DODDRIDGE COUNTY,
WEST VIRGINIA
AND INCORPORATED AREAS

PANEL 200 OF 325
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0200	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



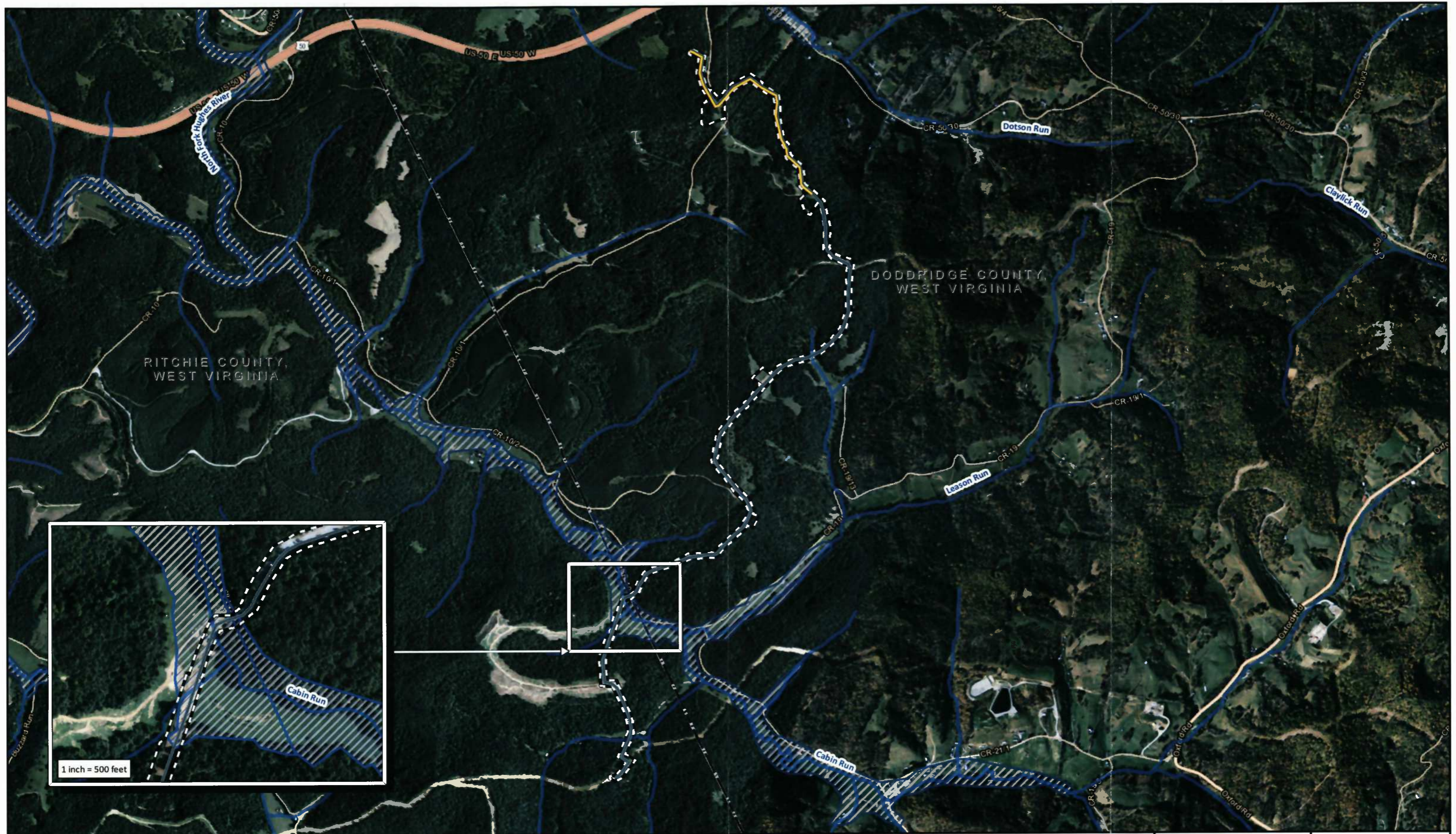
MAP NUMBER
54017C0200C
MAP REVISED
OCTOBER 4, 2011

Federal Emergency Management Agency



This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov




ATTACHMENT C

FLOODPLAIN DEVELOPMENT PERMIT APPLICATION


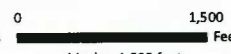




Antero Midstream LLC
Dotson Holland Addendum
FEMA Basemap
 Central Tax District, Doddridge County
 and Clay Tax District, Ritchie County, WV
 Project No. 095454000

-  Proposed Gasline (0.83 Miles)
-  Proposed Waterline (3.38 Miles)
-  NHD Stream

-  Limits of Disturbance (48.30 Acres)
-  FEMA Floodway
-  FEMA 100-yr Floodplain

 Municipal Boundary



 1 inch = 1,500 feet
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar
 Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping,
 Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



 Sheet 1 of 1
 1/6/2016 Drawn By: BDE

EROSION & SEDIMENT CONTROL PLANS

DOTSON HOLLAND ADDENDUM
WATERLINE & GASLINE

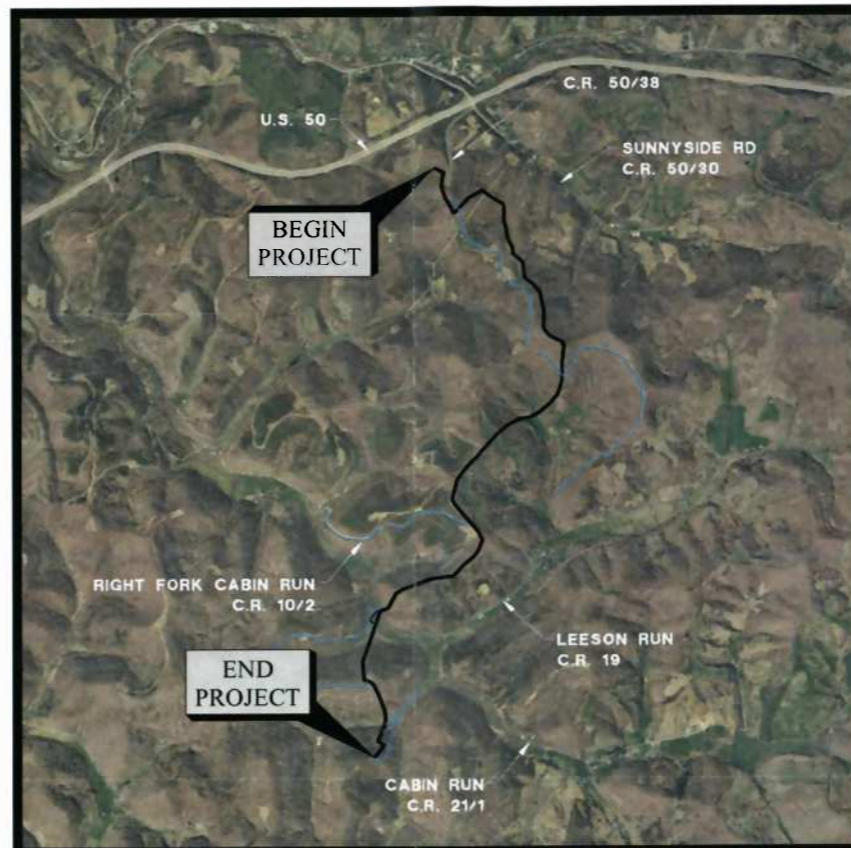
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA



AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848. DESIGN PHASE TICKET # 1528755583, DATE: 10/15/2015 RITCHIE COUNTY. DESIGN PHASE TICKET # 1528755587, DATE: 10/15/2015 DODDRIDGE COUNTY.

ESTIMATED QUANTIFIED MATERIAL LIST

1.	WATERBARS (EA)	102
2.	TRENCH BREAKERS (EA)	69
3.	ROCK CONSTRUCTION ENTRANCE (EA)	5
4.	EROSION CONTROL MATTING (SY)	130,166
5.	SILT SAVER PRIORITY 1 (LF)	6,961
6.	SILT SAVER PRIORITY 2 (LF)	10,778
7.	ROCK FILTER (EA)	5
8.	ORANGE CONSTRUCTION FENCE (LF)	120



VICINITY MAP



PROJECT SUMMARY

LINE NAME	HORIZONTAL LENGTH	SLOPE LENGTH
WATER LINE	17,873 FT	18,324 FT
GAS LINE	4,381 FT	4,501 FT

SHEET INDEX:

No.	SHEET NAME	DESCRIPTION
01	WV-CLEARWATER-COVER-ENS	COVER SHEET
02	WV-CLEARWATER-GNOT1-ENS	GENERAL NOTES SHEET
03	WV-CLEARWATER-INDEX-ENS	INDEX SHEET
04	WV-CLEARWATER-ALIGN1-ENS	ALIGNMENT STA 0+00-15+00
05	WV-CLEARWATER-ALIGN2-ENS	ALIGNMENT STA 15+00-44+00
06	WV-CLEARWATER-ALIGN3-ENS	ALIGNMENT STA 44+00-70+00
07	WV-CLEARWATER-ALIGN4-ENS	ALIGNMENT STA 70+00-98+00
08	WV-CLEARWATER-ALIGN5-ENS	ALIGNMENT STA 98+00-123+00
09	WV-CLEARWATER-ALIGN6-ENS	ALIGNMENT STA 123+00-151+00
10	WV-CLEARWATER-ALIGN7-ENS	ALIGNMENT STA 151+00-178+75
11	WV-CLEARWATER-ACES1-ENS	ACCESS ROAD DETAIL SHEET 1
12	WV-CLEARWATER-ACES2-ENS	ACCESS ROAD DETAIL SHEET 2
13	WV-CLEARWATER-ACES3-ENS	ACCESS ROAD DETAIL SHEET 3
14	WV-CLEARWATER-ACES4-ENS	ACCESS ROAD DETAIL SHEET 4
15	WV-CLEARWATER-ACES5-ENS	ACCESS ROAD DETAIL SHEET 5
16	WV-CLEARWATER-DET1-ENS	ENS NOTES SHEET 1
17	WV-CLEARWATER-DET2-ENS	ENS NOTES SHEET 2
18	WV-CLEARWATER-DET3-ENS	ENS DETAILS SHEET 3
19	WV-CLEARWATER-DET4-ENS	ENS DETAILS SHEET 4
20	WV-CLEARWATER-DET5-ENS	ENS DETAILS SHEET 5

PIPELINE COVER REQUIREMENTS

ROCK AREAS	3 FT.
WOODED AREAS	4 FT.
DRIVING SURFACES	5 FT.
AGRICULTURAL	4 FT.
STREAMS/WETLANDS	5 FT.

NOTE: THESE ARE MINIMUM REQUIREMENTS TO TOP OF PIPE

January, 2016



RETTEW Associates, Inc.
27 Travato Street, Suite 101
Bridgeport, WV 26330

Email: rettew@rettew.com Website: www.rettew.com

FILENAME: G:\RETURN\WV\095454000-SANDSTROM\SHETS\LD\ESC\095454000-01-COVER.DWG
PLOT DATE: 1/29/2016 10:28:32 AM

GENERAL NOTES:

- EXISTING UTILITIES SHOWN ON PLANS WHERE EVIDENCE HAS BEEN FOUND OR PROVIDED BY LOCAL UTILITIES. EXACT DEPTH AND LOCATION OF UTILITY LINES NOT KNOWN. CONTRACTOR TO VERIFY UTILITY LOCATIONS PRIOR TO CROSSING BY CONTACTING MISS UTILITY AT 1-800-245-4848 AND LOCAL UTILITY COMPANIES AS LISTED AND/OR NOT LISTED ON THIS SHEET. CONTRACTOR TO LOCATE GAS, WATER AND UTILITY SERVICES BEFORE BORING AND JACKING.
- IN THE EVENT THAT AN ERROR WITH THE PLANS SEEMS APPARENT, THE MATTER MUST BE TAKEN UP WITH THE ENGINEER FOR REVIEW BEFORE PROCEEDING WITH ANY CONSTRUCTION.
- ALL PERMITS MUST BE SECURED PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE ALL PROPOSED STREAM CROSSING INSTALLATIONS SO NOT TO DELAY THE CONSTRUCTION PROCESS. STREAM CROSSINGS ARE TO BE CONSTRUCTED USING AN OPEN CUT CROSSING METHOD.
- ALL WVDOT ROAD CROSSINGS ARE TO BE CONSTRUCTED USING AN OPEN CUT CROSSING METHOD. WVDOT TO BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE WVDOT R/W.
- ALL CONSTRUCTION TO BE DONE IN THE PROPOSED WATER AND GASLINE LIMITS OF DISTURBANCE AS SHOWN.
- CONTRACTOR SHALL VERIFY EXISTING PIPE TYPES AND O.D. PRIOR TO CONNECTION.
- PROPERTY LINES SHOWN ON PLANS WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCHED INFORMATION TAKEN FROM VARIOUS RECORDS ON FILE IN THE LOCAL COUNTY COURTHOUSE. TO OBTAIN A MORE ACCURATE BOUNDARY LINE LOCATION, A FULL PROPERTY SURVEY IS RECOMMENDED.
- THE EXISTING 2' CONTOURS UTILIZED IN THIS PLAN SET TO SHOW THE EXISTING GRADE ARE FROM BEST AVAILABLE THREE (3) METER DATA FROM WEST VIRGINIA GIS TECHNICAL CENTER (WVGSTC) AND THE STATE ADDRESSING AND MAPPING BOARD (SAMB). EXISTING STRUCTURES, ROADWAYS, AND UTILITIES HAVE BEEN ADDED AS APPLICABLE BASED ON ORTHO IMAGES AND SHOULD BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
- PROPERTY BOUNDARIES, LANDOWNER INFORMATION AND ROAD NETWORKS SHOWN ON THIS PLAN ARE BASED ON AVAILABLE COUNTY GIS PARCEL DATA. PROPERTY OWNER INFORMATION INCLUDES NAME AND TAX MAP PARCEL IDENTIFICATION NUMBER OBTAINED FROM GIS TAX ASSESSMENT DATA.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF DAMAGED OR DESTROYED LANDSCAPE AND LAWNS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A COPY OF ALL PERMITS RELATED TO THE CONSTRUCTION SHOWN ON THESE PLANS ON THE JOB SITE AT ALL TIMES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC SAFETY AS MANDATED BY WVDOT, OSHA, LOCAL MUNICIPALITY AND OTHER AGENCIES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THE PROJECT SITE PRIOR TO THE START OF CONSTRUCTION.
- AT THE LOCATION OF ALL ROAD ACCESS POINTS CONTRACTOR SHALL ENSURE THAT POSITIVE DRAINAGE IS MAINTAINED IN THE VICINITY OF EACH INDIVIDUAL ACCESS DURING CONSTRUCTION AND ONCE THE FINAL SITE ACCESS IS ESTABLISHED IF APPLICABLE. IF A ROADSIDE DITCH IS PRESENT CONTRACTOR TO PROVIDE A MINIMUM 12" DIAMETER HDPE CULVERT TO MAINTAIN POSITIVE DRAINAGE IN THE DITCH. FOR ACCESS ONTO STATE ROADWAYS REFER TO THE APPROVED WVDOT HOP PLANS.
- LIMITS OF EXISTING FACILITIES AND ACCESS DRIVES PERMITTED BY OTHERS AND INCLUDED HEREIN ARE APPROXIMATE AND ARE FOR CONTRACTOR REFERENCE ONLY AND ARE NOT A PART OF THIS PROJECT/PERMIT.
- THE CONTRACTOR SHALL BE RESPONSIBLE OF PREPARING AND IMPLEMENTING AN ENGINEERING PREPAREDNESS, PREVENTION AND CONTINGENCY PLAN FOR THE CHOSEN CONSTRUCTION METHODS IN THE EVENT OF UNFORSEEN CIRCUMSTANCES, SUCH AS EXTREME WEATHER, OR DRILLING MUD SPILL.
- HORIZONTAL STATIONING IS USED ON THE PLAN AND PROFILE DRAWINGS. THE CONTRACTOR IS TO DETERMINE THE TRUE LENGTH OF THE PIPE PRIOR TO BIDDING AND PRIOR TO ORDERING MATERIALS.
- WVDOT HIGHWAY OCCUPANCY PERMITS ARE REQUIRED PRIOR TO GAINING ACCESS OFF OF STATE ROUTES AND ARE BEING SUBMITTED IN ASSOCIATION WITH THIS PLAN.
- STREAM CROSSINGS SHOULD BE CONSTRUCTED AT LOW FLOW PERIODS WHEN PRACTICABLE.
- IN-STREAM ACCESS MAY ONLY BE GAINED FROM WITHIN THE DESIGNATED LIMITS OF DISTURBANCE.
- AQUATIC RESOURCE CROSSING CONSTRUCTION SHOULD BE COMPLETED WITHIN A 72-HOUR PERIOD.
- CONSTRUCTION SHOULD BE HALTED AND PROPER AUTHORITIES NOTIFIED IF PREVIOUS UNKNOWN REMAINS OR ARTIFACTS ARE DISCOVERED.
- ALL TEMPORARILY EXCAVATED OR EXCESS MATERIAL IS TO BE STORED IN UPLAND AREAS ONLY.
- ALL APPLICABLE BMPs NEED TO BE IN PLACE DURING CONSTRUCTION.
- STREAM STABILIZATION AND REVEGETATION NEAR AQUATIC RESOURCES WILL BE COMPLETED, AS APPROPRIATE, IMMEDIATELY FOLLOWING CONSTRUCTION.
- VEGETATION CLEARING AND SURFACE DISTURBANCE MUST REMAIN WITHIN DEFINED LIMITS OF DISTURBANCE.
- A COPY OF THE PERMITS AND ASSOCIATED PLANS SHOULD REMAIN ON-SITE DURING CONSTRUCTION.
- HERBICIDE USE WITHIN WETLANDS IS PROHIBITED.
- HYDRIC SOILS EXCAVATED FROM WETLANDS SHALL BE STOCKPILED AND RETURNED TO WETLAND AREA.
- NO GRADING IS PROPOSED AS PART OF THIS PROJECT, IF PROPOSED SLOPES NEED TO BE ADJUSTED FOR FIELD CONDITIONS THEY SHALL NOT BE GREATER THAN 2:1 OR 50%. ANY PROPOSED SLOPES OVER 30 DEGREES (57.7%) IS CONSIDERED EXCESSIVE AND COULD CAUSE A FAILURE OR SLIP.
- NO GRADING OVER 50% IS PROPOSED AS PART OF THIS PROJECT, IF PROPOSED SLOPES NEED TO BE ADJUSTED FOR FIELD CONDITIONS THEY SHALL NOT BE GREATER THAN 2:1 OR 50%. ANY PROPOSED SLOPES OVER 30 DEGREES (57.7%) IS CONSIDERED EXCESSIVE AND COULD CAUSE A FAILURE OR SLIP.

EROSION AND SEDIMENT CONTROL NOTES:

- ALL EROSION AND SEDIMENT MEASURES TO BE IN ACCORDANCE WITH WEST VIRGINIA ONLINE BMP MANUAL FOR STANDARD GUIDELINES AND SPECIFICATIONS AVAILABLE AT: [HTTPS://APPS.DEP.WV.GOV/DWMM/STORMWATER/BMP/INDEX.HTML](https://apps.dep.wv.gov/dwmm/stormwater/bmp/index.html)
- EROSION AND SEDIMENTATION CONTROL MEASURES HAVE BEEN SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
- EXPOSED SOILS SHALL BE STABILIZED BY APPLICATION OF EFFECTIVE BMP'S THAT PROTECT THE SOIL FROM THE EROSIIVE FORCES OF RAINDROPS, FLOWING WATER AND WIND.
- CLEARING AND GRUBBING IS TO OCCUR WITHIN THE NOTED LIMITS OF DISTURBANCE (LOD) ONLY.
- ALL GRADED AREAS THAT ARE AT FINAL GRADE MUST BE SEEDED AND MULCHED WITHIN 7 DAYS AND AREAS THAT WILL NOT BE WORKED AGAIN FOR 14 DAYS OR MORE MUST BE SEEDED AND MULCHED WITHIN 7 DAYS.
- 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 RE-SEEDED IMMEDIATELY, OR AS SOON AS WEATHER CONDITIONS ALLOW.
- TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH BMP'S.
- EROSION AND SEDIMENT CONTROL BMP'S SHALL BE INSPECTED AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. ANY NECESSARY OR REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY.
- CONTRACTOR TO COORDINATE THE SUBJECT WORK WITH ANY EROSION & SEDIMENT CONTROLS THAT MAY EXIST AT THE VARIOUS ADJACENT FACILITIES. EXISTING CONTROLS TO BE REPLACED/RESTORED IF DISTURBED OR CONTACT THE ENGINEER IF MODIFICATION IS REQUIRED.

ENVIRONMENTAL NOTES:

- PLEASE REFER TO ENVIRONMENTAL REPORT FOR INFORMATION ON PROJECT SPECIFIC ENVIRONMENTAL CONSTRAINTS AND SPECIFICATIONS.
- AN AQUATIC RESOURCE DELINEATION WAS PERFORMED BY RETTEW ASSOCIATES, INC. IN OCTOBER 2015. WETLAND AND STREAM BOUNDARY LOCATIONS ARE SHOWN ON THE PLAN.
- NATIONWIDE PERMITTING FOR STREAM AND WETLAND CROSSINGS IS REQUIRED PRIOR TO CONSTRUCTION AND IS BEING SUBMITTED IN ASSOCIATION WITH THIS PLAN.

CONSTRUCTION NOTES:

- DATUM BASED ON WEST VIRGINIA STATE PLANE COORDINATE SYSTEM, NAD 83 NORTH ZONE, NAVD 88, ELEVATIONS MSL, DERIVED FROM GPS OBSERVATION.
- EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS GENERATED FROM PREVIOUS MAPS AND SURVEY. CONTRACTOR SHALL VERIFY EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES IN AREA OF WORK PRIOR TO CONSTRUCTION AND CALL 811 AND ALL OTHER UTILITY COMPANIES AT LEAST 2 WORKING DAYS (48 HOURS) PRIOR TO CONSTRUCTION.

UTILITY AGENCIES SERVING PROJECT AREA:

MISS UTILITY : 1-800-245-4848

WEST VIRGINIA DIVISION OF HIGHWAYS
WVDOT DISTRICT #4
304-842-1576

RESPONSE TEAMS:

NATIONAL RESPONSE CENTER FOR REPORTING SPILLS
1-800-424-8802

STATE EMERGENCY SPILL NOTIFICATION
1-800-642-3074

EMERGENCY AMBULANCE, FIRE, LAW ENFORCEMENT
911

PRODUCT TRANSPORTED: WATER & GAS

UTILITY NOTES:

- ALL TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATOR'S STANDARDS. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH SAFETY.
- TWO-FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN INSTALLED PIPELINE AND CROSSED OR ADJACENT UTILITIES.
- THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION PRIOR TO ANY EXCAVATION BY CALLING 811 OR 800-245-4848. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL ABOVE AND BELOW GROUND UTILITIES AND STRUCTURES AT ALL TIMES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE ON THE CONTRACTORS NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AND COMPLETELY AT HIS EXPENSE. CONTRACTOR SHALL NOTIFY ALL UTILITIES FOR VERIFICATION AND LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.
- UTILITY OWNER OF ADJACENT FACILITIES MUST BE CONTACTED AND WORK SHALL BE SCHEDULED TO ALLOW A DESIGNATED REPRESENTATIVE FROM THE UTILITY OWNER TO BE PRESENT FOR ALL CONSTRUCTION ACTIVITIES ADJACENT TO THEIR OWNED FACILITIES.

RECEIVING WATER

UNT TO CAMP MISTAKE RUN
CAMP MISTAKE RUN
PRATT RUN
JEFFERSON RUN
UNT TO JEFFERSON RUN

LEGEND:

- WATER PIPELINE
- GAS PIPELINE
- ROAD
- PROPERTY/R.O.W. LINE
- PERMANENT EASEMENT
- WORKSPACE EASEMENT
- CONTOUR - MAJOR
- CONTOUR - MINOR
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- FOREIGN PIPELINE
- FENCE LINE
- POWER POLE
- SIGN
- WELL
- ELECTRIC TRANSMISSION TOWER
- STRUCTURE INTENDED FOR HUMAN OCCUPANCY
- LIMIT OF DISTURBANCE
- ADDITIONAL/TEMPORARY WORKSPACE
- SLOPE MATTING OR HYDROSEED
- SILT SAVER PRIORITY 1*
- SILT SAVER PRIORITY 2*
- WATERBAR W/ OUTLET PROTECTION
- TRENCH BREAKER
- OUTLET PROTECTION
- ROCK CONSTRUCTION ENTRANCE
- STREAM
- WETLAND

NOTE:
LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING.
ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND SHALL BE CLEARLY LABELED.
* PERIMETER CONTROL SHALL BE INSTALLED AND MAINTAINED AS DESCRIBED ON SHEET 16 UNDER THE "SCHEDULE OF MAINTENANCE OF EROSION & SEDIMENT CONTROLS".

GENERAL INFORMATION

1. THIS SHEET IS INTENDED TO BE PRINTED OUT 22" x 34".
2. LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING. ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND SHALL BE CLEARLY LABELED.



ESTIMATED QUANTIFIED MATERIAL LIST

REFERENCE DRAWINGS

REVISION

Antero
Midstream Partners LP

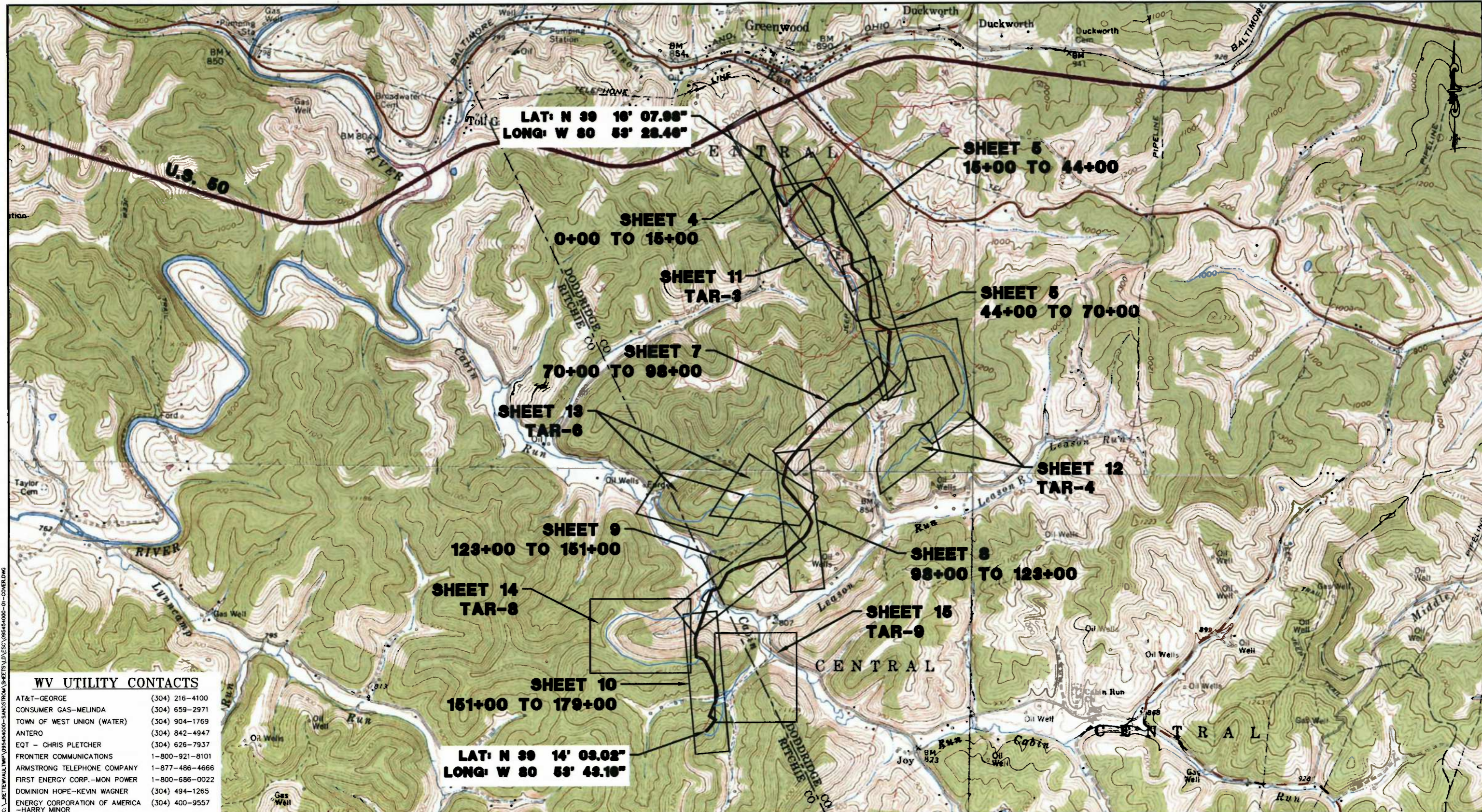
DOTSON HOLLAND ADDENDUM
GENERAL NOTES SHEET

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHE COUNTIES, WEST VIRGINIA

DATE: 1/29/2016
SCALE: AS SHOWN
DRAWN BY: J.F.
CHECKED BY: J.F.
CREATED: 1/29/2016
SHEET 2 OF 20

SHT. NAME: WV-CLEARWATER-GNOT1-ENS
REV. 0

NO.	DESCRIPTION	QTY	DWG. NO.	DESCRIPTION	NO.	DATE	DESCRIPTION	BY	CHK'D.	PROJ. ENGR.	ENG. APPR.
					1	1.28.16	PER DEP COMMENTS	J.F.	DM	J.F.	X



**LAT: N 39 16' 07.96"
LONG: W 80 53' 28.46"**

**LAT: N 39 14' 09.02"
LONG: W 80 53' 49.16"**

WV UTILITY CONTACTS

- AT&T-GEORGE (304) 216-4100
- CONSUMER GAS-MELINDA (304) 659-2971
- TOWN OF WEST UNION (WATER) (304) 904-1769
- ANTERO (304) 842-4947
- EQT - CHRIS PLETCHER (304) 626-7937
- FRONTIER COMMUNICATIONS 1-800-921-8101
- ARMSTRONG TELEPHONE COMPANY 1-877-486-4666
- FIRST ENERGY CORP.-MON POWER 1-800-686-0022
- DOMINION HOPE-KEVIN WAGNER (304) 494-1265
- ENERGY CORPORATION OF AMERICA (304) 400-9557
- HARRY MINOR

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Know what's at stake?
Call 811
BEFORE YOU DIG



ESTIMATED QUANTIFIED MATERIAL LIST

REFERENCE DRAWINGS

REVISION

NO.	DESCRIPTION	QTY	DWG. NO.	DESCRIPTION	NO.	DATE	DESCRIPTION	BY	CHK'D	PROJ. ENGR.	ENG. APPR.

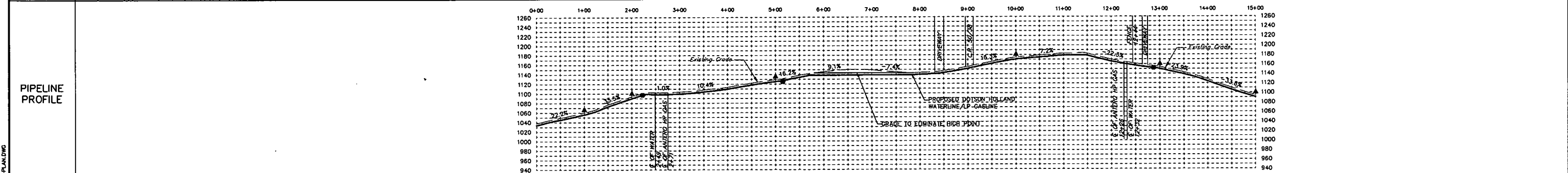
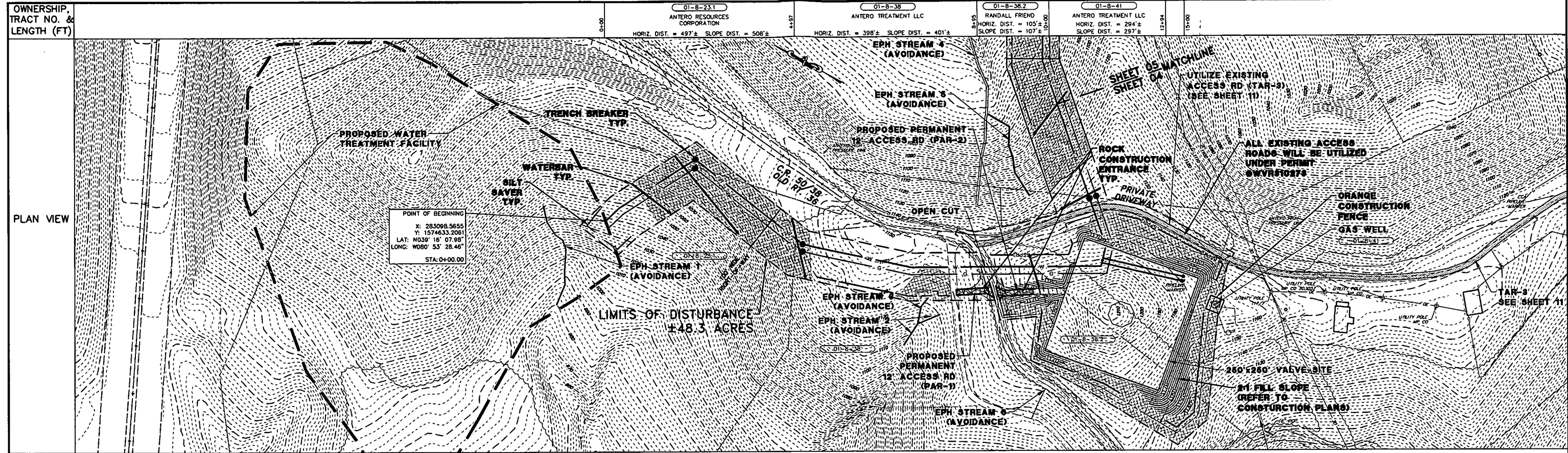
Antero
Midstream Partners LP

**DOTSON HOLLAND ADDENDUM
INDEX SHEET**

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/4/2018
SCALE: AS SHOWN
DRAWN BY: JLS
CHECKED BY: JLS
SHEET 3 OF 20
SHT. NAME: WV-CLEARWATER-INDEX-ENS [REV. 0]

PLOT DATE: 1/7/2018 8:57:00 AM FILENAME: C:\BETTERWAL\WV\09545400-SANDSTROM\SHEETS\LD\ESS\09545400-01-COVER.DWG



PERMANENT WATER BAR SPACING	
% SLOPE	SPACING
< 5%	250 Ft
5 - 15%	150 Ft
15 - 30%	100 Ft
> 30%	50 Ft

PERMANENT TRENCH BREAKER SPACING	
% SLOPE	SPACING
< 5%	0 Ft
5 - 15%	500 Ft
15 - 25%	300 Ft
25 - 35%	200 Ft
35 - 100%	100 Ft
> 100%	50 Ft

LEGEND:

- W — W — W — WATER PIPELINE
- G — G — G — GAS PIPELINE
- — — — — ROAD
- - - - - PROPERTY/R.O.W. LINE
- - - - - PERMANENT EASEMENT
- - - - - WORKSPACE EASEMENT
- - - - - CONTOUR - MAJOR
- - - - - CONTOUR - MINOR
- UGE --- UNDERGROUND ELECTRIC
- OIU --- OIU --- OVERHEAD ELECTRIC
- — — — — FOREIGN PIPELINE
- — — — — FENCE LINE
- — — — — POWER POLE
- — — — — SIGN
- — — — — WELL
- — — — — ELECTRIC TRANSMISSION TOWER
- — — — — STRUCTURE INTENDED FOR HUMAN OCCUPANCY
- - - - - LIMIT OF DISTURBANCE
- [Hatched Box] ADDITIONAL/TEMPORARY WORKSPACE
- [Stippled Box] SLOPE MATTING OR HYDROSEED
- [Wavy Line] STREAM
- [Dotted Area] WETLAND
- [SFPR1 Symbol] SILT SAVER PRIORITY 1*
- [SFPR2 Symbol] SILT SAVER PRIORITY 2*
- [Waterbar Symbol] WATERBAR W/ OUTLET PROTECTION
- [Trench Breaker Symbol] TRENCH BREAKER
- [Outlet Protection Symbol] OUTLET PROTECTION
- [Rock Entrance Symbol] ROCK CONSTRUCTION ENTRANCE

NOTE: LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING. ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND SHALL BE CLEARLY LABELED.
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Know what's at stake
Call 811
BEFORE YOU DIG

ESTIMATED QUANTIFIED MATERIAL LIST	
1	WATERBARS (EA) 6
2	TRENCH BREAKERS (EA) 6
3	ROCK CONSTRUCTION ENTRANCE (EA) 2
4	EROSION CONTROL MATTING (SY) 8,435
5	SILT SAVER PRIORITY 1 (LF) 483
6	SILT SAVER PRIORITY 2 (LF) 1,316
7	ROCK FILTER (EA) 0
8	ORANGE CONSTRUCTION FENCE (LF) 120

REFERENCE DRAWINGS	
NO.	DESCRIPTION
1	1.26.16 PER DEP COMMENTS

REVISION					
NO.	DATE	DESCRIPTION	BY	CHK'D.	ENGR. APPR.
1	1.26.16	PER DEP COMMENTS	P.J.F.	DM	P.J.F.

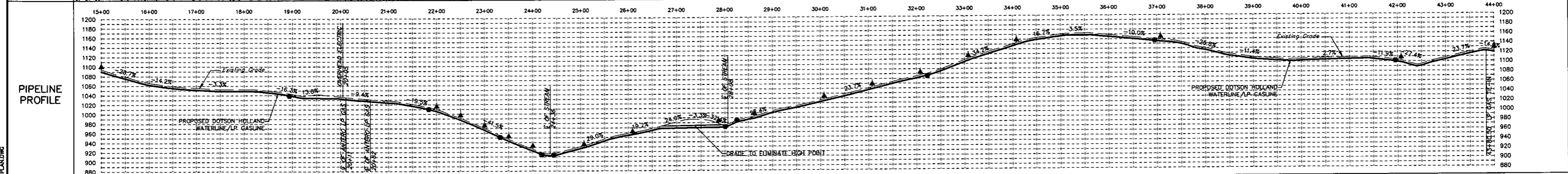
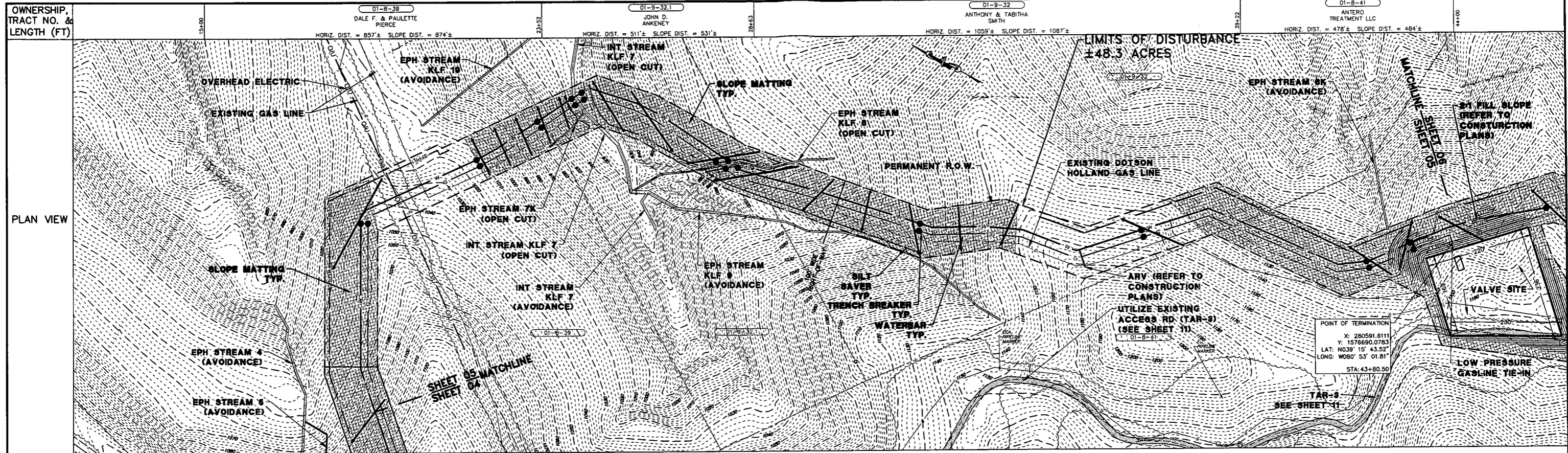
Antero
Midstream Partners LP

DOTSON HOLLAND ADDENDUM
STA. 0+00 TO STA. 15+00

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DOODRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/27/18
SCALE: AS SHOWN
DRAWN BY: JMS
CHECKED BY: TJS
SHEET 4 OF 20
SHT. NAME: WV-CLEARWATER-ALIGN1-ENS
REV. 0

PLOT DATE: 1/29/2018 9:53:49 AM FILENAME: G:\RETIREWALL\TWP\015454000-SANDSTROM\SHEETS\JLD\ESC\015454000-02-PLAN.DWG



PERMANENT WATER BAR SPACING	
% SLOPE	SPACING
< 5%	250 Ft
5 - 15%	150 Ft
15 - 30%	100 Ft
> 30%	50 Ft

PERMANENT TRENCH BREAKER SPACING	
% SLOPE	SPACING
< 5%	0 Ft
5 - 15%	500 Ft
15 - 25%	300 Ft
25 - 35%	200 Ft
35 - 100%	100 Ft
> 100%	50 Ft

LEGEND:

	WATER PIPELINE		FOREIGN PIPELINE
	GAS PIPELINE		FENCE LINE
	ROAD		POWER POLE
	PROPERTY/R.O.W. LINE		SIGN
	PERMANENT EASEMENT		WELL
	WORKSPACE EASEMENT		ELECTRIC TRANSMISSION TOWER
	CONTOUR - MAJOR		STRUCTURE INTENDED FOR HUMAN OCCUPANCY
	CONTOUR - MINOR		LIMIT OF DISTURBANCE
	UNDERGROUND ELECTRIC		
	OVERHEAD ELECTRIC		

	ADDITIONAL/TEMPORARY WORKSPACE		STREAM
	SLOPE MATTING OR HYDROSEED		WETLAND
	SILT SAVER PRIORITY 1*		
	SILT SAVER PRIORITY 2*		
	WATERBAR W/ OUTLET PROTECTION		
	TRENCH BREAKER		
	OUTLET PROTECTION		
	ROCK CONSTRUCTION ENTRANCE		

NOTE: LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING. ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND SHALL BE CLEARLY LABELED. * PERIMETER CONTROL SHALL BE INSTALLED AND MAINTAINED AS DESCRIBED ON SHEET 16 UNDER THE "SCHEDULE OF MAINTENANCE OF EROSION & SEDIMENT CONTROLS".

GENERAL INFORMATION

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Scale: 1" = 40' (Horizontal), 1" = 20' (Vertical)

Know what's at stake

Call 811 BEFORE YOU DIG

Eric W. Hershby

ESTIMATED QUANTIFIED MATERIAL LIST

NO.	DESCRIPTION	QTY
1	WATERBARS (EA)	15
2	TRENCH BREAKERS (EA)	20
3	ROCK CONSTRUCTION ENTRANCE (EA)	0
4	EROSION CONTROL MATTING (SY)	24,139
5	SILT SAVER PRIORITY 1 (LF)	2,259
6	SILT SAVER PRIORITY 2 (LF)	604
7	ROCK FILTER (EA)	2
8	ORANGE CONSTRUCTION FENCE (LF)	0

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION
1	1.26.16	PER DEP COMMENTS

REVISION

NO.	DATE	DESCRIPTION	BY	CHK'D.	ENGR.	APPR.
1	1.26.16	PER DEP COMMENTS	PJF	DM	PJF	X

Antero
Midstream Partners LP

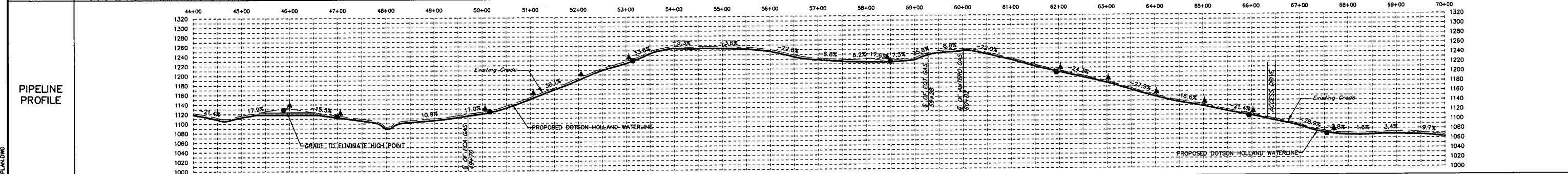
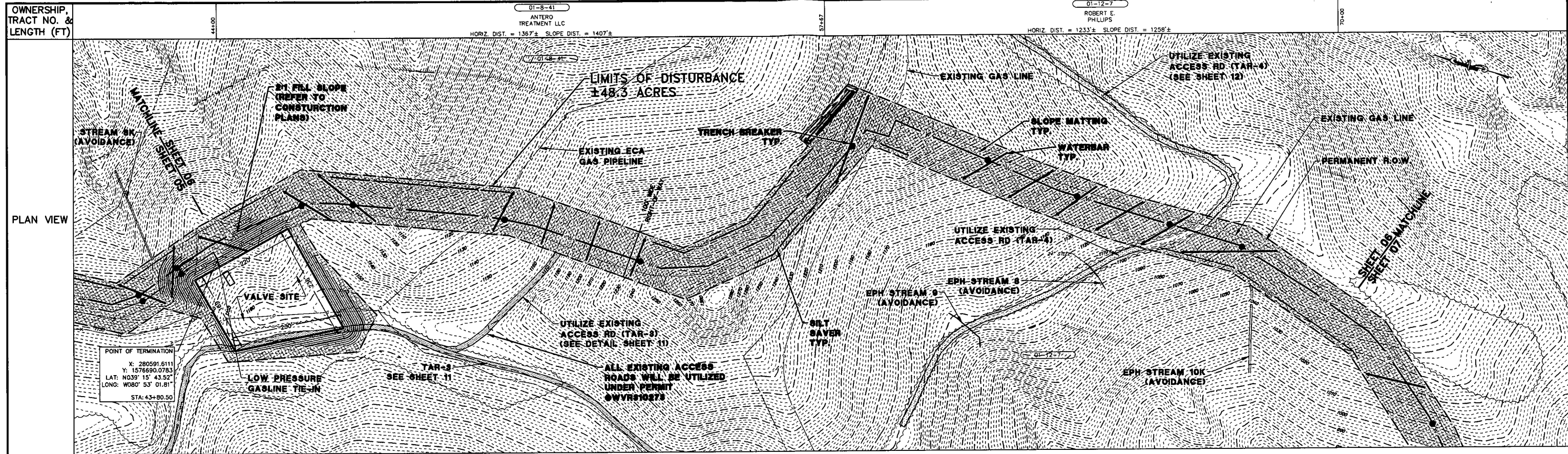
DOTSON HOLLAND ADDENDUM
STA. 15+00 TO STA. 44+00

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/27/16
SCALE: AS SHOWN
DRAWN BY: MMS
CHECKED: TJS
SHEET 5 OF 20

SHT. NAME: WV-CLEARWATER-ALIGN2-ENS
REV. 0

PLOT DATE: 1/29/2018 9:54:10 AM FILENAME: G:\RETIREWALL\TWP\05454000-SANDSTON\SHEETS\A\ESC\05454000-02-PLAN.DWG



PERMANENT WATER BAR SPACING	
% SLOPE	SPACING
< 5%	250 FT
5 - 15%	150 FT
15 - 30%	100 FT
> 30%	50 FT

PERMANENT TRENCH BREAKER SPACING	
% SLOPE	SPACING
< 5%	0 FT
5 - 15%	500 FT
15 - 25%	300 FT
25 - 35%	200 FT
35 - 100%	100 FT
> 100%	50 FT

LEGEND:

— W — W —	⊕ WATER PIPELINE	— — — — —	FOREIGN PIPELINE
— G — — —	⊕ GAS PIPELINE	— — — — —	FENCE LINE
— — — — —	⊕ ROAD	— — — — —	POWER POLE
— — — — —	PROPERTY/R.O.W. LINE	— — — — —	SIGN
— — — — —	PERMANENT EASEMENT	— — — — —	WELL
— — — — —	WORKSPACE EASEMENT	— — — — —	ELECTRIC TRANSMISSION TOWER
— — — — —	CONTOUR — MAJOR	— — — — —	STRUCTURE INTENDED FOR HUMAN OCCUPANCY
— — — — —	CONTOUR — MINOR	— — — — —	LIMIT OF DISTURBANCE
— — — — —	UNDERGROUND ELECTRIC		
— — — — —	OVERHEAD ELECTRIC		

▨	ADDITIONAL/TEMPORARY WORKSPACE	~~~~~	STREAM
▨	SLOPE MATTING OR HYDROSEED	~~~~~	WETLAND
— SFPRI —	SILT SAVER PRIORITY 1*		
— SFPRI2 —	SILT SAVER PRIORITY 2*		
— — — — —	WATERBAR W/ OUTLET PROTECTION		
— — — — —	TRENCH BREAKER		
— — — — —	OUTLET PROTECTION		
— — — — —	ROCK CONSTRUCTION ENTRANCE		

NOTE: LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING. ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND SHALL BE CLEARLY LABELED. * PERIMETER CONTROL SHALL BE INSTALLED AND MAINTAINED AS DESCRIBED ON SHEET 16 UNDER THE "SCHEDULE OF MAINTENANCE OF EROSION & SEDIMENT CONTROLS".

GENERAL INFORMATION

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Know what's at stake
Call 811
 BEFORE YOU DIG

ESTIMATED QUANTIFIED MATERIAL LIST	
1	WATERBARS (EA) 12
2	TRENCH BREAKERS (EA) 8
3	ROCK CONSTRUCTION ENTRANCE (EA) 0
4	EROSION CONTROL MATTING (SY) 26,429
5	SILT SAVER PRIORITY 1 (LF) 466
6	SILT SAVER PRIORITY 2 (LF) 1,350
7	ROCK FILTER (EA) 2
8	ORANGE CONSTRUCTION FENCE (LF) 0

REFERENCE DRAWINGS	
NO.	DESCRIPTION

REVISION		
NO.	DATE	DESCRIPTION
1	1.26.16	PER DEP COMMENTS

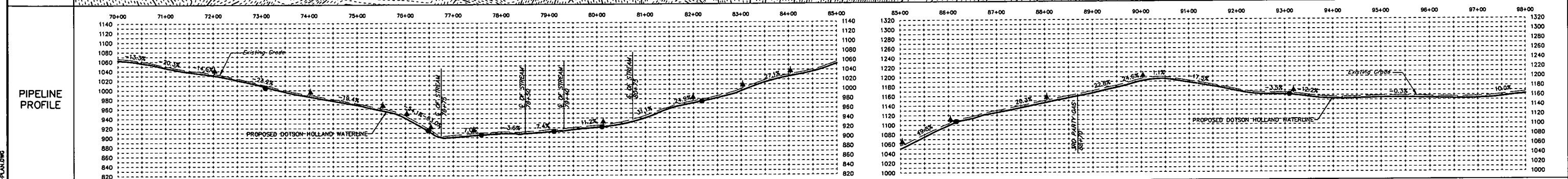
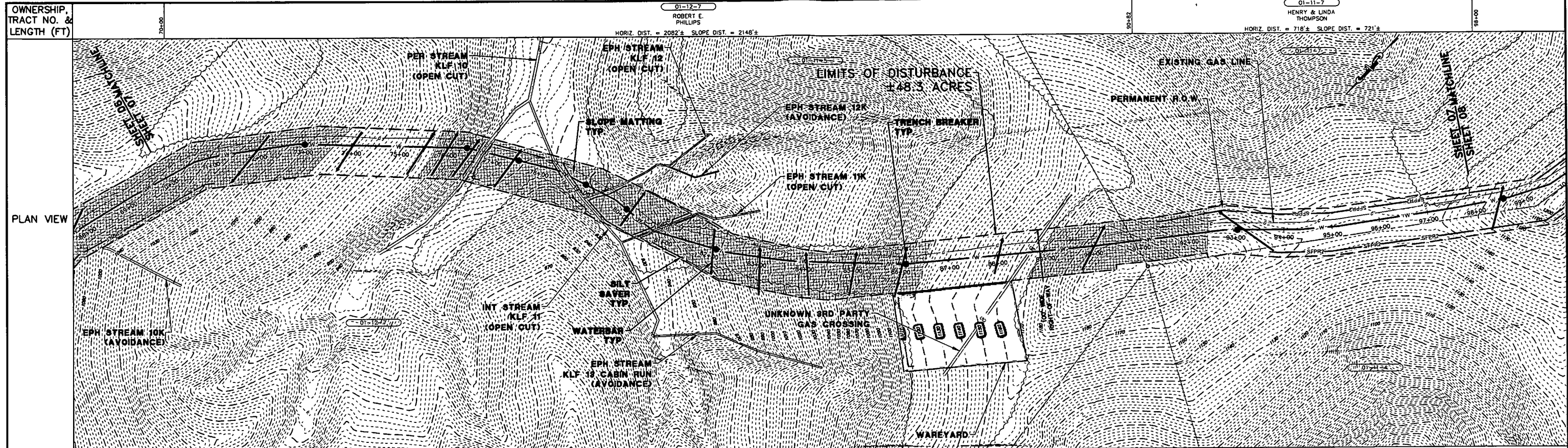
Antero
 Midstream Partners LP

DOTSON HOLLAND ADDENDUM
 STA. 44+00 TO STA. 70+00

EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/14/16 TIME: 11:00 AM
 SCALE: AS SHOWN
 SHEET 6 OF 20
 SHT. NAME: WV-CLEARWATER-ALIGN3-ENS [REV. 0]

PLOT DATE: 1/29/2016 9:54:31 AM FILENAME: G:\RETIREWALT\MP\065454000-SANDSTROM\SHEETS\LD\ESC\065454000-02-PLAN.DWG



PERMANENT WATER BAR SPACING

% SLOPE	SPACING
< 5%	250 Ft
5 - 15%	150 Ft
15 - 30%	100 Ft
> 30%	50 Ft

PERMANENT TRENCH BREAKER SPACING

% SLOPE	SPACING
< 5%	0 Ft
5 - 15%	500 Ft
15 - 25%	300 Ft
25 - 35%	200 Ft
35 - 100%	100 Ft
> 100%	50 Ft

LEGEND:

— W — W —	⊕ WATER PIPELINE	— — — — —	FOREIGN PIPELINE
— G — — —	⊕ GAS PIPELINE	— — — — —	FENCE LINE
— — — — —	⊕ ROAD	— — — — —	POWER POLE
— — — — —	PROPERTY/R.O.W. LINE	— — — — —	SIGN
— — — — —	PERMANENT EASEMENT	— — — — —	WELL
— — — — —	WORKSPACE EASEMENT	— — — — —	ELECTRIC TRANSMISSION TOWER
— — — — —	CONTOUR — MAJOR	— — — — —	STRUCTURE INTENDED FOR HUMAN OCCUPANCY
— — — — —	CONTOUR — MINOR	— — — — —	LIMIT OF DISTURBANCE
— — — — —	UNDERGROUND ELECTRIC		
— — — — —	OVERHEAD ELECTRIC		

	ADDITIONAL/TEMPORARY WORKSPACE		STREAM
	SLOPE MATTING OR HYDROSEED		WETLAND
	SILT SAVER PRIORITY 1*		
	SILT SAVER PRIORITY 2*		
	WATERBAR W/ OUTLET PROTECTION		
	TRENCH BREAKER		
	OUTLET PROTECTION		
	ROCK CONSTRUCTION ENTRANCE		

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SCALE: 1" = 40' (HORIZ.)
 SCALE: 1" = 20' (VERT.)

Know what's at stake
Call 811
 BEFORE YOU DIG

ERIC W. MERRITT
 REGISTERED
 19074
 STATE OF VIRGINIA
 PROFESSIONAL ENGINEER

Eric W. Merritt

ESTIMATED QUANTIFIED MATERIAL LIST

NO.	DESCRIPTION	QTY
1	WATERBARS (EA)	13
2	TRENCH BREAKERS (EA)	9
3	ROCK CONSTRUCTION ENTRANCE (EA)	0
4	EROSION CONTROL MATTING (SY)	19,430
5	SILT SAVER PRIORITY 1 (LF)	1,369
6	SILT SAVER PRIORITY 2 (LF)	1,535
7	ROCK FILTER (EA)	0
8	ORANGE CONSTRUCTION FENCE (LF)	0

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION
1	1.26.16	PER DEP COMMENTS

REVISION

NO.	DATE	DESCRIPTION	BY	CHK'D.	PROJ. ENGR.	APPR.
1	1.26.16	PER DEP COMMENTS	PJF	DM	PJF	X

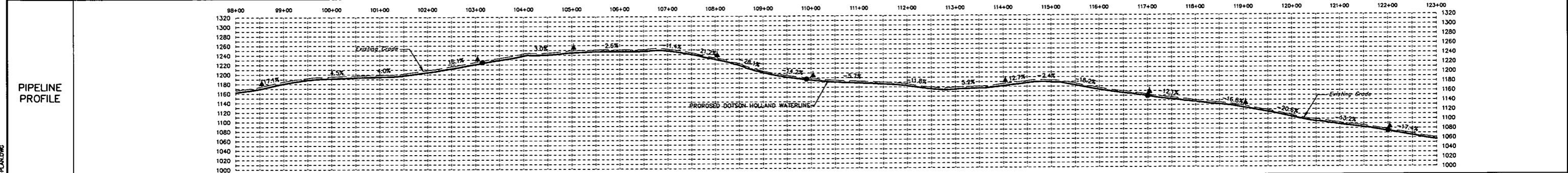
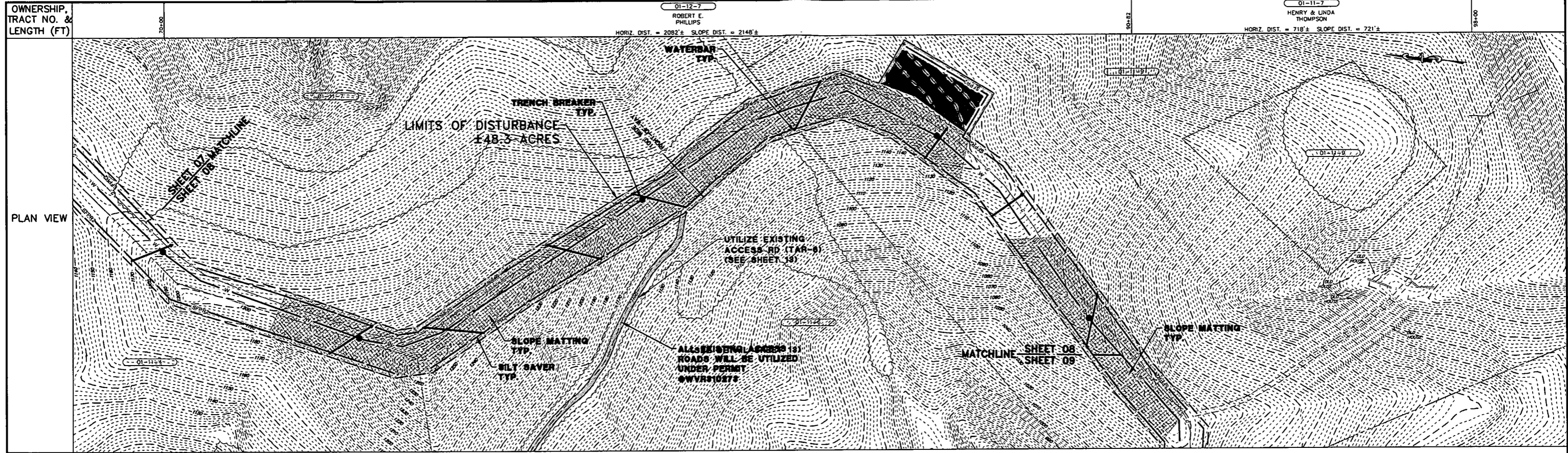
Antero
 MidstreamPartners LP

DOTSON HOLLAND ADDENDUM
 STA. 70+00 TO STA. 98+00

EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/4/18 TIME: 1:31
 SCALE: AS SHOWN
 SHEET 7 OF 20
 SHT. NAME: WV-CLEARWATER-AUGN4-ENS [REV. 0]

PLOT DATE: 1/29/2016 9:54:35 AM FILENAME: G:\RETENWALL\WP\09545400-SANDSTROM\09545400-02-PLAN.DWG



PERMANENT WATER BAR SPACING	
% SLOPE	SPACING
< 5%	250 Ft
5 - 15%	150 Ft
15 - 30%	100 Ft
> 30%	50 Ft

PERMANENT TRENCH BREAKER SPACING	
% SLOPE	SPACING
< 5%	0 Ft
5 - 15%	500 Ft
15 - 25%	300 Ft
25 - 35%	200 Ft
35 - 100%	100 Ft
> 100%	50 Ft

LEGEND:

— W — W	⊕ WATER PIPELINE	— G —	⊕ GAS PIPELINE	— F —	FOREIGN PIPELINE
— G —	⊕ ROAD	— P —	PROPERTY/R.O.W. LINE	— P —	POWER POLE
— E —	PERMANENT EASEMENT	— S —	WORKSPACE EASEMENT	— S —	SIGN
— W —	CONTOUR - MAJOR	— W —	CONTOUR - MINOR	— W —	WELL
— U —	UNDERGROUND ELECTRIC	— T —	ELECTRIC TRANSMISSION TOWER	— T —	STRUCTURE INTENDED FOR HUMAN OCCUPANCY
— O —	OVERHEAD ELECTRIC	— L —	LIMIT OF DISTURBANCE		

	ADDITIONAL/TEMPORARY WORKSPACE		STREAM
	SLOPE MATTING OR HYDROSEED		WETLAND
	SILT SAVER PRIORITY 1*		
	SILT SAVER PRIORITY 2*		
	WATERBAR W/ OUTLET PROTECTION		
	TRENCH BREAKER		
	OUTLET PROTECTION		
	ROCK CONSTRUCTION ENTRANCE		

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Know what's at stake
Call 811
BEFORE YOU DIG

ESTIMATED QUANTIFIED MATERIAL LIST	
1	WATERBARS (EA) 9
2	TRENCH BREAKERS (EA) 4
3	ROCK CONSTRUCTION ENTRANCE (EA) 0
4	EROSION CONTROL MATTING (SY) 21,553
5	SILT SAVER PRIORITY 1 (LF) 0
6	SILT SAVER PRIORITY 2 (LF) 4,722
7	ROCK FILTER (EA) 0
8	ORANGE CONSTRUCTION FENCE (LF) 0

REFERENCE DRAWINGS	
NO.	DESCRIPTION
1	1.26.16 PER DEP COMMENTS

REVISION					
NO.	DATE	DESCRIPTION	BY	CHK'D.	ENGR. APPR.
1	1.26.16	PER DEP COMMENTS	PJF	DM	PJF

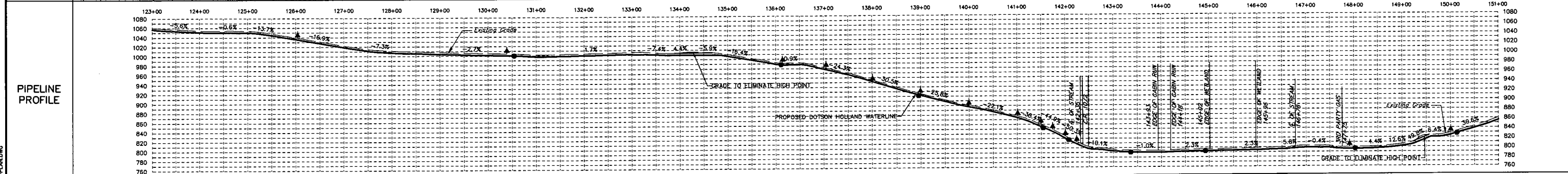
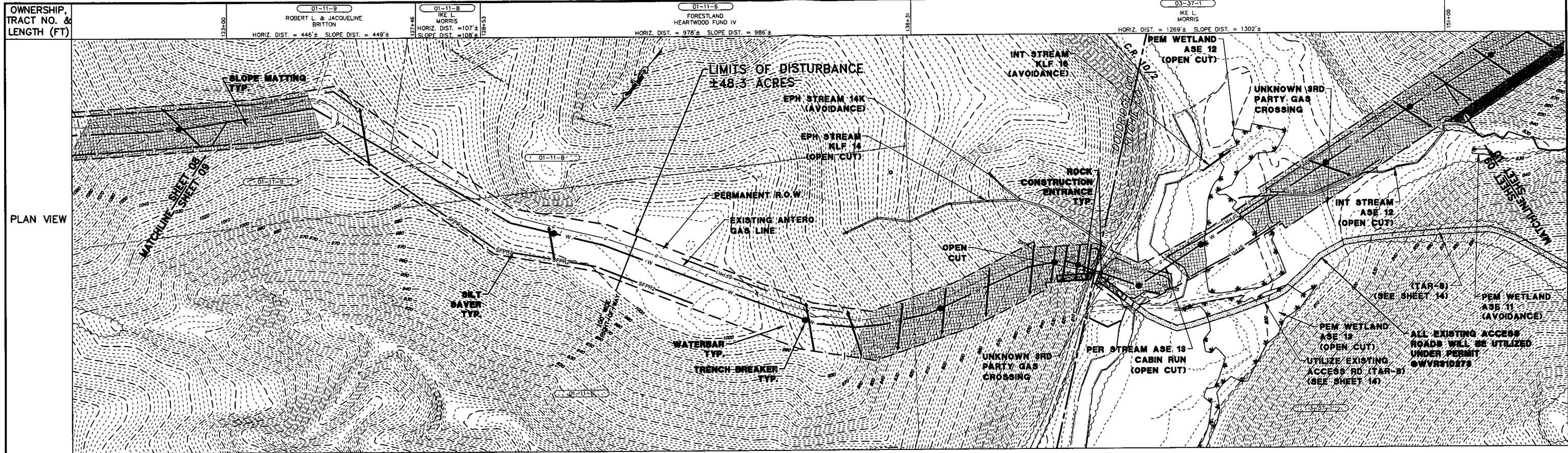
Antero
Midstream Partners LP

DOTSON HOLLAND ADDENDUM
STA. 98+00 TO STA. 123+00

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/27/16
SCALE: AS SHOWN
DRAWN BY: JTB
CHECKED BY: JTB
PROJECT NO.: 15-00000000-02-PLANDWG
SHEET 8 OF 20
SHT. NAME: WV-CLEARWATER-ALIGN5-ENS
REV. 0

PLOT DATE: 1/29/2016 9:55:15 AM FILENAME: C:\RETENVAL\TWP\095454000\095454000\SHEETS\10\ESC\095454000-02-PLANDWG



PERMANENT WATER BAR SPACING	
% SLOPE	SPACING
< 5%	250 Ft
5 - 15%	150 Ft
15 - 30%	100 Ft
> 30%	50 Ft

PERMANENT TRENCH BREAKER SPACING	
% SLOPE	SPACING
< 5%	0 Ft
5 - 15%	500 Ft
15 - 25%	300 Ft
25 - 35%	200 Ft
35 - 100%	100 Ft
> 100%	50 Ft

LEGEND:

	WATER PIPELINE
	GAS PIPELINE
	ROAD
	PROPERTY/R.O.W. LINE
	PERMANENT EASEMENT
	WORKSPACE EASEMENT
	CONTOUR - MAJOR
	CONTOUR - MINOR
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC
	FOREIGN PIPELINE
	FENCE LINE
	POWER POLE
	SIGN
	WELL
	ELECTRIC TRANSMISSION TOWER
	STRUCTURE INTENDED FOR HUMAN OCCUPANCY
	LIMIT OF DISTURBANCE

	ADDITIONAL/TEMPORARY WORKSPACE
	SLOPE MATTING OR HYDROSEED
	SILT SAVER PRIORITY 1*
	SILT SAVER PRIORITY 2*
	WATERBAR W/ OUTLET PROTECTION
	TRENCH BREAKER
	OUTLET PROTECTION
	ROCK CONSTRUCTION ENTRANCE

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HORIZ. SCALE IN FEET: 1" = 30'

VERT. SCALE IN FEET: 1" = 10'

Know what's at stake

Call 811

BEFORE YOU DIG

ERIC W. HERRICK
 REGISTERED
 19074
 STATE OF WEST VIRGINIA
 PROFESSIONAL ENGINEER

Eric W. Herrick

ESTIMATED QUANTIFIED MATERIAL LIST		
1	WATERBARS (EA)	12
2	TRENCH BREAKERS (EA)	9
3	ROCK CONSTRUCTION ENTRANCE (EA)	2
4	EROSION CONTROL MATTING (SY)	14,303
5	SILT SAVER PRIORITY 1 (LF)	1,758
6	SILT SAVER PRIORITY 2 (LF)	766
7	ROCK FILTER (EA)	1
8	ORANGE CONSTRUCTION FENCE (LF)	0

REFERENCE DRAWINGS	
NO.	DESCRIPTION

REVISION		
NO.	DATE	DESCRIPTION
1	1.26.16	PER DEP COMMENTS

Antero
 Midstream Partners LP

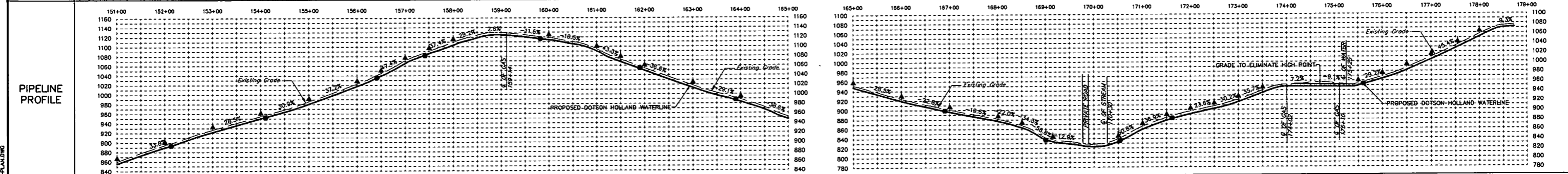
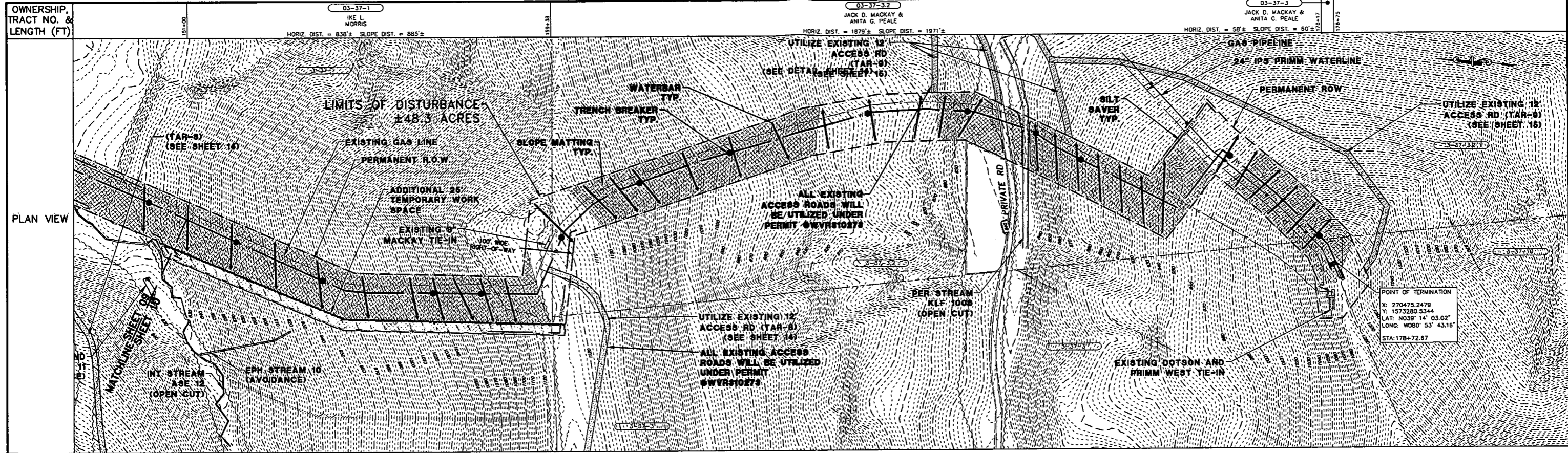
DOTSON HOLLAND ADDENDUM
 STA. 123+00 TO STA. 151+00

EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/4/18
 SCALE: AS SHOWN
 DRAWN BY: MMS
 CHECKED BY: TJS
 SHEET 9 OF 20

SHT. NAME: WV-CLEARWATER-ALIGN6-ENS [REV. 0]

PLOT DATE: 1/29/2016 9:55:35 AM FILENAME: G:\JETTER\WV\1095454000-SANDSTROM\SHEETS\LD\ESS\095454000-02-PLANDWG



PERMANENT WATER BAR SPACING		PERMANENT TRENCH BREAKER SPACING	
% SLOPE	SPACING	% SLOPE	SPACING
< 5%	250 Ft	< 5%	0 Ft
5 - 15%	150 Ft	5 - 15%	500 Ft
15 - 30%	100 Ft	15 - 25%	300 Ft
> 30%	50 Ft	25 - 35%	200 Ft
		35 - 100%	100 Ft
		> 100%	50 Ft

LEGEND:	
— W — W —	☉ WATER PIPELINE
— G —	☉ GAS PIPELINE
— — — — —	☉ ROAD
— — — — —	PROPERTY/R.O.W. LINE
— — — — —	PERMANENT EASEMENT
— — — — —	WORKSPACE EASEMENT
— — — — —	CONTOUR - MAJOR
— — — — —	CONTOUR - MINOR
— UGE —	UNDERGROUND ELECTRIC
— O-U — O-U — O-U —	OVERHEAD ELECTRIC
— — — — —	FOREIGN PIPELINE
— — — — —	FENCE LINE
— — — — —	POWER POLE
— — — — —	SIGN
— — — — —	WELL
— — — — —	ELECTRIC TRANSMISSION TOWER
— — — — —	STRUCTURE INTENDED FOR HUMAN OCCUPANCY
— — — — —	LIMIT OF DISTURBANCE

□	ADDITIONAL/TEMPORARY WORKSPACE
▨	SLOPE MATTING OR HYDROSEED
— SFPR1 —	SILT SAVER PRIORITY 1*
— SFPR2 —	SILT SAVER PRIORITY 2*
— — — — —	WATERBAR W/ OUTLET PROTECTION
— — — — —	TRENCH BREAKER
— — — — —	OUTLET PROTECTION
— — — — —	ROCK CONSTRUCTION ENTRANCE

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DATE: 1/29/2016 9:55:55 AM
 FILENAME: G:\RETIREVAL\TWP\095454000-SANDSTROM\SHEETS\UD\ESC\095454000-02-PLAN.DWG

Know what's at stake
Call 811
 BEFORE YOU DIG

Eric W. Hershey

ESTIMATED QUANTIFIED MATERIAL LIST	
NO.	DESCRIPTION
1	WATERBARS (EA)
2	TRENCH BREAKERS (EA)
3	ROCK CONSTRUCTION ENTRANCE (EA)
4	EROSION CONTROL MATTING (SY)
5	SILT SAVER PRIORITY 1 (LF)
6	SILT SAVER PRIORITY 2 (LF)
7	ROCK FILTER (EA)
8	ORANGE CONSTRUCTION FENCE (LF)

REFERENCE DRAWINGS	
NO.	DATE
1	1.28.16

REVISION	
NO.	DESCRIPTION
1	PER DEP COMMENTS

Antero
 Midstream Partners LP

DOTSON HOLLAND ADDENDUM
 STA. 151+00 TO STA. 178+75

EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DODDRIE AND RITCHE COUNTIES, WEST VIRGINIA

DATE: 1/27/16
 SCALE: AS SHOWN
 DRAWN BY: MHS
 CHECKED BY: TJS
 SHEET 10 OF 20

SHT. NAME: WV-CLEARWATER-ALIGN7-ENS
 REV. 0

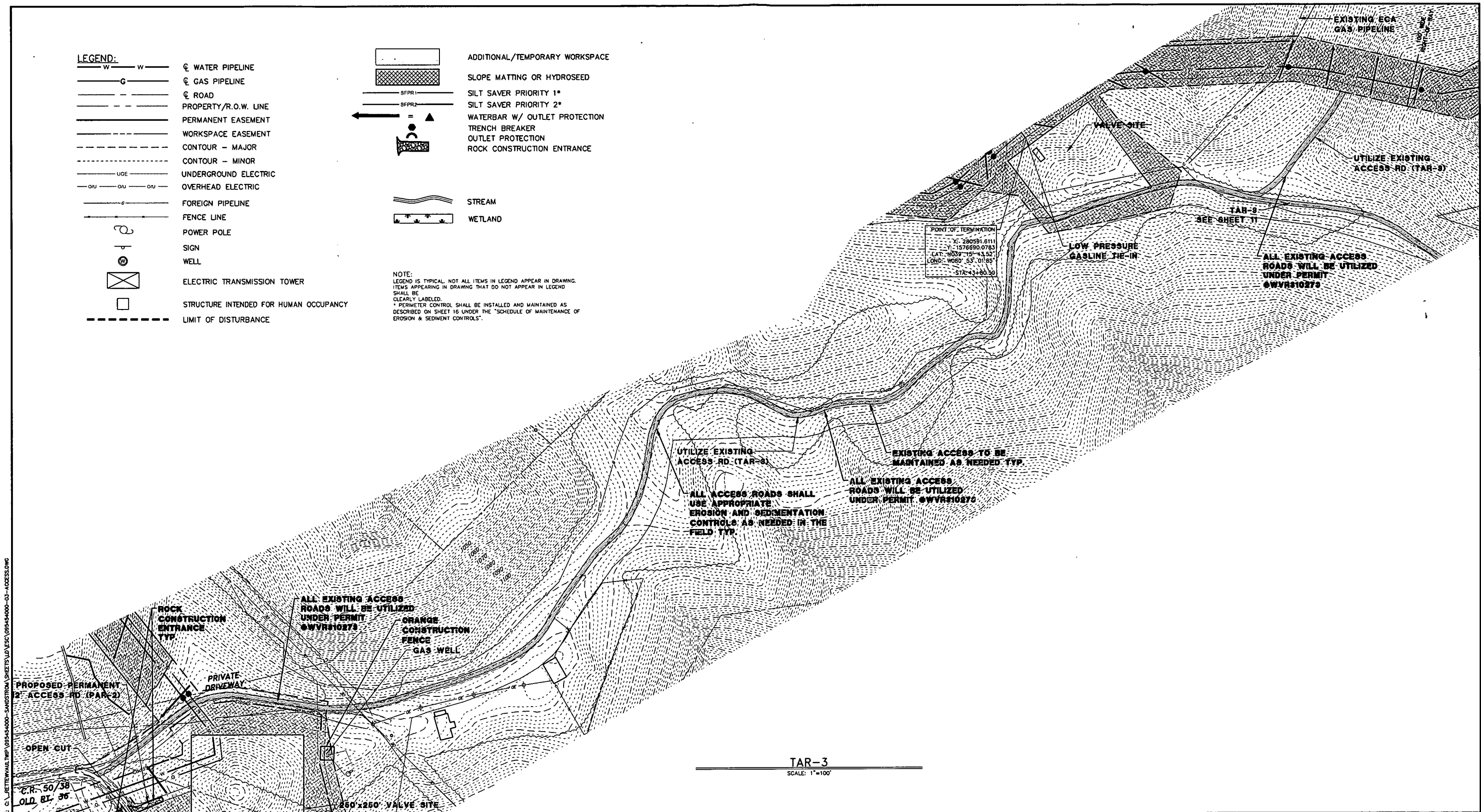
LEGEND:

- W — W — WATER PIPELINE
- G — GAS PIPELINE
- R — ROAD
- P — PROPERTY/R.O.W. LINE
- PERMANENT EASEMENT
- WORKSPACE EASEMENT
- CONTOUR - MAJOR
- CONTOUR - MINOR
- UGE — UNDERGROUND ELECTRIC
- OUE — OVERHEAD ELECTRIC
- FOREIGN PIPELINE
- FENCE LINE
- POWER POLE
- SIGN
- WELL
- ELECTRIC TRANSMISSION TOWER
- STRUCTURE INTENDED FOR HUMAN OCCUPANCY
- LIMIT OF DISTURBANCE

- ADDITIONAL/TEMPORARY WORKSPACE
- SLOPE MATTING OR HYDROSEED
- SFPR1 — SILT SAVER PRIORITY 1*
- SFPR2 — SILT SAVER PRIORITY 2*
- WATERBAR W/ OUTLET PROTECTION
- TRENCH BREAKER
- OUTLET PROTECTION
- ROCK CONSTRUCTION ENTRANCE

- STREAM
- WETLAND

NOTE:
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TAR-3
 SCALE: 1"=100'

FILENAME: G:\ETERMVAL\TYP\095454000-SANDSTROM\095454000-03-ACCESS.DWG
 PLOT DATE: 1/29/2016 10:12:33 AM

GENERAL INFORMATION

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HORIZ. SCALE IN FEET

Know what's at stake
Call 811
 BEFORE YOU DIG

Eric W. Hensley

ESTIMATED QUANTIFIED MATERIAL LIST

NO.	DESCRIPTION	QTY	DWG. NO.

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION

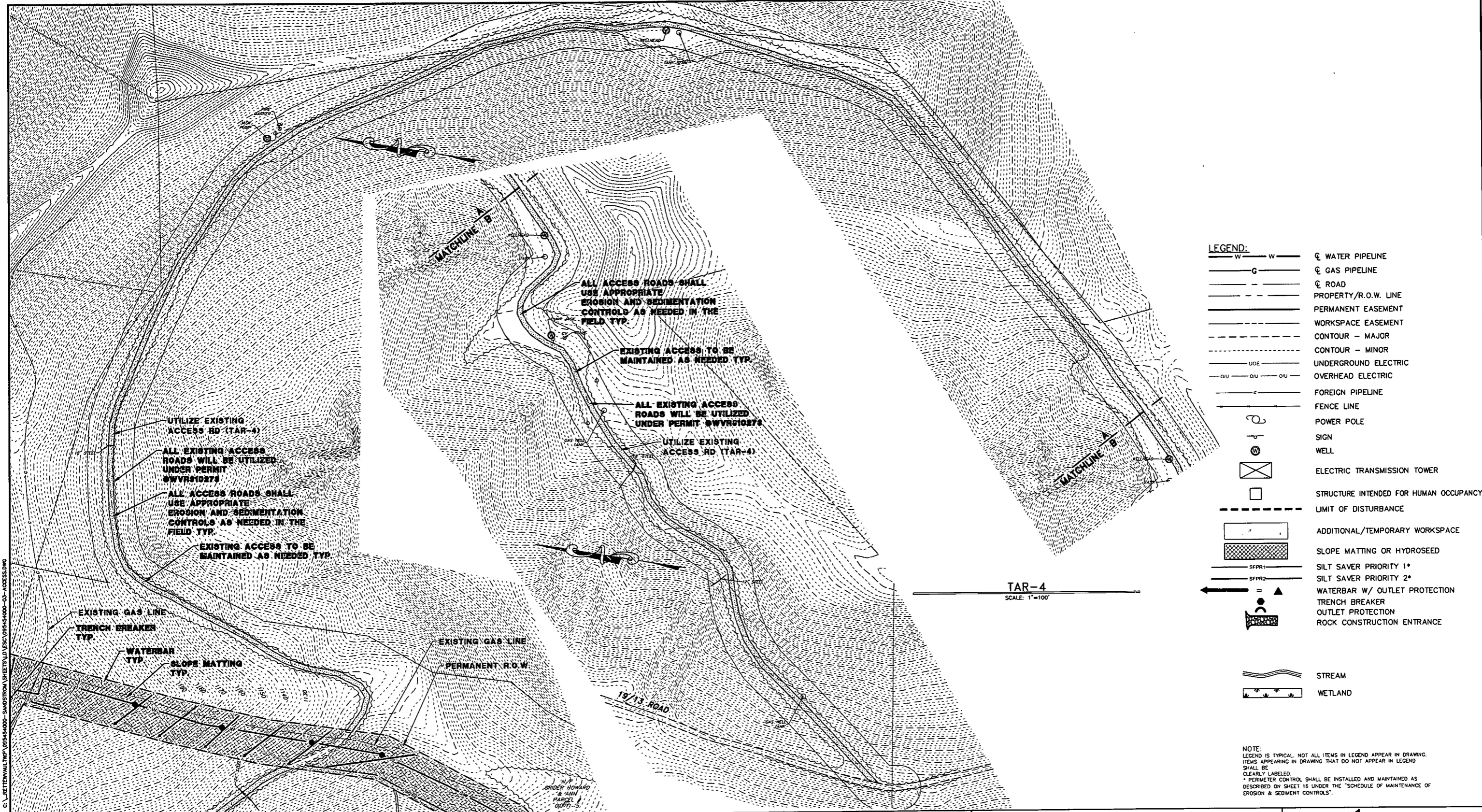
REVISION

NO.	DATE	DESCRIPTION	BY	CHK'D.	PROJ. ENGR.	ENG. APPR.
1	1.26.16	PER DEP COMMENTS	P.J.F	DM	P.J.F	X

**DOTSON HOLLAND ADDENDUM
 ACCESS ROADS**

EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DOODRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/29/2016
 DRAWN BY: [Signature] SHEET 11 OF 20
 CHECKED: [Signature]
 SHT. NAME: WV-CLEARWATER-ACES1-ENS REV. 0



LEGEND:

	WATER PIPELINE
	GAS PIPELINE
	ROAD
	PROPERTY/R.O.W. LINE
	PERMANENT EASEMENT
	WORKSPACE EASEMENT
	CONTOUR - MAJOR
	CONTOUR - MINOR
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC
	FOREIGN PIPELINE
	FENCE LINE
	POWER POLE
	SIGN
	WELL
	ELECTRIC TRANSMISSION TOWER
	STRUCTURE INTENDED FOR HUMAN OCCUPANCY
	LIMIT OF DISTURBANCE
	ADDITIONAL/TEMPORARY WORKSPACE
	SLOPE MATTING OR HYDROSEED
	SILT SAVER PRIORITY 1*
	SILT SAVER PRIORITY 2*
	WATERBAR W/ OUTLET PROTECTION
	TRENCH BREAKER
	OUTLET PROTECTION
	ROCK CONSTRUCTION ENTRANCE
	STREAM
	WETLAND

NOTE:
 LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING.
 ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND
 SHALL BE CLEARLY LABELED.
 * PERIMETER CONTROL SHALL BE INSTALLED AND MAINTAINED AS
 DESCRIBED ON SHEET 18 UNDER THE "SCHEDULE OF MAINTENANCE OF
 EROSION & SEDIMENT CONTROLS".

GENERAL INFORMATION

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1" = 100'
 HORIZ. SCALE IN FEET

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Eric W. Hersh

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NO.	DESCRIPTION	QTY	DWG. NO.

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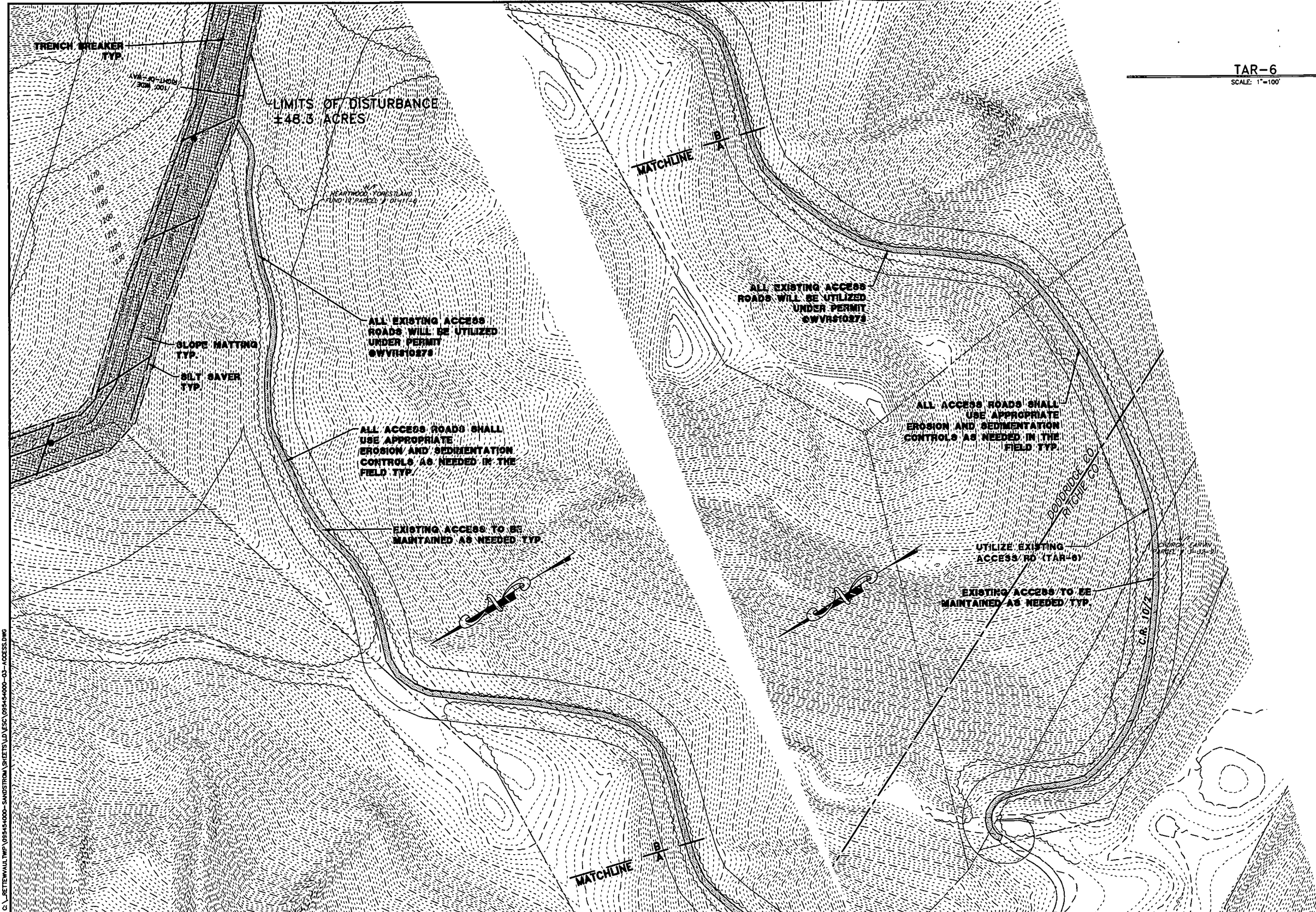
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NO.	DATE	DESCRIPTION	BY	CHK'D.	PROJ. ENGR.	ENG. APPR.
1	1.26.16	PER DEP COMMENTS	PJF	DM	PJF	X

Antero
 Midstream Partners LP
 DOTSON HOLLAND ADDENDUM
ACCESS ROADS
 EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DOODRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/24/18 TIME: 10:58 AM
 SCALE: AS SHOWN
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 SHEET 12 OF 20
 SHT. NAME: WV-CLEARWATER-ACES2-ENS [REV. 0]

PLOT DATE: 1/29/2016 10:16:15 AM FILENAME: G:\JETTER\WV\TWP\095454000-SANDSTROM\095454000-03-ACCESS.DWG



TAR-6
SCALE: 1"=100'

LEGEND:

— w — w —	☉ WATER PIPELINE
— G —	☉ GAS PIPELINE
— — — — —	☉ ROAD
— — — — —	PROPERTY/R.O.W. LINE
— — — — —	PERMANENT EASEMENT
— — — — —	WORKSPACE EASEMENT
— — — — —	CONTOUR - MAJOR
— — — — —	CONTOUR - MINOR
— UGE —	UNDERGROUND ELECTRIC
— OUI — OUI — OUI —	OVERHEAD ELECTRIC
— — — — —	FOREIGN PIPELINE
— — — — —	FENCE LINE
⊙	POWER POLE
⊙	SIGN
⊙	WELL
⊗	ELECTRIC TRANSMISSION TOWER
□	STRUCTURE INTENDED FOR HUMAN OCCUPANCY
— — — — —	LIMIT OF DISTURBANCE
▭	ADDITIONAL/TEMPORARY WORKSPACE
▨	SLOPE MATTING OR HYDROSEED
SFPR1	SILT SAVER PRIORITY 1*
SFPR2	SILT SAVER PRIORITY 2*
▲	WATERBAR W/ OUTLET PROTECTION
⊓	TRENCH BREAKER
⊓	OUTLET PROTECTION
⊓	ROCK CONSTRUCTION ENTRANCE
~	STREAM
⊓	WETLAND

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PLOT DATE: 1/29/2016 10:20:41 AM FILENAME: C:\BETTERWALL\TWP\095454000-SANDSTROM\SHETS\LD\ESD\095454000-03-ACCESS.DWG

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NO.	DESCRIPTION	QTY	DWG. NO.

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION
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REVISION

NO.	DATE	DESCRIPTION	BY	CHKD.	ENGR.	APPR.

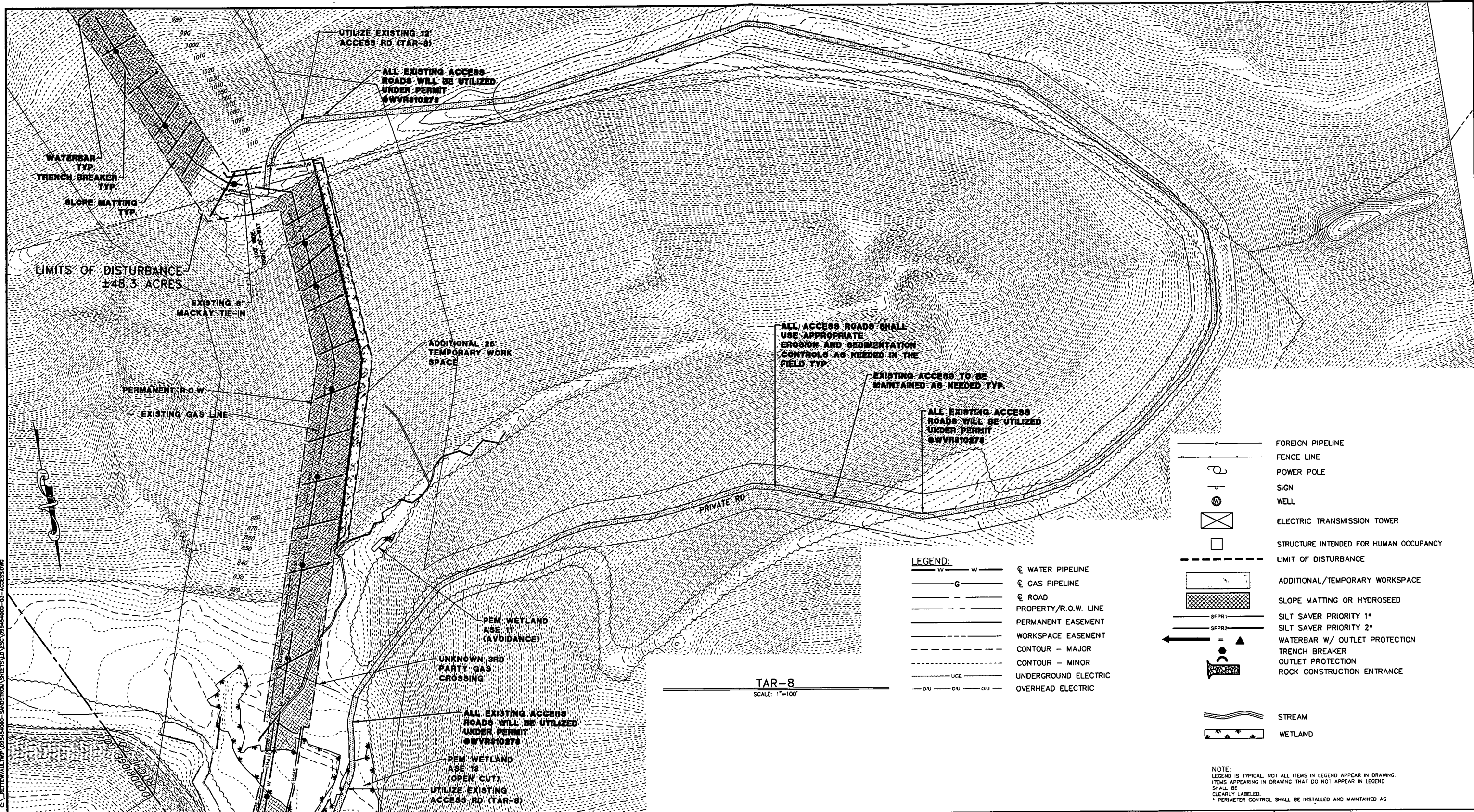
Antero
Midstream Partners LP

**DOTSON HOLLAND ADDENDUM
ACCESS ROADS**

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/27/16
SCALE: AS SHOWN
DRAWN BY: JES
CHECKED BY: JES
SHEET 13 OF 20

SHT. NAME: WV-CLEARWATER-ACES3-ENS | REV. 0



- FOREIGN PIPELINE
- FENCE LINE
- POWER POLE
- SIGN
- WELL
- ELECTRIC TRANSMISSION TOWER
- STRUCTURE INTENDED FOR HUMAN OCCUPANCY
- LIMIT OF DISTURBANCE
- ADDITIONAL/TEMPORARY WORKSPACE
- SLOPE MATTING OR HYDROSEED
- SFPR1 SILT SAVER PRIORITY 1*
- SFPR2 SILT SAVER PRIORITY 2*
- WATERBAR W/ OUTLET PROTECTION
- TRENCH BREAKER
- OUTLET PROTECTION
- ROCK CONSTRUCTION ENTRANCE
- STREAM
- WETLAND

- LEGEND:**
- W — W — WATER PIPELINE
 - G — G — GAS PIPELINE
 - R — R — ROAD
 - P — P — PROPERTY/R.O.W. LINE
 - E — E — PERMANENT EASEMENT
 - W — W — WORKSPACE EASEMENT
 - M — M — CONTOUR - MAJOR
 - m — m — CONTOUR - MINOR
 - UGE — UGE — UNDERGROUND ELECTRIC
 - OUE — OUE — OVERHEAD ELECTRIC

TAR-8
SCALE: 1"=100'

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NO.	DESCRIPTION	QTY

REFERENCE DRAWINGS		
NO.	DATE	DESCRIPTION

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NO.	DATE	DESCRIPTION	BY	CHK'D.
1	1.26.16	PER DEP COMMENTS	PJF	DM

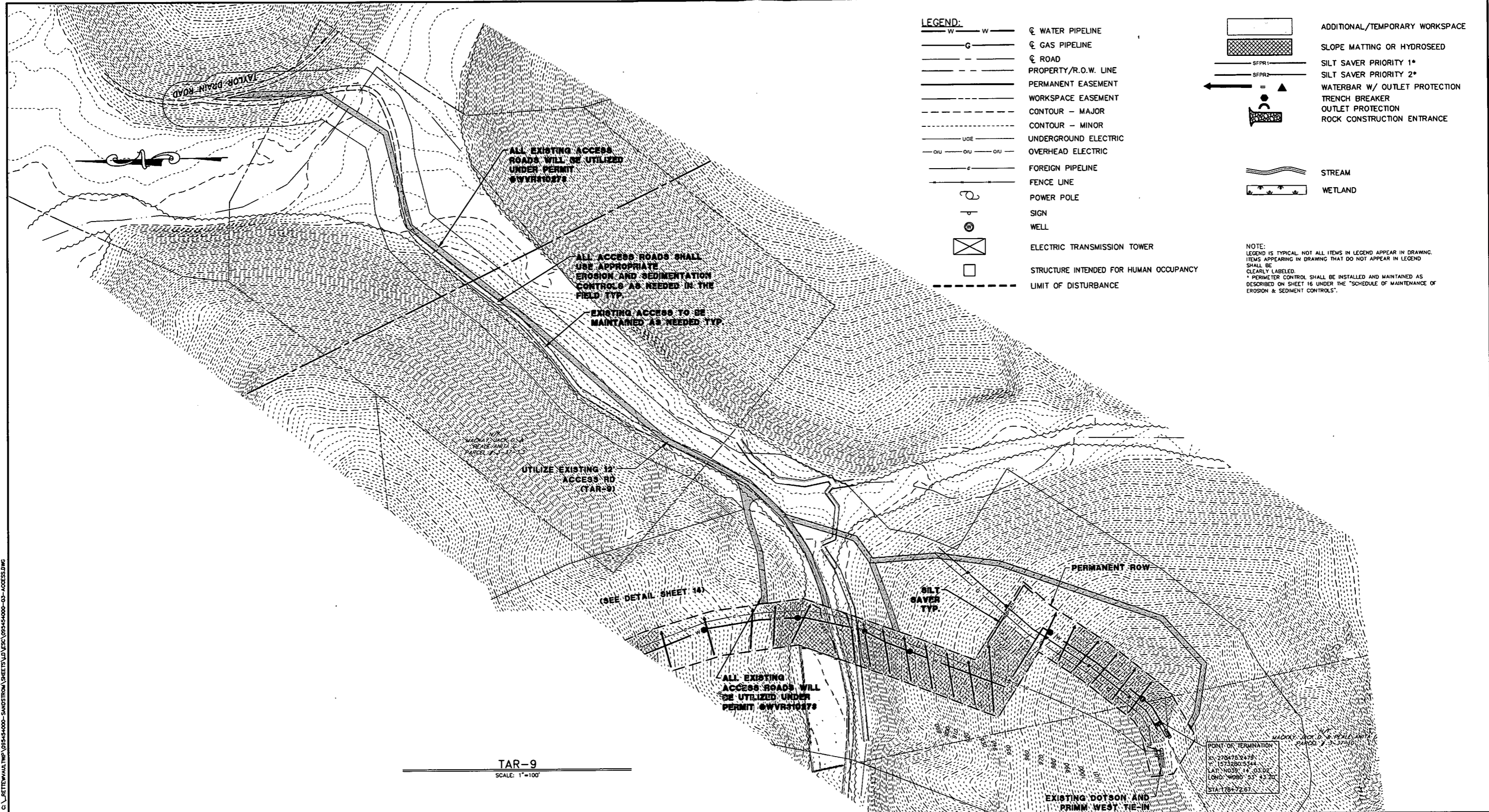
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DOTSON HOLLAND ADDENDUM
ACCESS ROADS

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/27/16
SCALE: AS SHOWN
DRAWN BY: MHS
CHECKED BY: TFL
SHT. NAME: WV-CLEARWATER-ACES4-ENS
SHEET 14 OF 20
REV. 0

PLOT DATE: 1/29/2016 10:21:40 AM FILENAME: G:\BETTERWORLD\TWP_095454000-SANDSTROM\DRG\095454000-03-ACCESS.DWG



FILENAME: C:\RETENVAL\TWP\093454000-SANDSTROM\SHETS\LD\ESK\093454000-03-ACCESS.DWG
 PLOT DATE: 1/29/2016 10:25:29 AM

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ESTIMATED QUANTIFIED MATERIAL LIST

NO.	DESCRIPTION	QTY	DWG. NO.

REFERENCE DRAWINGS

NO.	DATE	DESCRIPTION

REVISION

NO.	DATE	DESCRIPTION	BY	CHKD.	ENG. APPR.	X
1	1-26-16	PER DEP COMMENTS	P.J.F.	DM	P.J.F.	

DOTSON HOLLAND ADDENDUM ACCESS ROADS
 EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

SHEET 15 OF 20
 SHT. NAME: WV-CLEARWATER-ACCESS-ENS [REV. 0]

VEGETATIVE ESTABLISHMENT NOTES:**A. GENERAL****1. OBJECTIVES**

PROVIDE SUFFICIENT VEGETATION TO CONTROL EROSION AND SEDIMENTATION ON AND OFF THE SITE - A VEGETATIVE COVER OF 70% OR GREATER IS REQUIRED. THE STANDARDS REQUIRED BY THESE PLANS MAY BE MODIFIED ONLY WITH PRIOR AND DOCUMENTED APPROVAL.

2. ACREAGE CALCULATION

APPLICATION RATES LISTED ON THESE PLANS ARE ON A PER ACRE BASIS. TO CALCULATE ACREAGE, MEASURE THE AVERAGE LENGTH AND WIDTH (IN FEET) OF EACH AREA TO BE TREATED. ACREAGE IS DETERMINED BY MULTIPLYING THE LENGTH BY THE WIDTH, THEN DIVIDING THE TOTAL BY 43,560.

B. SITE PREPARATION**1. WATER CONTROL**

INSTALL NEEDED SURFACE WATER CONTROL MEASURES, DIVERSION DITCHES, WATER BARS, SEDIMENT CONTROLS PRIOR TO SEEDING AND MULCHING.

2. SEEDBED PREPARATION

THE SEEDBED MUST BE LOOSE AT THE TIME OF SEEDING. APPLICATIONS OF SEED ON HARD GROUND WILL RESULT IN A POOR STAND OF VEGETATION. THE SOIL SURFACE MUST BE LOOSENED (MINIMUM OF 3 INCHES) BY DISKING ON THE CONTOUR, OR BY BULLDOZER TRACKING UP AND DOWN THE SLOPE. BACKBLADING IS ACCEPTABLE ON GENTLE SLOPES SUCH AS THE BENCH OR ROAD BED. IF SEEDBED PREPARATION IS NOT FEASIBLE, 50% MORE SEED SHALL BE ADDED TO THE RECOMMENDED RATES SHOWN IN THE TABLES. WHEN HYDROSEEDING, SEEDBED PREPARATION MAY NOT BE NECESSARY IF ADEQUATE SITE PREPARATION WAS PERFORMED. APPLY ALL NUTRIENT REQUIREMENTS IMMEDIATELY PRIOR TO SEEDING. SOIL FERTILITY AND PH LEVEL SHOULD BE TESTED AND ADJUSTED ACCORDING TO SEED SPECIES PLANTED. WHERE SAMPLING IS IMPRACTICAL OR NOT FEASIBLE, AN ALL-INCLUSIVE FERTILIZER RECOMMENDATION MAY BE USED AS SHOWN IN THE TABLE. APPLY LIME TO BRING SOIL PH TO A RANGE SUITABLE (PH 6.0) FOR THE PLANNED SPECIES. IN ABSENCE OF A SOILS TEST, 2 TONS/ACRE OF LIME MAY BE APPLIED (90 LBS./1000 SQ. FT.). INCORPORATE THE APPROPRIATE AMOUNT OF LIME AND/OR FERTILIZER IN THE SLURRY MIX WHEN HYDROSEEDING.

C. SEEDING**1. TEMPORARY SEEDING**

a. TEMPORARY SEEDING APPLIES WHERE EXPOSED SOIL SURFACES ARE NOT TO BE FINE-GRADED OR WORKED FOR PERIODS LONGER THAN 14 DAYS. TEMPORARY VEGETATIVE COVER WITH SEDIMENT CONTROLS MUST BE ESTABLISHED WHERE RUNOFF WILL GO DIRECTLY INTO A STREAM. IMMEDIATELY UPON CONSTRUCTION OF THE SITE (SITE INCLUDES ROAD AND LOCATION), VEGETATION MUST BE ESTABLISHED ON ROADWAYS AND LOCATIONS WHERE A PERMANENT VEGETATIVE COVER SHALL BE APPLIED TO AREAS THAT WILL BE LEFT UNWORKED FOR A PERIOD OF MORE THAN 6 MONTHS.

b. SEED MIXTURES AND PLANTING DATES REFER TO THE TABLES FOR RECOMMENDED DATES TO ESTABLISH VEGETATIVE COVER AND THE APPROVED LISTS OF TEMPORARY AND PERMANENT PLANT SPECIES, AND PLANTING RATES. THE TABLE GIVES RECOMMENDED TYPES OF TEMPORARY VEGETATION. RATES OF APPLICATION, AND OPTIMUM SEEDING DATES, IN SITUATIONS WHERE ANOTHER COVER IS DESIRED CONTACT THE LOCAL SOIL CONSERVATION DISTRICT FOR SEEDING RECOMMENDATIONS.

c. SEED APPLICATION

APPLY SEED BY BROADCASTING, DRILLING, OR BY HYDROSEEDING ACCORDING TO THE RATES INDICATED IN THE TABLE. PERFORM ALL PLANTING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. NECESSARY SITE PREPARATION, ROUGHENING OF THE SOIL SURFACE, SHOULD BE DONE JUST PRIOR TO SEEDING. SEEDBED PREPARATION MAY NOT BE REQUIRED ON NEWLY DISTURBED AREAS.

2. PERMANENT SEEDING**a. GENERAL**

PERMANENT VEGETATIVE COVER WILL BE ESTABLISHED WHERE NO FURTHER SOIL DISTURBANCE IS ANTICIPATED OR NEEDED. SOIL FERTILITY AND PH LEVEL SHOULD BE TESTED AND ADJUSTED ACCORDING TO SEED SPECIES PLANTED. PLANTING OF PERMANENT VEGETATIVE COVERS MUST BE PERFORMED ON ALL DISTURBED AREAS AFTER THE COMPLETION OF THE DRILLING PROCESS. ANY SITE THAT CONTAINS SIGNIFICANT AMOUNTS OF TOPSOIL SHALL HAVE THE TOPSOIL REMOVED AND STOCKPILED WHEN FEASIBLE. TOPSOIL SHOULD NOT BE ADDED TO SLOPES STEEPER THAN 2:1 UNLESS A GOOD BONDING TO THE SUB-LAYER CAN BE ACHIEVED. AFTER PROPER GRADING AND SEEDBED PREPARATION, THE VEGETATION WILL REESTABLISH GROUND COVER FOR THE CONTROL OF SURFACE WATER RUNOFF AND EROSION.

ALL REQUIRED SEEDBED PREPARATION, LOOSENING OF SOIL BY DISKING OR DOZER TRACKING, SHOULD BE PERFORMED JUST PRIOR TO SEEDING. IF SEEDBED PREPARATION IS NOT FEASIBLE, 50% MORE SEED SHALL BE ADDED TO THE RECOMMENDED RATES SHOWN IN THE TABLES.

WHEN HYDROSEEDING, SEEDBED PREPARATION MAY NOT BE NECESSARY IF ADEQUATE SITE PREPARATION WAS PERFORMED. INCORPORATE THE APPROPRIATE AMOUNT OF LIME AND/OR FERTILIZER IN THE SLURRY MIX WHEN HYDROSEEDING.

WHEN HYDROSEEDING, FIRST MIX THE LIME, FERTILIZER, AND HYDRO-MULCH IN THE RECOMMENDED AMOUNT OF WATER. MIX THE SEED AND INOCULANT TOGETHER WITHIN ONE HOUR PRIOR TO PLANTING, AND ADD TO THE SLURRY JUST BEFORE SEEDING. APPLY THE SLURRY UNIFORMLY OVER THE PREPARED SITE. ASSURE THAT ADOPTION IS CONTINUOUS THROUGHOUT THE SEEDING OPERATION AND THAT THE MIX IS APPLIED WITHIN ONE HOUR OF INITIAL MIXING.

b. LIME AND FERTILIZER

i. LIME SHALL BE APPLIED TO ALL PERMANENT SEEDINGS. THE PH OF THE SOIL IS TO BE DETERMINED AND LIME APPLIED ACCORDINGLY. ONCE THE PH IS KNOWN, SELECT THE AMOUNT OF LIME TO BE APPLIED FROM THE TABLE.

ii. FERTILIZER SHALL BE APPLIED IN ALL PERMANENT SEEDINGS. APPLY THE EQUIVALENT OF 200 LBS. MINIMUM 10-20-20 FERTILIZER PER ACRE OR USE THE AMOUNT OF FERTILIZER AND LIME RECOMMENDED BY A CERTIFIED SOIL TEST.

iii. APPLICATION: FOR BEST RESULTS AND MAXIMUM BENEFITS THE LIME AND FERTILIZER ARE TO BE APPLIED AT THE TIME OF SEEDBED PREPARATION.

c. PERMANENT SEED MIXTURES

CONTRACTOR SHOULD TAKE INTO CONSIDERATION THE SPECIES MAKEUP OF THE EXISTING PASTURE AND THE LANDOWNER'S FUTURE PASTURE MANAGEMENT PLANS WHEN SELECTING SEED MIXTURES. SELECTION: IF NOT SPECIFIED BY LANDOWNER, SELECT FROM THE PERMANENT SEEDING TABLE.

NOTES:

- ALL LEGUMES MUST BE PLANTED WITH THE PROPER INOCULANT PRIOR TO SEEDING.
- "LATHCO" FLATPEA IS POTENTIALLY POISONOUS TO SOME LIVESTOCK.
- ONLY ENDOPHYTE FREE VARIETIES OF TALL FESCUE SHOULD BE USED. TALL FESCUE AND CROWNVECH ARE ALSO A VERY INVASIVE SPECIES NON-NATIVE TO WV.
- FOR UNPREPARED SEEDBEDS OR SEEDING OUTSIDE THE OPTIMUM TIMEFRAMES, ADD 50% MORE SEED TO THE SPECIFIED RATE.

4. SEEDING FOR WILDLIFE HABITAT

CONSIDER THE USE OF NATIVE PLANTS OR LOCALLY ADAPTED PLANTS WHEN SELECTING COVER TYPES AND SPECIES FOR WILDLIFE HABITAT. WILDLIFE FRIENDLY SPECIES OR MIXES THAT HAVE MULTIPLE VALUES SHOULD BE CONSIDERED. SEE WILDLIFE FRIENDLY SPECIES/MIXTURES IN TABLE IV-4B. AVOID SELECTING NO OR LOW MAINTENANCE UN-LIVED PLANTS ADAPTABLE TO SITES WHICH MAY BE DIFFICULT TO MAINTAIN WITH EQUIPMENT.

D. MULCHING**1. GENERAL ORGANIC MULCHES**

THE APPLICATION OF STRAW, HAY OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE TO PREVENT EROSION. STRAW MADE FROM WHEAT OR OATS IS THE PREFERRED MULCH. THE USE OF HAY IS PERMISSIBLE, BUT NOT ENCOURAGED DUE TO THE RISK OF SPREADING INVASIVE SPECIES. MULCH MUST BE APPLIED TO ALL TEMPORARY AND PERMANENT SEEDING ON ALL DISTURBED AREAS, DEPENDING ON SITE CONDITIONS. IN CRITICAL AREAS SUCH AS WATERWAYS, OR STEEP SLOPES, ADDITIONAL OR SUBSTITUTE SOIL PROTECTIVE MEASURES MAY BE USED IF DEEMED NECESSARY. EXAMPLES INCLUDE JUTE MESH, AND SOIL STABILIZATION BLANKETS OR EROSION CONTROL MATTING.

AREAS THAT HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDDED SHOULD BE MULCHED IMMEDIATELY FOLLOWING SEEDING. MULCHES CONSERVE DESIRABLE SOIL PROPERTIES, REDUCE SOIL MOISTURE LOSS, PREVENT CRUSTING AND SEALING OF THE SOIL SURFACE AND PROVIDE A SUITABLE MICROCLIMATE FOR SEED GERMINATION.

AREAS THAT CANNOT BE SEEDDED BECAUSE OF THE SEASON SHOULD BE MULCHED TO PROVIDE SOME PROTECTION TO THE SOIL SURFACE. AN ORGANIC MULCH, STRAW OR HAY, SHOULD BE USED AND THE AREA THEN SEEDDED AS SOON AS WEATHER OR SEASONAL CONDITIONS PERMIT. DO NOT USE FIBER MULCH (CELLULOSE-HYDROSEED) ALONE FOR THIS PRACTICE. AT NORMAL APPLICATION RATES IT WILL NOT GIVE THE SOIL PROTECTION OF OTHER TYPES OF MULCH.

WOOD CELLULOSE FIBER MULCH, IS USED IN HYDROSEEDING OPERATIONS AND APPLIED AS PART OF THE SLURRY, IT CREATES THE BEST SEE-SOIL CONTACT WHEN APPLIED OVER TOP OF (AS A SEPARATE OPERATION) NEWLY SEEDDED AREAS. FIBER MULCH DOES NOT ALONE PROVIDE SUFFICIENT PROTECTION ON HIGHLY ERODIBLE SOILS, OR DURING LESS THAN FAVORABLE GROWING CONDITIONS. FIBER MULCH SHOULD NOT BE USED ALONE DURING THE DRY SUMMER MONTHS OR WHEN USED FOR LATE FALL MULCH COVER. USE STRAW MULCH DURING THESE PERIODS, AND FIBER MULCH MAY BE USED TO TACK (ANCHOR) THE STRAW MULCH. FIBER MULCH IS WELL SUITED FOR STEEP SLOPES, CRITICAL AREAS, AND AREAS SUSCEPTIBLE TO WIND.

2. CHEMICAL MULCHES, SOIL BINDERS AND TACKIFIERS

A WIDE RANGE OF SYNTHETIC, SPRAY-ON MATERIALS IS MARKETED TO STABILIZE AND PROTECT THE SOIL SURFACE. THESE ARE MIXED WITH WATER AND SPRAYED OVER THE MULCH AND TO THE SOIL. THEY MUST BE USED ALONE IN SOME CASES AS TEMPORARY STABILIZERS, OR IN CONJUNCTION WITH FIBER MULCH, STRAW OR HAY.

WHEN USED ALONE MOST CHEMICAL MULCHES DO NOT HAVE THE CAPABILITY TO INSULATE THE SOIL OR RETAIN SOIL MOISTURE THAT ORGANIC MULCHES HAVE.

3. SPECIFICATIONS

FROM THE TABLE SELECT THE TYPE OF MULCH AND RATE OF APPLICATION THAT WILL BEST SUIT THE CONDITIONS AT THE SITE.

4. ANCHORING

DEPENDING ON THE FIELD SITUATION, MULCH MAY NOT STAY IN PLACE BECAUSE OF WIND ACTION OR RAPID WATER RUNOFF. IN SUCH CASES, MULCH IS TO BE ANCHORED MECHANICALLY OR WITH MULCH NETTING.

a. MECHANICAL ANCHORING

APPLY MULCH AND PULL A MULCH ANCHORING TOOL OVER THE MULCH. WHEN A DISK IS USED, SET THE DISK STRAIGHT AND PULL ACROSS THE SLOPE. MULCH MATERIAL SHOULD BE TUCKED INTO THE SOIL ABOUT THREE INCHES.

b. MULCH NETTING

FOLLOW MANUFACTURER'S RECOMMENDATIONS WHEN POSITIONING AND STAPLING THE MULCH NETTING IN THE SOIL.

C. FENCING

LIVESTOCK SHALL BE CONTROLLED OR EXCLUDED AS NECESSARY TO ALLOW FOR ESTABLISHMENT AND MAINTENANCE OF THE DESIRED VEGETATIVE COVER. WHERE LIVESTOCK ARE PRESENT, THE OPERATOR SHOULD CONSULT WITH THE AFFECTED LANDOWNER TO COORDINATE THE FENCE TYPE AND LAYOUT. ALSO, PERMANENT FENCING MAY BE NECESSARY AS A PROTECTIVE MEASURE AROUND WELL SITE FIXTURES, SENSITIVE AREAS OR AREAS PRONE TO RECURRING DISTURBANCE AND EROSION (E.G. SLIPS).

MINIMUM STANDARDS FOR INSTREAM CONSTRUCTION ACTIVITIES

GENERAL REQUIREMENTS FOR ALL INSTREAM ACTIVITIES:

- ALL APPROPRIATE PERMITS SHOULD BE OBTAINED PRIOR TO BEGINNING INSTREAM CONSTRUCTION ACTIVITIES SUCH AS CREATING A RESTRICTION OR IMPEDIMENT OF FLOW.
- ISOLATING THE WORK AREA AND "WORKING IN THE DRY" IS THE ONLY EFFECTIVE WAY OF CONTROLLING SEDIMENT.
- ALL INSTREAM CONSTRUCTION SHOULD BE SCHEDULED TO OCCUR DURING LOW FLOW PERIODS, TYPICALLY DURING THE SUMMER AND FALL MONTHS. IF CONSTRUCTION MUST BE ACCOMPLISHED DURING HIGHER FLOWS, THE WORK AREA MUST BE ISOLATED FROM THE STREAM BY A STRUCTURAL MEASURE SUCH AS A NON-ERODIBLE COFFERDAM OR SHEET PILING. EMERGENCY REPAIRS OF PUBLIC UTILITIES OR PUBLIC ROADS ARE EXEMPTED.
- ALL STREAMBANKS ARE TO BE STABILIZED WITH AN APPROPRIATE PROTECTIVE MATERIAL SUCH AS RIPRAP, REVEGETATION, GEOTEXTILES, REVETMENTS, ETC. IMMEDIATELY UPON COMPLETION OF THE FINAL GRADING.
- THE CHOICE OF STABILIZATION MATERIALS (VEGETATIVE OR STRUCTURAL) SHOULD BE BASED ON SOUND ENGINEERING PRACTICES AND WILL INCLUDE INVESTIGATIONS OF THE SOIL'S ERODIBILITY AND THE ANTICIPATED VELOCITIES OF THE STREAM.
- INLET AND OUTLET PROTECTION IS REQUIRED FOR ALL CULVERTS (BOTH TEMPORARY AND PERMANENT). OUTLET PROTECTION CAN CONSIST OF RIPRAP, GABION BASKETS, OR OTHER APPROVED MATERIALS.
- EVERY EFFORT SHOULD BE MADE TO LIMIT THE AMOUNT OF INSTREAM WORK. UTILITY LINES SHOULD NOT BE INSTALLED WITHIN THE STREAM, WITH THE EXCEPTION OF STREAM CROSSING, WITHOUT IRREFUTABLE PROOF THAT ALTERNATE AVENUES OF ALIGNMENT ARE NOT AVAILABLE. CONVENIENCE IS NOT A JUSTIFIABLE REASON TO INSTALL A UTILITY LINE DOWN A STREAM.
- UTILITY LINES AND ROADWAYS SHOULD CROSS THE STREAM AT RIGHT ANGLES (± 15°) TO THE FLOW OF THE WATER.
- EACH STREAM CROSSING SHOULD BE TREATED AS A SEPARATE PROJECT AND WORK SHOULD PROGRESS UNTIL THE APPROACHES AND STREAM BANKS ARE COMPLETELY STABILIZED. IN NO CASE SHOULD STABILIZATION OF THE STREAM BANK EXCEED 24 HOURS FROM COMPLETION OF THE BACKFILL.
- STREAM SIDE VEGETATION SHOULD BE LEFT INTACT TO THE GREATEST EXTENT POSSIBLE. RIPARIAN BUFFER ZONES ARE TO BE ENHANCED WHENEVER POSSIBLE.
- WHEN WORK IS PERFORMED IN A FLOWING STREAM, PRECAUTIONS SHOULD BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. USE ONLY NON-ERODIBLE MATERIAL FOR THE CONSTRUCTION OF CAUSEWAYS, STREAM DIVERSIONS AND BERMS, AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR COFFERDAMS IF ARMORED BY NON-ERODIBLE COVER MATERIALS SUCH AS FILTER FABRIC AND APPROPRIATELY SIZED STONE.
- ALL WATER PUMPED FROM A WORK AREA ALONG, IN OR NEAR A STREAM MUST BE TREATED IN AN APPROVED SETTLING STRUCTURE LOCATED OUTSIDE THE WATERWAY BEFORE BEING DISCHARGED INTO A WATERWAY.
- GREEN CONCRETE IS TOXIC TO AQUATIC LIFE AND MUST NOT BE PLACED IN CONTACT WITH FLOWING WATER.
- STREAMBED EXCAVATION SHOULD BE UNDERTAKEN FROM THE TOP OF STREAM BANKS WHENEVER POSSIBLE.
- WHEN INSTREAM WORK IS REQUIRED, THE USE OF RUBBER-TIRED VEHICLES AND EXCAVATORS IS RECOMMENDED.
- EXCAVATED MATERIAL TO BE REUSED FOR TRENCH BACKFILL SHOULD BE STOCKPILED OUTSIDE THE STREAM CHANNEL. SURROUND THE STORAGE AREA BY SILT FENCE OR SIMILAR BARRIER TO PREVENT SEDIMENT AND MUD FROM RUNNING BACK INTO THE STREAM. MATERIAL NOT USED FOR BACKFILL SHOULD BE REMOVED TO AN APPROPRIATE SOIL DISPOSAL AREA LOCATED OUTSIDE THE FLOODPLAIN AND PROPERLY STABILIZED.
- TEMPORARY ACCESS ROADS IN CLOSE PROXIMITY TO A STREAM SHOULD BE STABILIZED USING THE SAME REQUIREMENTS FOR A STABILIZED CONSTRUCTION ENTRANCE.
- DO NOT USE THE STREAM AS A VEHICULAR RIGHT-OF-WAY. DO NOT USE THE STREAM TO DELIVER MATERIALS OR TO MOVE CONSTRUCTION EQUIPMENT FROM ONE SECTION TO ANOTHER.
- SPILL CONTAINMENT KITS SHOULD BE READILY AVAILABLE ON SITE.

LIME AND FERTILIZER APPLICATION TABLE

FERTILIZER	LIME
10/20/20	PELLETIZED
200 LBS PER ACRE	1.5 TON PER ACRE

**TABLE 3.10.1
TEMPORARY STABILIZATION SEEDING**

SEED	RATES IN LBS PER ACRE	RECOMMENDED DATA
ANNUAL RYEGRASS	250-350	MAR. 15 TO SEPT. 15
ANNUAL WINTER WHEAT	100-125	SEPT. 15 TO MAR. 15

**TABLE 3.12.1
MULCH MATERIALS RATES AND USES**

MULCH MATERIAL	MINIMUM RATES PER ACRE
STRAW	2 TONS

PERMANENT SEEDING

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%

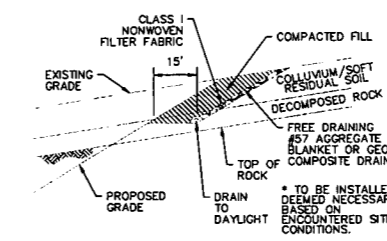
* All seed mixes require double inoculation

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

**TYPICAL SLOPE PROTECTION DETAIL
NOT TO SCALE**

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GENERAL INFORMATION

- THIS SHEET IS INTENDED TO BE PRINTED OUT 22" X 34".
- LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING. ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND SHALL BE CLEARLY LABELED.

**ESTIMATED QUANTIFIED MATERIAL LIST****REFERENCE DRAWINGS****REVISION**

NO.	DESCRIPTION	QTY	DWG. NO.	DESCRIPTION	NO.	DATE	DESCRIPTION	BY	CHK'D.	ENG. APPR.
1		1.26.16		PER DEP COMMENTS	P-J	DM	P-J	X		

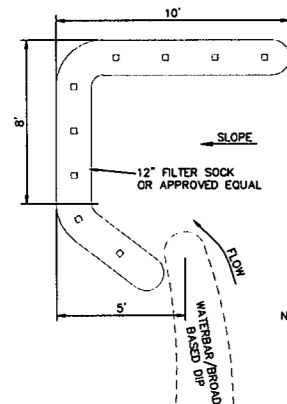
Antero
Midstream Partners LP

DOTSON HOLLAND ADDENDUM
CONSTRUCTION DETAILS

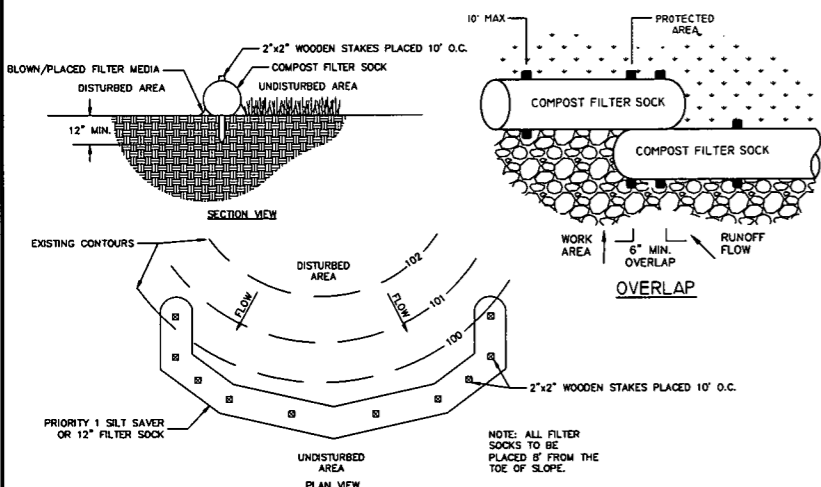
EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DOODRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/29/2016
SCALE: AS SHOWN
DRAWN BY: [initials]
CHECKED: [initials]
SHEET 17 OF 20

SHT. NAME: WV-CLEARWATER-DET2-ENS REV. 0



WATERBAR/BROAD BASED DIP OUTLET PROTECTION DETAIL
NOT TO SCALE

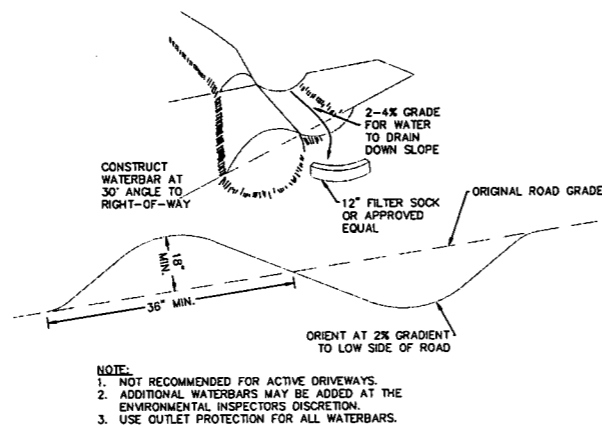


COMPOST SHALL MEET THE FOLLOWING STANDARDS:	
ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	4.5 - 6.0
MOISTURE CONTENT	50% - 95%
PARTICLE SIZE	80% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	3.0 25" MAXIMUM

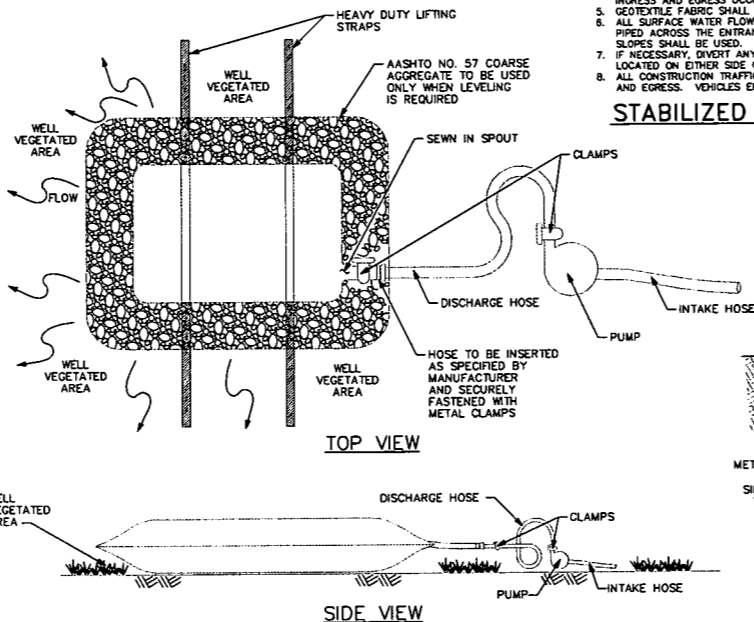
SLOPE PERCENT	MAXIMUM SLOPE LENGTH ABOVE SEDIMENT CONTROL IN FEET*	
	12" MIN.	18" MIN.
2 OR LESS	750	900
3	500	600
10	250	300
15	175	210
20	125	150
25	100	120
30	75	90
35	75	90
40	50	60
45	50	60
50	50	60

* BASED ON A FAILURE OF 36" SUPER SILT FENCE (SIRE REINFORCED AT 1000' OF SLOPE WATERSHED EQUIVALENT TO RECEIVING LENGTH OF SEDIMENT CONTROL DEVICE, 1" / 24 HR. RAIN EVENT.
** EFFECTIVE HEIGHT OF SEDIMENT CONTROL AFTER INSTALLATION AND WITH CONSTANT HEAD FROM RUNOFF AS DETERMINED BY OHIO STATE UNIVERSITY.

COMPOST FILTER SOCK
NOT TO SCALE

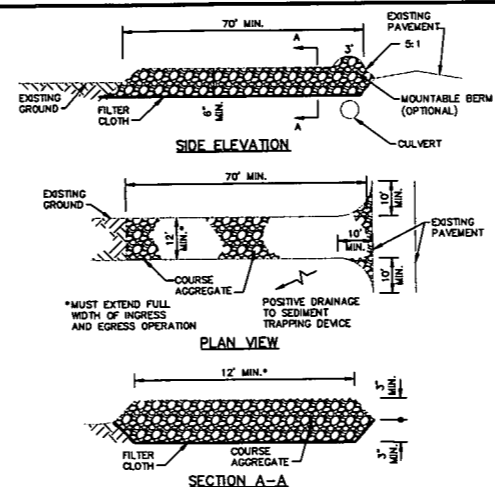


TYPICAL WATERBAR DETAIL
NOT TO SCALE



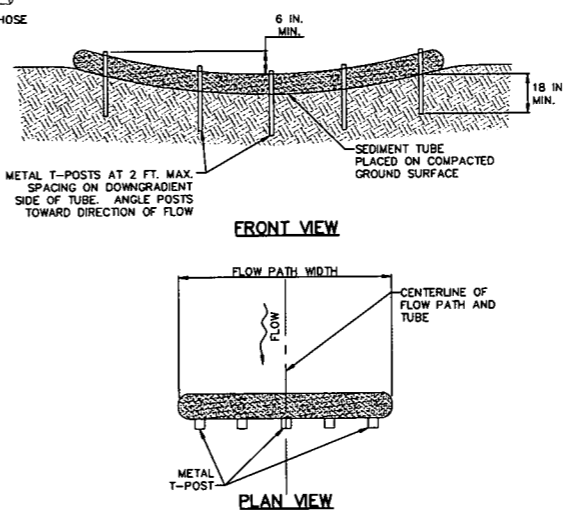
- NOTES**
1. LOCATE BAG IN LEVEL AREAS (LESS THAN 5% GRADE). WHEN LEVEL AREAS ARE NOT AVAILABLE, PLACE AASHTO NO. 57 COARSE AGGREGATE TO LEVEL THE BAG.
 2. LOCATE BAG IN A WELL VEGETATED AREA. DISCHARGE ONTO A STABLE, EROSION RESISTANT AREA. WHEN VEGETATED AREA IS NOT AVAILABLE, PROVIDE A GEOTEXTILE (CLASS 4, TYPE A) LINED FLOW PATH TO A STABLE, EROSION RESISTANT RECEIVING WATER COURSE OR A WELL VEGETATED AREA.
 3. LOCATE BAG IN AN AREA ACCESSIBLE BY EQUIPMENT FOR MAINTENANCE AND REMOVAL PURPOSES.
 4. DO NOT INSERT MORE THAN ONE HOSE INTO A BAG.
 5. REPLACE THE BAG WHEN 50% OF THE SEDIMENT CAPACITY HAS BEEN FILLED AND/OR WHEN THERE IS A FAILURE. THE ADDITIONAL BAGS WILL BE PAID AS EACH.
 6. REMOVE AND PROPERLY DISPOSE OF THE PUMPED WATER FILTER BAGS AND RESTORE THE AREA. DO NOT CUT FILTER BAG OR DISTRIBUTE AND SEED SEDIMENT.
 7. DO NOT PERMIT DISCHARGE FROM THE BAG TO DRAIN BACK INTO WORK OR ACCESS AREAS OF THE PROJECT.
 8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESES.
 9. PLACE AND CONNECT SEDIMENT FILTER BAGS AS PER MANUFACTURER'S RECOMMENDATIONS FOR FOUNDATION EXCAVATION DEWATERING PURPOSES. PROVIDE A BAG THAT WILL HANDLE 1000 GALLONS/MINUTE OF CLEAN WATER DISCHARGE. FILTER PARTICLES DOWN TO 150 MICRONS.

PUMPED WATER FILTER BAG
NOT TO SCALE



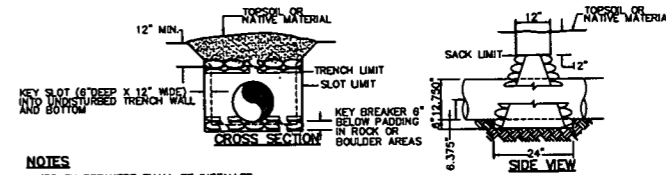
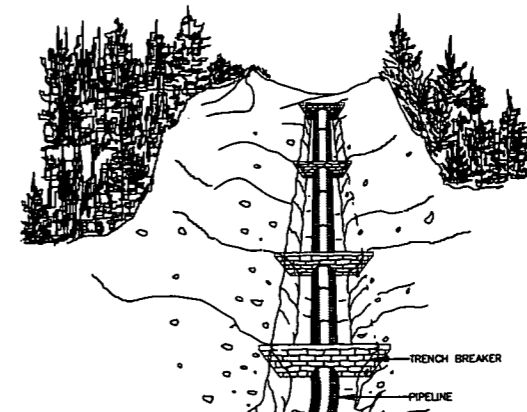
- NOTES**
1. USE 2-4" STONE FOR LOW VOLUME ENTRANCES. LARGER STONE (4-8") FOR HEAVY USE OR MATERIAL DELIVERY ENTRANCES.
 2. LENGTH IS AS REQUIRED, BUT NOT LESS THAN 70' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MIN. LENGTH WOULD APPLY).
 3. THICKNESS SHOULD BE NOT LESS THAN 8".
 4. THE WIDTH SHALL BE A MIN. OF 10', BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS.
 5. GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 6. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE, IF A CULVERT IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES SHALL BE USED.
 7. IF NECESSARY, DIVERT ANY WATER RUNNING DOWN ACCESS ROAD TO A SEDIMENT TRAP LOCATED ON EITHER SIDE OF THE STABILIZED CONSTRUCTION ENTRANCE.
 8. ALL CONSTRUCTION TRAFFIC SHALL UTILIZE CONSTRUCTION ENTRANCES FOR VEHICLE INGRESS AND EGRESS. VEHICLES ENTERING PROJECT AREA SHALL BE FREE OF MUD AND DEBRIS.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



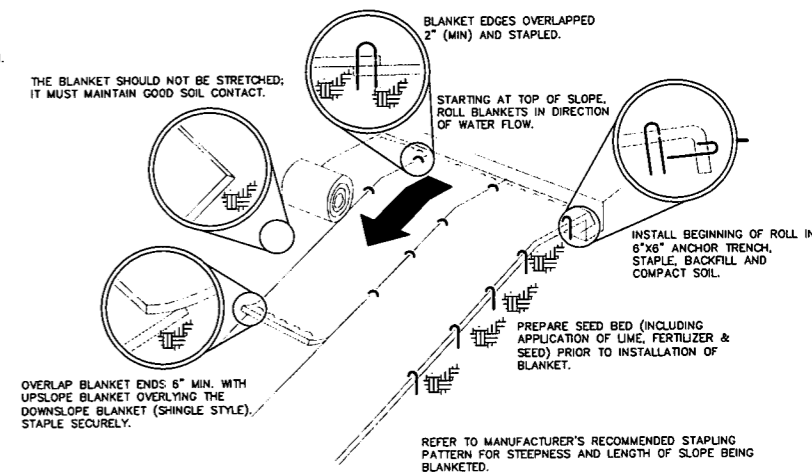
- NOTES**
- THIS DETAIL APPLICABLE TO FLOW PATHS WITH WIDTHS LESS THAN OR EQUAL TO ONE TUBE LENGTH.
 - METAL T-POSTS SHALL BE INSTALLED AT THE CENTER AND AT EACH END OF THE TUBE. ADDITIONAL T-POSTS SHALL BE INSTALLED AS NEEDED TO MEET THE MAXIMUM 2-FOOT SPACING.
 - SEDIMENT TUBES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.
 - ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE TUBE AND DISPOSED AS DIRECTED ELSEWHERE IN THE E&S PLAN.
 - DAMAGED TUBES SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION. A SUPPLY OF TUBES SHALL BE KEPT ON SITE FOR THIS PURPOSE.

STANDARD CONSTRUCTION DETAIL #4-4
WEIGHTED SEDIMENT FILTER TUBE INSTALLATION
CONCENTRATED FLOW AREA
NOT TO SCALE



- NOTES**
1. TRENCH BREAKERS SHALL BE INSTALLED:
 - ON SLOPES ALONG THE TRENCH LINE WHERE THE NATURAL DRAINAGE PATTERN, PROFILE, AND TYPE OF BACKFILL MATERIAL MAY RESULT IN LOSS OF BACKFILL MATERIAL OR ALTERATION OF THE NATURAL PATTERN;
 - AT THE BASE OF SLOPES ADJACENT TO WATERSOURCES AND WETLANDS;
 - ON UPLAND SLOPES, AT THE SAME SPACING AS SLOPE BREAKERS AND UP SLOPE OF SLOPE BREAKERS;
 - IN CULTIVATED LAND AND RESIDENTIAL AREAS WHERE PERMANENT SLOPE BREAKERS ARE NOT TYPICALLY INSTALLED, AT THE SAME SPACING AS IF PERMANENT SLOPE BREAKERS WERE REQUIRED.
 2. OPEN WEAVE HEMP OR JUTE SACKS SHALL BE FILLED WITH A MINIMUM OF 55% MIXTURE OF 1 PART CEMENT TO 6 PARTS SAND OR SUBSOIL SO THAT NATURAL GROUND WATER WILL PERMIT MIXTURE TO EXUDE AND BOND SACKS TOGETHER.
 3. BREAKER SPACING AND CONFIGURATION MAY BE CHANGED AS DIRECTED BY COMPANY. DEPTH OF DITCH MAY VARY WITH SITE CONDITIONS.
 4. ALL MATERIALS SHALL BE SUPPLIED BY CONTRACTOR.

TRENCH BREAKER
NOT TO SCALE



- NOTES**
- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
 - PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AT THE TOP OF SLOPE.
 - SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS.
 - BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT AND UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
 - BLANKET SHALL BE STAPLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - BLANKET AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.
 - HYDROMULCH SUCH AS EARTHGUARD OR FLEXITERRA FLEXIBLE GROWTH MEDIUM CAN BE USED IN PLACE OF EROSION CONTROL BLANKET AT THE MAXIMUM RATE OF 1.5 TON/ACRE FOR SLOPE LESS THAN OR EQUAL TO 1:1.

SLOPE INSTALLATION
NOT TO SCALE

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ESTIMATED QUANTIFIED MATERIAL LIST

REFERENCE DRAWINGS

REVISION

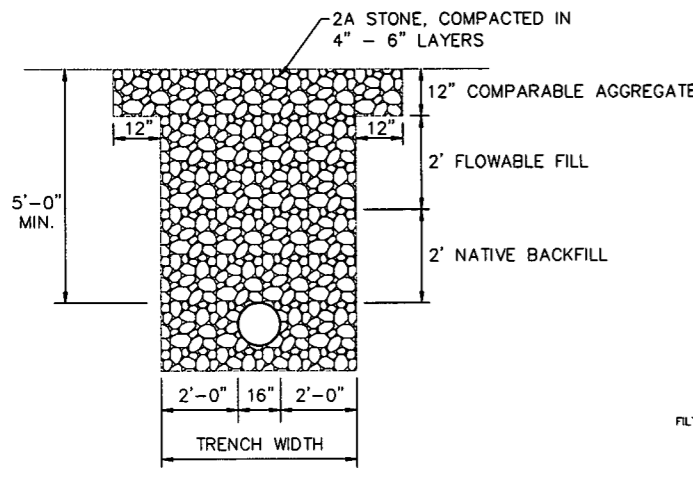
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Antero
MidstreamPartners LP

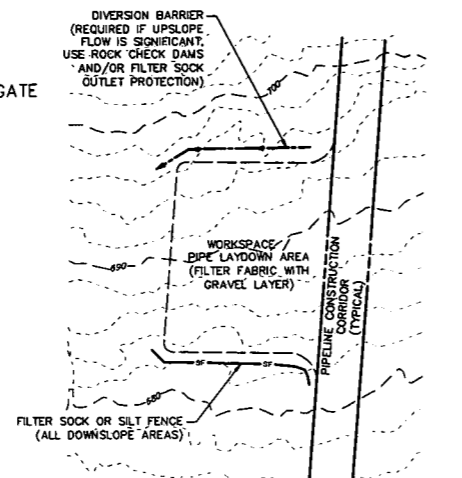
DOTSON HOLLAND ADDENDUM
CONSTRUCTION DETAILS

EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DODDRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

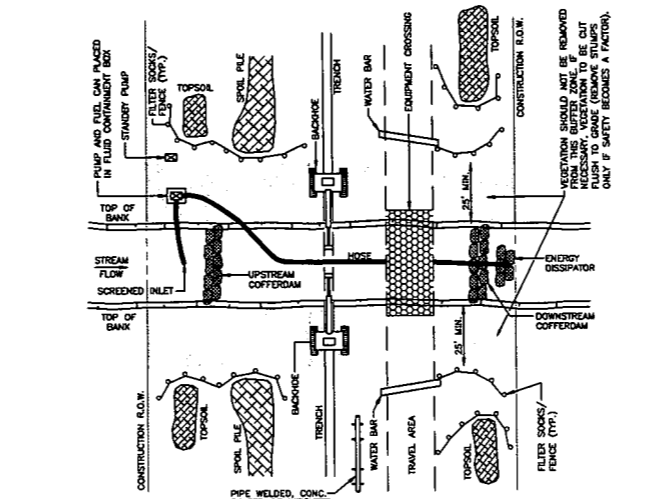
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SHT. NAME: WV-CLEARWATER-DET3-ENS [REV. 0]



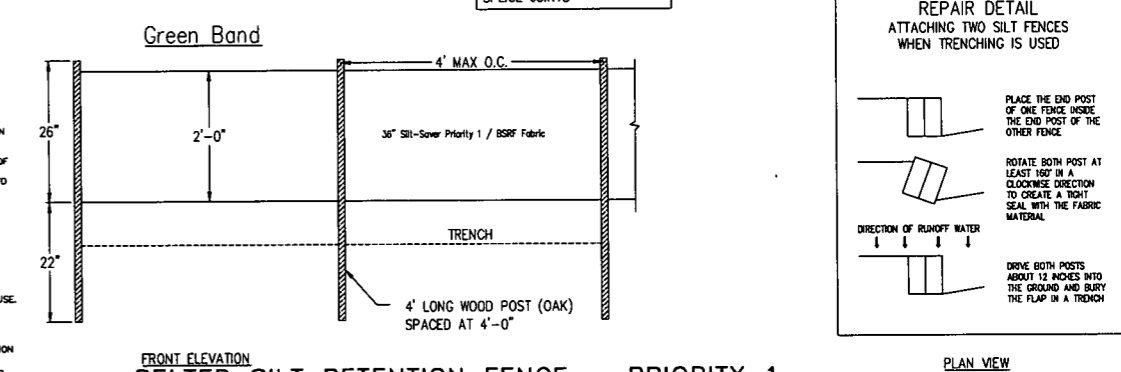
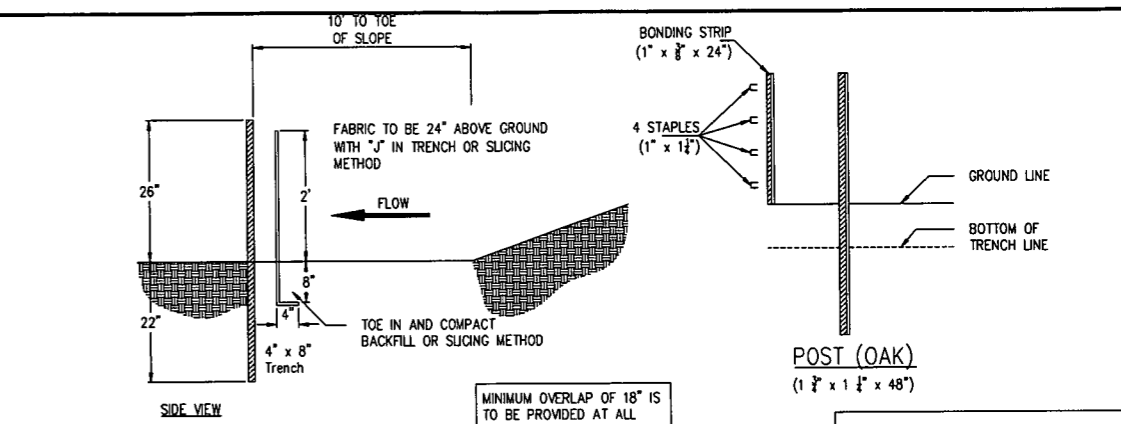
TRENCH RESTORATION DETAIL FOR ROAD CROSSINGS
NOT TO SCALE



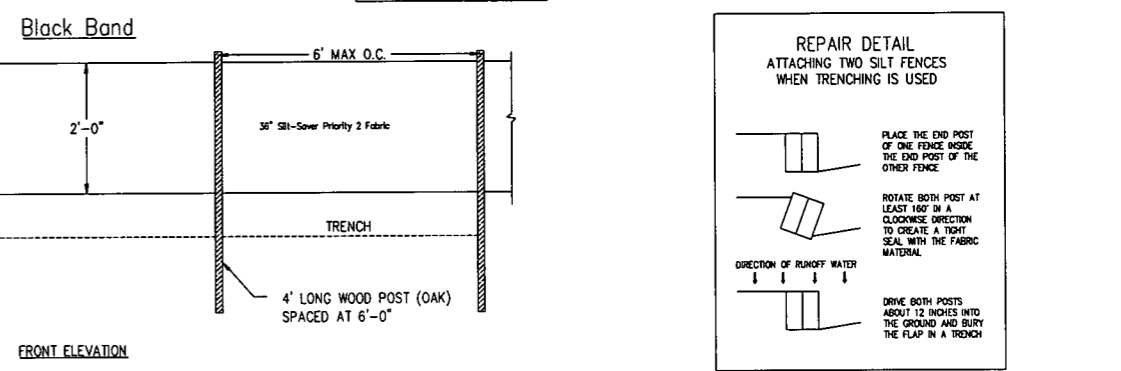
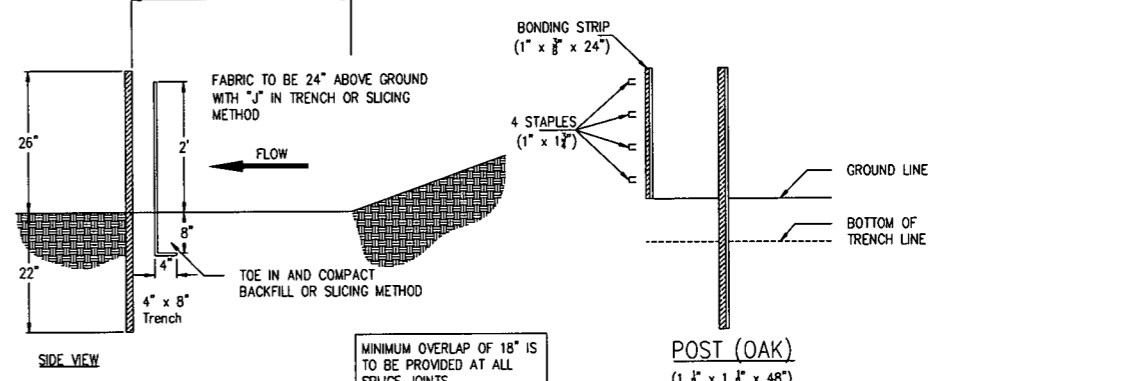
WORKSPACE / PIPE LAYDOWN AREA
NOT TO SCALE



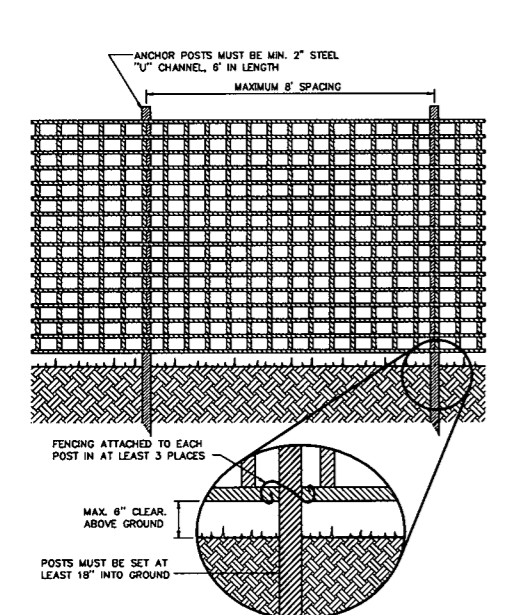
- NOTES:**
1. USE DAM AND PUMP METHOD ON NARROW WATERCOURSES WITH LIMITED STREAM FLOW TO PREVENT SEDIMENTATION AND INTERRUPTION OF STREAM FLOW DURING CROSSING CONSTRUCTION. IF FISH PASSAGE IS A CONCERN, THIS METHOD IS NOT APPROPRIATE.
 2. SCHEDULE CONSTRUCTION DURING LOW FLOW PERIOD.
 3. SET UP PUMP AND HOSE AS SHOWN, OR USE OTHER PRACTICAL ALTERNATIVES. PUMP SHOULD HAVE TWICE THE PUMPING CAPACITY OF ANTICIPATED FLOW. HAVE STANDBY PUMP ON SITE.
 4. INSTALL UPSTREAM DAM COMPOSED OF SANDBAGS OR CLEAN GRAVEL WITH PLASTIC LINER. INSTALL DOWNSTREAM DAM IF REQUIRED TO KEEP STREAM BED DRY.
 5. EXCAVATE TRENCH AND LOWER IN PIPE UNDER HOSE. MOVE HOSE AS REQUIRED OR DISCONNECT IF TEMPORARY FLOW BLOCKAGE IS ACCEPTABLE. BACKFILL TRENCH.
 6. DISMANTLE DOWNSTREAM DAM, THEN UPSTREAM DAM. KEEP PUMP RUNNING TO MAINTAIN FLOW.
 7. MONITOR DAM AND PUMP FOR PROPER OPERATION THROUGHOUT THE CROSSING INSTALLATION.
 8. ENSURE DISTURBED AREAS ARE SEEDED AND MULCHED, AS NEEDED.
- STREAM CROSSING RESTORATION:**
1. ONCE THE SOIL EROSION AND SEDIMENT CONTROL MEASURES, AND THE REQUIRED WATER FLOW CONTROL MEASURES ARE IN PLACE, CONTRACTOR IS TO EXCAVATE THE STREAM CHANNEL BED MATERIAL AND STORE/PROTECT IN A SEGREGATED STOCKPILE FOR LATER USE.
 2. COMPLETE TRENCH EXCAVATION FOR PIPELINE CONSTRUCTION, PLACE PIPELINE AND BACKFILL.
 3. STREAM BANKS TO BE RESTORED TO EXISTING GRADES OR TO A MAXIMUM SLOPE OF 1.5:1V. PROVIDE SMOOTH TRANSITIONS FROM ADJACENT STREAM BANK AREAS TO THE RESTORED SECTION.
 4. RE-SEED RESTORED STREAM BANKS, AS NEEDED, AT THE RATE OF 15 LBS/ACRE WITH "PRIPARIAN BUFFER MIX" BY ERNST CONSERVATION SEEDS (MIX ER90M-178) OR APPROVED EQUAL.
 5. RESTORED STREAM BANKS AND ADJACENT DISTURBED AREAS TO BE STABILIZED WITH NAO-C125 USING MANUFACTURER RECOMMENDED STAPLES AND PATTERNS OR APPROVED EQUAL. STABILIZATION MATTING IS TO BE PLACED 6 INCHES MINIMUM BELOW GRADE AT THE STREAM BANK TOE OF SLOPE WITH A 4 INCH TURN OUT MINIMUM.
 6. PLACE SALVAGE BED MATERIAL ON THE CHANNEL BED IN THE DISTURBED AREA.
 7. REMOVE EQUIPMENT CROSSING AND RESTORE SITE TO ORIGINAL CONDITION TO MAXIMUM EXTENT POSSIBLE.



FRONT ELEVATION BELTED SILT RETENTION FENCE - PRIORITY 1
NOT TO SCALE

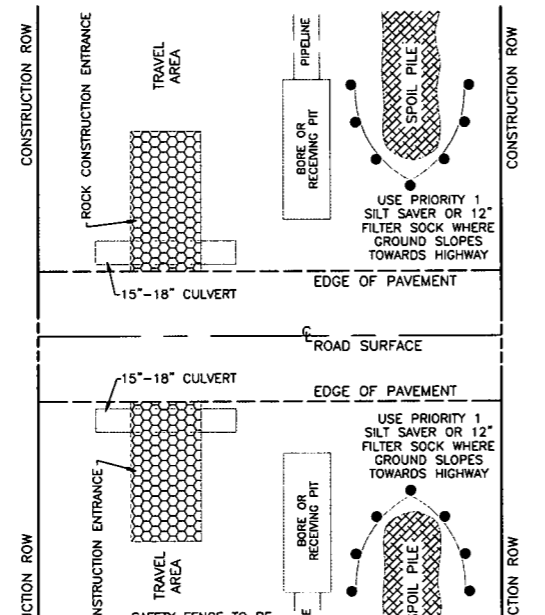


FRONT ELEVATION SILT-SAVER SILT FENCE - PRIORITY 2
NOT TO SCALE



- NOTES:**
1. PROTECTION BARRIER SHALL BE 4' HIGH, CONSTRUCTED OF DURABLE AND HIGHLY VISIBLE MATERIAL (PLASTIC ORANGE CONSTRUCTION FENCE AND SNOW-FENCE MAY BE USED).
 2. PROTECTION BARRIERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE WORK AT THE SITE.
 3. ADDITIONAL WARNING SIGNS SHOULD ALSO BE PLACED ON THE FENCING AND IN APPROPRIATE AREAS NEAR THE WORK ZONE.

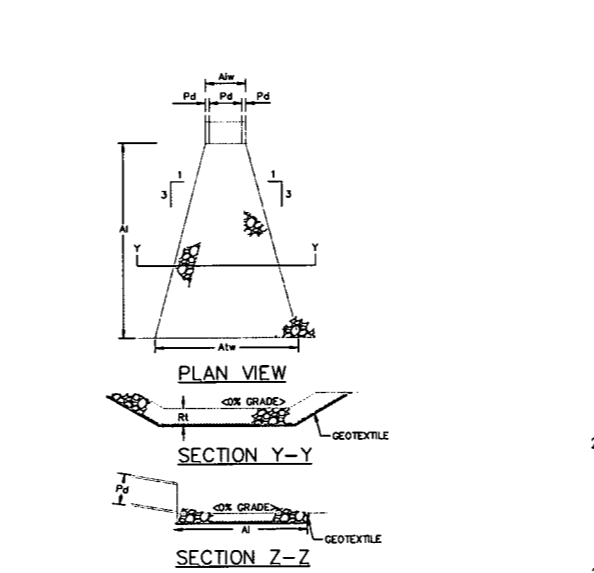
CONSTRUCTION FENCE DETAIL
NOT TO SCALE



- NOTES:**
1. NEED TO OBTAIN WOOD PERMIT ON STATE ROUTES. UTILIZE FLAGMAN WHERE SIGHT DISTANCE IS MINIMAL.

ROAD CROSSING (BORE)
NOT TO SCALE

STREAM CROSSING DETAIL - COFFERDAM & PUMP-AROUND
NOT TO SCALE



RIPRAP APRONS AT PIPE OUTLETS
NOT TO SCALE

OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP		APRON		
		SIZE (R-...)	THICK. RT (IN)	LENGTH AL (FT)	INITIAL WIDTH ALw (FT)	TERMINAL WIDTH ALt (FT)
ALL CROSS DRAINS	15	R-3	9	8	3.75	11.75

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GENERAL INFORMATION

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ESTIMATED QUANTIFIED MATERIAL LIST

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REFERENCE DRAWINGS

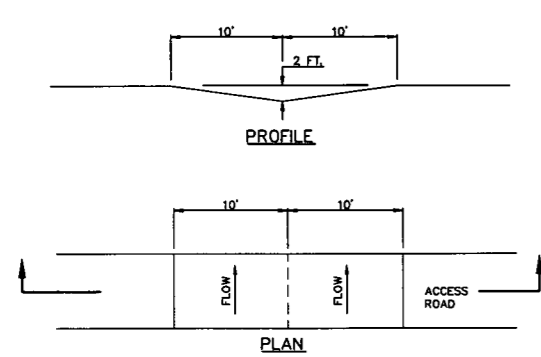
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REVISION

NO.	DATE	DESCRIPTION	BY	CHK'D.	ENG. APPR.

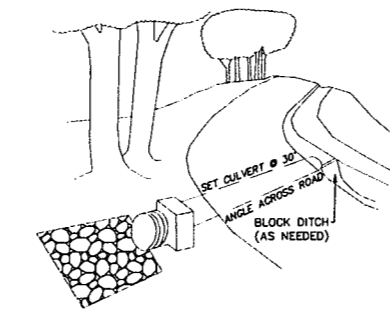
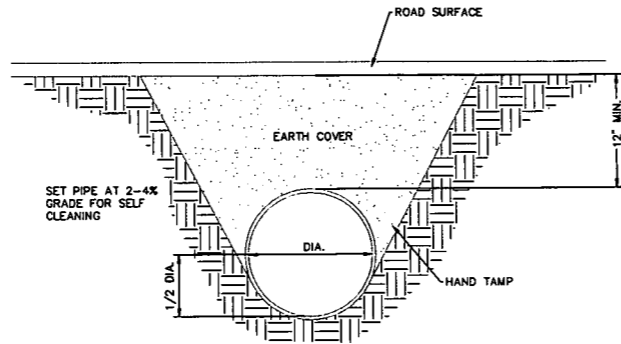
Antero
Midstream Partners LP
DOTSON HOLLAND ADDENDUM
CONSTRUCTION DETAILS
EROSION & SEDIMENT CONTROL PLAN
ANTERO MIDSTREAM PARTNERS LP
DOODRIDGE AND RITCHIE COUNTIES, WEST VIRGINIA

DATE: 1/27/16
SCALE: AS SHOWN
DRAWN BY: P.J.F.
CHECKED BY: DM
ENG. APPR.: P.J.F.
SHEET 19 OF 20
SHT. NAME: WV-CLEARWATER-DET4-ENS
REV. 0

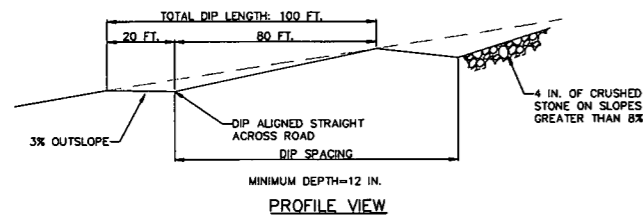


NOTES:
 BROAD-BASED DIPS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN AND AT THE LOCATIONS SHOWN ON THE PLAN DRAWINGS.
 DIPS SHALL BE ORIENTED SO AS TO DISCHARGE TO THE LOW SIDE OF THE ROADWAY.
 DIPS SHALL BE INSPECTED DAILY. DAMAGED OR NON-FUNCTIONING DIPS SHALL BE REPAIRED BY THE END OF THE WORKDAY.
 MAXIMUM SPACING OF BROAD-BASED DIPS SHALL BE EQUAL TO 400' / % GRADE + 75'.
 USE OUTLET PROTECTION AS DEPICTED IN WATERBAR/BROAD BASED DIP OUTLET PROTECTION DETAIL.

BROAD BASED DIP - LOW GRADIENT (<5%) ROADWAYS
 NOT TO SCALE



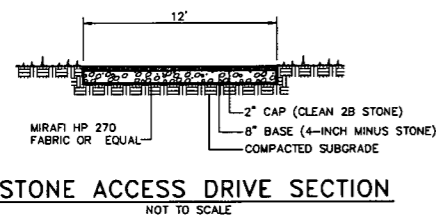
TYPICAL CROSS DRAIN DETAIL
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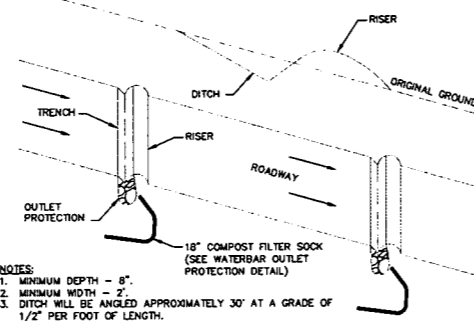
NOTES:
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 MAXIMUM SPACING OF BROAD-BASED DIPS SHALL BE EQUAL TO 400' / % GRADE + 75'.
 USE OUTLET PROTECTION AS DEPICTED IN WATERBAR/BROAD BASED DIP OUTLET PROTECTION DETAIL.

BROAD BASED DIP FOR HIGH GRADIENT (5%-10%) ROADWAYS
 NOT TO SCALE

SPACING OF CROSS DRAINS	
ROAD GRADE (%)	DISTANCE BETWEEN DRAINS (FT.)
1	100
2	250
3	135
10	80
15	60
20	45

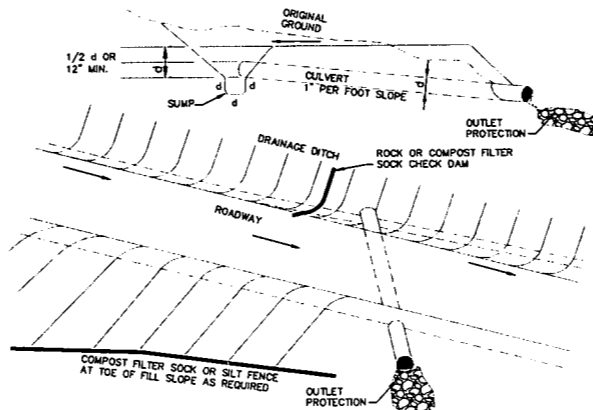


STONE ACCESS DRIVE SECTION
 NOT TO SCALE



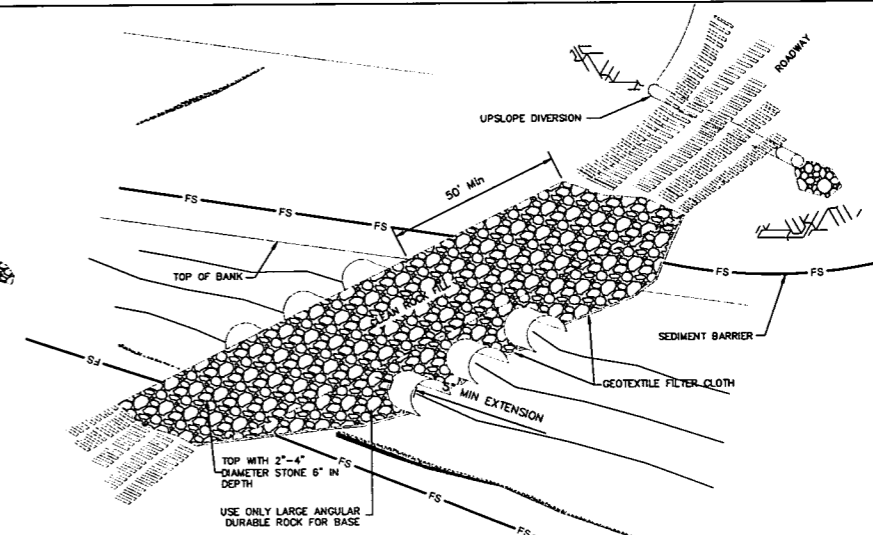
NOTES:
 1. MINIMUM DEPTH - 8".
 2. MINIMUM WIDTH - 2".
 3. DITCH WILL BE ANGLED APPROXIMATELY 30° AT A GRADE OF 1/2" PER FOOT OF LENGTH.

CROSS DRAIN/WATERBAR
 NOT TO SCALE



NOTES:
 1. CULVERTS WILL BE INSTALLED TO SPECIFIED LINE AND GRADE.
 2. DITCH SHALL BE EXCAVATED TO A DEPTH AND GRADE TO ENSURE PROPER COVER FOR THE CULVERT.
 3. DITCH BOTTOM WILL HAVE A FIRM FOUNDATION FOR THE CULVERT. GRAVEL MAY BE USED TO STABILIZE THE DITCH BOTTOM.
 4. THE CULVERT WILL BE BACKFILLED WITH MATERIAL FREE OF LARGE ROCKS, WHICH MAY CAUSE DAMAGE TO IT.
 5. STONE MAY BE NEEDED FOR FURTHER SURFACE STABILIZATION.
 6. RECOMMENDED INSTALLATION IS WITH A BACKHOE RATHER THAN A DOZER.
 7. CULVERTS WILL HAVE OUTLET PROTECTION (I.E. FIELD ROCK OR RIPRAP, AND SEDIMENT BARRIERS) AS WELL AS NATURAL FILTER STRIP AREAS.

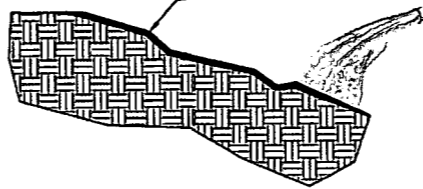
DITCH RELIEF CULVERT
 NOT TO SCALE



NOTES:
 1. STREAMBED MATERIAL IS NOT TO BE USED FOR FILL.
 2. THE STRUCTURE SHALL BE LARGE ENOUGH TO HANDLE A 10-YEAR FREQUENCY STORM, 24 HOUR DURATION.
 3. DEPTH OF COVER OVER CULVERTS SHALL BE 1/2 THE DIAMETER OF THE CULVERTS USED OR 12", WHICHEVER IS GREATER.
 4. MULTI-CULVERTS SHOULD BE INSTALLED WITH SPACES BETWEEN THEM, EQUAL TO 1/2 THE PIPE DIAMETER.
 5. CROSS CRIBBING OF THE DOWNSTREAM SIDE OF CULVERT INSTALLATIONS MAY BE NEEDED TO AID IN REDUCING STRUCTURAL DAMAGE DURING HIGH VELOCITY WATER OVERFLOW PERIODS.
 6. IF CULVERTS OR BRIDGES ARE NOT USED AND A STONE BASE DOES NOT EXIST, STONE SHALL BE INSTALLED WITH THE ENTRANCE AND EXIT BEING STONED APPROXIMATELY 100'.
 7. DITCH LINE EXIT POINTS AT STREAM CROSSINGS MUST HAVE SEDIMENT CONTROLS.
 8. CAPACITY OF PIPES SHOULD EQUAL BANKFULL FLOW.

STREAM CROSSING WITH CULVERT
 NOT TO SCALE

HYDROCOVER™ EZFLD™ BLEND, HYDRAULICALLY APPLIED EROSION CONTROL PRODUCT (HECP)



SPECIFICATION: Section 32 92 16.16 - Hydraulic Seeding: Hydraulic Mulch - Blend

This section specifies a hydraulically-applied, 100% biodegradable Hydraulic Mulch (HM) - Blend composed of 100% recycled long strand, thermally refined (within a pressure vessel) wood fibers that have been pressure treated to 80 - 85 psi (552 - 588 kPa) with steam and heat treated for 15 minutes at 380 - 440 degrees Fahrenheit (193 - 226 degrees Celsius) and 100% recycled cellulose fiber. The HM is phytosanitized, free from plastic netting and forms a bond with the soil surface to create a porous and absorbent erosion layer that enhances germination and plant growth. All components of the HM shall be pre-packaged by the Manufacturer to assure both material performance and compliance with the following values. No chemical additives with the exception of fertilizer, liming and biostimulant materials should be added to this product.

- Thermally Processed (within a pressure vessel) Wood Fiber (maximum) - 47.5%
 - Heated to a temperature greater than 380 degrees Fahrenheit (193 degrees Celsius) for 15 minutes at a pressure greater than 80 psi (552 kPa)
- Cellulose Fiber (minimum) - 47.5%
- Linear Based Tackifier = 5% ± 1%

INSTALLATION

Strictly comply with equipment manufacturer's installation instructions and recommendations. Use approved hydro-spraying machines with fan-type nozzle (50-degree tip). To achieve optimum soil surface coverage, apply HM from opposing directions to soil surface. Rough surfaces (rocky terrain, cat tracks and ripped soils) may require higher application rates to achieve 75% cover. Slope interruption devices or water diversion techniques are recommended when slope lengths exceed 23 feet (7 m). Maximum slope length is for product applications on a 4H:1V slope. For application on steeper slopes, slope interruption lengths may need to be decreased based on actual site conditions. Not recommended for channels or areas with concentrated water flow. No chemical additives with the exception of fertilizer, liming and biostimulant materials should be added to this product. For Erosion Control and Revegetation: To ensure proper application rates, measure and stake area.

- Apply fertilizer with specified prescriptive agronomic formulations, seed and HM at a rate of 50 lb per 100 gallons (23 kg / 380 liters) of water over properly prepared surfaces. Confirm loading rates with equipment manufacturer.
 Do not apply on saturated soils or substrates. Do not apply if precipitation is anticipated within 24-48 hours.

APPLICATION RATES: These application rates are for standard conditions. Designers may need to increase application rates on rough surfaces. Consult application and loading charts to determine number of bags to be added for desired area and application rate.

Slope Gradient / Condition	English	SI
≤ 4H to 1V	2000 lb/ac	2250 kg/ha
> 4H to 1V and ≤ 3H to 1V	2500 lb/ac	2800 kg/ha

SEE COMPREHENSIVE CSI FORMATTED SPECIFICATION FOR FURTHER DETAILS

PLEASE NOTE THAT THE INFORMATION PRESENTED HEREIN IS GENERAL INFORMATION ONLY. IT IS FOR CONCEPTUAL USE ONLY AND NOT INTENDED TO BE USED FOR CONSTRUCTION. WHILE EVERY EFFORT HAS BEEN MADE TO ENSURE ITS ACCURACY, THIS INFORMATION SHOULD NOT BE USED FOR A SPECIFIC APPLICATION WITHOUT INDEPENDENT PROFESSIONAL EXAMINATION AND VERIFICATION OF ITS SUITABILITY, APPLICABILITY AND ACCURACY.

HydroCover™



HYDROCOVER™ EZFLD™ BLEND
 CAD Details
 Slope

CAD Details Slope - HydroCover EzFlo Blend.dwg

CONTACT NUMBER: 800-508-8681

WEB SITE: www.profilereproducts.com

DRAWN BY: NEA

CHECKED BY:

DATE: 12/23/10

DATE:



Linear Treatment Partner In Soil Solutions

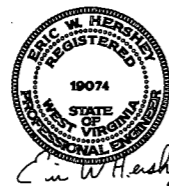
SCALE: NOT TO SCALE

SHEET 1 OF 1

FILENAME: G:\RETIRED\WMP\05154400-SANDSTREAM\SHEET\SDA\ESC\08154400-04-DETAILS.DWG
 PLOT DATE: 1/29/2016 8:58:01 AM

GENERAL INFORMATION

- THIS SHEET IS INTENDED TO BE PRINTED OUT 22" x 34".
- LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING. ITEMS APPEARING IN DRAWING THAT DO NOT APPEAR IN LEGEND SHALL BE CLEARLY LABELED.



ESTIMATED QUANTIFIED MATERIAL LIST

REFERENCE DRAWINGS

REVISION

NO.	DATE	DESCRIPTION	BY	CHK'D.	PROJ. ENGR.	ENG. APPR.
1	1.26.16	PER DEP COMMENTS	PJF	DM	PJF	X

Antero
 Midstream Partners LP
DOTSON HOLLAND ADDENDUM
CONSTRUCTION DETAILS
 EROSION & SEDIMENT CONTROL PLAN
 ANTERO MIDSTREAM PARTNERS LP
 DODDRIDGE AND RITCHE COUNTIES, WEST VIRGINIA

DATE: 1/24/16	SCALE: AS SHOWN	SECTION ID: MWS
DRAWN BY: NEA	CHECKED BY: TJS	SHEET 20 OF 20
PROJECT: WV-CLEARWATER-DTS-ENS	ENGINEER: PJF	REVISION: REV. 0



DEPARTMENT OF THE ARMY
HUNTINGTON DISTRICT, CORPS OF ENGINEERS
502 EIGHTH STREET
HUNTINGTON, WEST VIRGINIA 25701-2070

REPLY TO
ATTENTION OF

MAR 11 2016

Regulatory Division
Energy Resource Branch
LRH-2016-0088-LKR-Dotson Run

PRELIMINARY JURISDICTIONAL DETERMINATION
AND NATIONWIDE PERMIT NO. 12 VERIFICATION

Ms. Patricia Kazimier
Antero Resources Corporation
1615 Wynkoop Street
Denver, CO 80202

Dear Ms. Kazimier:

I refer to the Pre-Construction Notification (PCN) received in office on January 19, 2016 with supplemental information received on February 29, 2016 requesting a Department of the Army (DA) authorization to discharge dredged and/or fill material into waters of the United States (U.S.) in association with the construction of the Dotson Holland Addendum Project. The proposed project will involve the construction of a 16-inch buried waterline and a 10-inch buried low pressure gas line. The proposed project will be located approximately 0.36 mile south of Greenwood, in Doddridge and Ritchie Counties, West Virginia. The PCN has been assigned the following file number: LRH-2016-0088-LKR-Dotson Run. Please reference this number on all future correspondence related to this project.

The U.S. Army Corps of Engineers (Corps) authority to regulate waters of the U.S. is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a DA permit be obtained prior to discharging dredged or fill material into waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

Preliminary Jurisdictional Determination:

Based on a review of the information provided, three (3) perennial streams, totaling 1,697 linear feet, four (4) intermittent streams, totaling 2,632 linear feet, twenty-one (21) ephemeral streams, totaling 4,622 linear feet and three (3) wetlands totaling 1.128 acre are located within the preliminary jurisdictional determination (PJD). On-site waters have a surface hydrological connection to Dotson, Leason, and Cabin Run all tributaries to the Little Kanawha River. Refer to the enclosed PJD Form for a detailed description of jurisdictional waters. This office has determined these may be waters of the U.S. in accordance with the Regulatory Guidance Letter (RGL) for Jurisdictional Determinations (JDs) issued by the Corps on June 26, 2008 (RGL No. 08-02).

issued by the West Virginia Department of Environmental Protection. A copy of this NWP can be found on our website at <http://www.lrh.usace.army.mil/Missions/Regulatory.aspx>.

In view of the above, your utility line project is authorized subject to the terms and conditions of the enclosed material, including the enclosed special conditions. It is your responsibility to ensure that your work conforms to all of the environmental management conditions listed within the enclosed material. Please be aware this NWP verification does not obviate the requirement to obtain any state or local assent required by law for the activities.

This verification is valid until the expiration date of the NWPs, unless the NWP authorization is modified, suspended, or revoked. The verification will remain valid if the NWP authorization is reissued without modification or the activity complies with any subsequent modification of the NWP authorization. All of the existing NWPs are scheduled to be modified, reissued, or revoked on March 18, 2017. Prior to this date, it is not necessary to contact this office for re-verification of your project unless the plans for the proposed activity are modified. Furthermore, if you commence or under contract to commence this activity before March 18, 2017, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

A copy of this NWP and verification letter must be supplied to your project engineer responsible for construction activities. A copy of the verification letter must be kept at the site during construction.

Upon completion of the work, the enclosed certification must be signed and returned to this office. If you have any questions concerning the above, please contact Mr. Aca Ramey at (304) 399-5166 or by email at aca.c.ramey@usace.army.mil

Sincerely,

A handwritten signature in black ink, appearing to read 'Chris Carson', written over a horizontal line.

Christopher L. Carson
Regulatory Project Manager
Energy Resource Branch

Enclosures

Nationwide Permit Verification Special Conditions
Antero Resources Corporation
LRH-2016-0088-LKR-Dotson Run
Dotson Holland Addendum Project
Doddridge and Ritchie Counties, West Virginia

Page 1 of 1

1. Should new information regarding the scope and/or impacts of the project become available that was not submitted to this office during our review of the proposal, the permittee will submit written information concerning proposed modification(s) to this office for review and evaluation, as soon as practicable.
2. Section 7 obligations under Endangered Species Act must be reconsidered if new information reveals impacts of the project that may affect federally listed species or critical habitat in a manner not previously considered, the proposed project is subsequently modified to include activities which were not considered during Section 7 consultation with the United States Fish and Wildlife Service, or new species are listed or critical habitat designated that might be affected by the subject project.
3. In the event any previously unknown historic or archaeological sites or human remains are uncovered while accomplishing the activity authorized by this nationwide permit you must immediately and contact local, state and county law enforcement offices (only contact law enforcement on findings of human remains), the Corps at (304) 399-5610 and West Virginia State Historic Preservation Office at (304) 558-0220. You must, to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The Corps will initiate the Federal, state and tribal coordination required to comply with the National Historic Preservation Act and applicable state and local laws and regulations. Federally recognized tribes are afforded a government-to-government status as sovereign nations and consultation is required under Executive Order 13175 and 36 CFR Part 800.
4. Upon completion of the activity authorized by this nationwide permit verification, the enclosed activity completion certification must be signed and returned to this office.
5. No area for which grading has been completed will be unseeded or un-mulched for longer than 14 days. All disturbed areas will be seeded and/or re-vegetated with native species and approved seed mixes (where practicable) after completion of construction activities for stabilization and to help preclude the establishment of non-native invasive species.

The Doddridge Independent

The Doddridge Independent PUBLISHER'S CERTIFICATE

I, Michael D. Zorn, Publisher of The Doddridge Independent, A newspaper of general circulation published in the town of West Union, Doddridge County, West Virginia, do hereby certify that:

Floodplain Permit Application # 16-414

Please take notice that on the 24th day of February, 2016

Antero Midstream, LLC

filed an application for a Floodplain Permit to develop land located at or about:

Central District - 39.234175N, 80.895326W

Description - Pipeline

was published in The Doddridge Independent 2 times commencing on Friday, March 4, 2016 and Ending on Friday, March 11, 2016 at the request of:


George Eidel, Doddridge County Floodplain Manager & Doddridge County Commission

Given under my hand this Friday, March 11, 2016

The publisher's fee for said publication is:

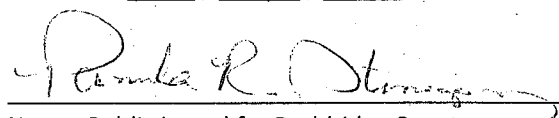
\$ 25.27 1st Run/\$ 18.95 Subsequent Runs

This Legal Ad Total: \$ 44.22



Michael D. Zorn
Publisher of The Doddridge Independent

Subscribed to and sworn to before me on this date: 31 11 16



Notary Public in and for Doddridge County
My Commission expires on
The 17th day of May 2019

Public Notice • Legal Notice

Doddridge County
Floodplain Permit Application # 16-414
Please take notice that on the 24th day of February, 2016
Antero Midstream, LLC
filed an application for a Floodplain Permit to develop land located at or about:
Central District - 39.234175N, 80.895326W
Description - Pipeline
Permit Application# 16-414
Date Received 02/24/2016
Date Announced to Commission - 3/1/2016
Publication Date - Week of 3/1/16
20 Day Comment Period (from Commission Meeting Date)
Ending: 03/21/2016

The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. As this project is outside the FEMA identified floodplain of Doddridge County, Doddridge County Floodplain Management has no regulatory authority. Any interested persons who desire to comment shall present the same in writing by March 21, 2016, delivered to:
Clerk of the County Court
118 E. Court Street, West Union, WV 26456
Beth A Rogers, Doddridge County Clerk
George Eidel, Doddridge County Flood Plain Manager

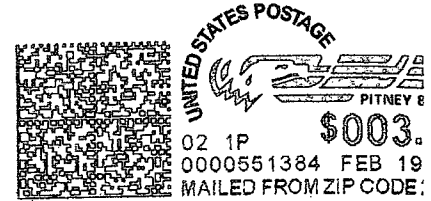
3/04 - 3/11



AARCO Resources Corporation
ATTN: Rachel Graybuck
535 White Oaks Blvd
Bridgeport WV 26330



UNITED WE STAND



Doddridge County FPM
ATTN: George Eichel
108 Court St, Suite 102
West Union, WV 26456