



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: #17-447
South Canton Pipeline

Date Approved: March 13, 2017

Expires: March 13, 2018

Issued to: Antero Midstream, LLC

POC: Rachel Grzybek
304-842-4008

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

Project Address: Long Run, Arnolds Creek, Middle Island Creek, Nutter Fork

Firm: 105C & 110C

Lat/Long: 39.327989N, 80.842300W
39.335283N, 80.803025W

Purpose of development: Installation of steel gas pipeline and HDD bore methods.

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

Date: March 13, 2017

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

2589 6952 1569 6852 7015 3430 0001 1569 6852

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

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

OFFICIAL USE

Certified Mail Fee
\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)
 Return Receipt (hardcopy) \$ 2.80
 Return Receipt (electronic) \$ _____
 Certified Mail Restricted Delivery \$ _____
 Adult Signature Required \$ _____
 Adult Signature Restricted Delivery \$ _____



Postage
\$.49
Total Postage and Fees
\$ 6.74

Sent To _____
Street and Apt. No., or PO Box No. _____

City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

6838 9697 1569 6838 7015 3430 0001 1569 6838

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6845 9697 1569 6845 7015 3430 0001 1569 6845

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

6862 9697 1569 6862 7015 3430 0001 1569 6862

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 Adult Signature Restricted Delivery \$ _____



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Total Postage and Fees
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City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

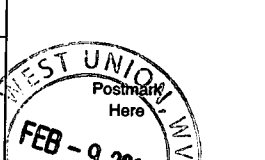
6872 9697 1569 6872 7015 3430 0001 1569 6872

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Domestic Mail Only

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OFFICIAL USE

Certified Mail Fee
\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)
 Return Receipt (hardcopy) \$ 2.80
 Return Receipt (electronic) \$ _____
 Certified Mail Restricted Delivery \$ _____
 Adult Signature Required \$ _____
 Adult Signature Restricted Delivery \$ _____



Postage
\$.49
Total Postage and Fees
\$ 6.74

Sent To _____
Street and Apt. No., or PO Box No. _____

City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

6882 9697 1569 6882 7015 3430 0001 1569 6882

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Certified Mail Fee
\$ 3.45
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 Return Receipt (hardcopy) \$ 2.80
 Return Receipt (electronic) \$ _____
 Certified Mail Restricted Delivery \$ _____
 Adult Signature Required \$ _____
 Adult Signature Restricted Delivery \$ _____



Postage
\$.49
Total Postage and Fees
\$ 6.74

Sent To _____
Street and Apt. No., or PO Box No. _____

City, State, ZIP+4® _____

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7015 3430 0001 1569 6990

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OFFICIAL USE

Certified Mail Fee \$ 3.45

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ 2.80

Return Receipt (electronic) \$ _____

Certified Mail Restricted Delivery \$ _____

Adult Signature Required \$ _____

Adult Signature Restricted Delivery \$ _____

Postage \$.49

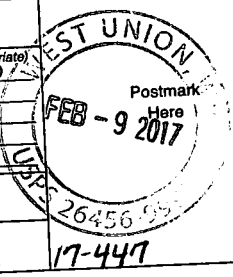
Total Postage and Fees \$ 6.74

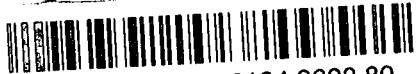
Sent To _____

Street and Apt. No., or PO Box No. _____

City, State, ZIP+4® _____

PS Form 3800, April 2013 PSN 7530-02-000-9047 See Reverse for Instructions



<p>SENDER: COMPLETE THIS SECTION</p> <ul style="list-style-type: none"> Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>COMPLETE THIS SECTION ON DELIVERY</p> <p>A. Signature <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery _____</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>
<p>Joel W. & Bonnie Ostroff 2912 Joyce Road Roslyn, PA 19001</p>  <p>9590 9402 1888 6104 9698 80</p> <p>2. Article Number (Transfer from service label)</p>	<p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature</p> <p><input type="checkbox"/> Adult Signature Restricted Delivery</p> <p><input type="checkbox"/> Certified Mail®</p> <p><input type="checkbox"/> Certified Mail Restricted Delivery</p> <p><input type="checkbox"/> Collect on Delivery</p> <p><input type="checkbox"/> Collect on Delivery Restricted Delivery</p> <p><input type="checkbox"/> Insured Mail</p> <p><input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p> <p><input type="checkbox"/> Priority Mail Express®</p> <p><input type="checkbox"/> Registered Mail™</p> <p><input type="checkbox"/> Registered Mail Restricted Delivery</p> <p><input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Signature Confirmation™</p> <p><input type="checkbox"/> Signature Confirmation Restricted Delivery</p> <p>Domestic Return Receipt</p>

SENDER: COMPLETE THIS SECTION

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Robert Holden

 Agent Addressee

B. Received by (Printed Name)

C. Date of Delivery

2-14-17

address different from item 1? Yes
 or delivery address below: No

Robert P. Holden & Sherri M. Bailey (Surv)

127 Crystal Lake Road
 West Union, WV 26456



9590 9402 1888 6104 9699 41

2. Article Number (Transfer from service label)

3. Service Type

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

USPS TRACKING#



First-Class Mail
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USPS
Permit No. G-10

9590 9402 1888 6104 9699 41

**United States
Postal Service**

• Sender: Please print your name, address, and ZIP+4® in this box•

George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456

17-447



SENDER: COMPLETE THIS SECTION

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

Eugene Vance Chipps II
304 Tymber Creek Drive
Clarksburg, WV 26301



9590 9402 1888 6104 9699 27

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Eugene Vance Chipps II*

Agent

Addressee

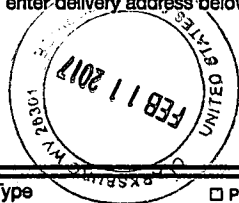
B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? Yes

If YES, enter delivery address below:

No



3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Insured Mail
- Insured Mail Restricted Delivery (over \$500)

- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Return Receipt for Merchandise
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

USPS TRACKING#



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

9590 9402 1888 6104 9699 27

**United States
Postal Service**

• Sender: Please print your name, address, and ZIP+4® in this box®

George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456

17-447



SENDER: COMPLETE THIS SECTION

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

**Michael Shepherd
4362 Long Run Road
Greenwood, WV 26415**



9590 9402 1888 6104 9699 10

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

John Shepherd

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

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

3. Service Type

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

USPS TRACKING #



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

9590 9402 1888 6104 9699 10

**United States
Postal Service**

• Sender: Please print your name, address, and ZIP+4® in this box•

George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456

17 447



SENDER: COMPLETE THIS SECTION

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

Carlie James
151 Kelley James Lane
West Union, WV 26456



9590 9402 1888 6104 9699 03

2. Article Number. (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Carlie James*

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

2/13/2017

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

3. Service Type

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

USPS TRACKING #



First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

9590 9402 1888 6104 9699 03

**United States
Postal Service**

• Sender: Please print your name, address, and ZIP+4® in this box•

George Eidel
Doddrige County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456

17-447



SENDER: COMPLETE THIS SECTION

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

John Paul Strickling Et Al
756 Strickling Farm Lane
West Union, WV 26456



9590 9402 1888 6104 9699 34

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

John Strickling

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

2-13-17

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

3. Service Type

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

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USPS
Permit No. G-10

9590 9402 5888 6104 9699 34

United States
Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456

17-447



SENDER: COMPLETE THIS SECTION

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

James E. Shepherd II
 4801 Long Run Road
 Pennsboro, WV 26415



9590 9402 1888 6104 9698 97

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *James E. Shepherd II* Agent
 Addressee

B. Received by (Printed Name)

C. Date of Delivery

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

3. Service Type

- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
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• Sender: Please print your name, address, and ZIP+4® in this box•

George Eidel
Doddridge County OEM/CFM
108 Court St. Ste 1
West Union, WV 26456

17-447





ANTERO MIDSTREAM
1615 WYNKOOP STREET
DENVER, COLORADO 80202

Vendor Name	Vendor No.	Date	Check Number	Check Total
DODDRIDGE COUNTY COMMISSION	43312	Feb-09-2017	105862	\$5,850.00

INV #	INV DATE	DESCRIPTION	AMOUNT	DISCOUNTS	NET AMOUNT
MR2717	02/07/17	FLOODPLAIN PERMIT - SOUTH CANTON PL	5,850.00	0.00	5,850.00

17-447

COPY

TOTAL INVOICES PAID ==> 5,850.00 0.00 5,850.00

DETACH AND RETAIN FOR TAX PURPOSES

THIS CHECK HAS A COLORED FACE ON WHITE STOCK AND AN ARTIFICIAL WATERMARK ON THE BACK.



ANTERO MIDSTREAM
1615 WYNKOOP STREET
DENVER, COLORADO 80202

Wells Fargo
Denver, CO
800 - AP ACCT WELLS FARGO

Check No. **105862** 11-24
412

Void After 90 Days

CHECK NUMBER	DATE	PAY EXACTLY
105862	Feb-09-2017	\$5,850.00

PAY EXACTLY **\$5,850.00**cts
Five Thousand Eight Hundred Fifty Dollars and Zero Cents

TO THE ORDER OF

DODDRIDGE COUNTY COMMISSION
BETH A ROGERS, CLERK-118 EAST COURT STREET-ROOM 10
2
WEST UNION, WV 26456

COPY
[Signature]

⑈ 105862⑈ ⑆041203824⑆ 9657481710⑈



ANTERO MIDSTREAM
1615 WYNKOOP STREET
DENVER, COLORADO 80202

Vendor Name	Vendor No.	Date	Check Number	Check Total
DODDRIDGE COUNTY COMMISSION	43312	Feb-09-2017	105862	\$5,850.00

INV #	INV DATE	DESCRIPTION	AMOUNT	DISCOUNTS	NET AMOUNT
MR2717	02/07/17	FLOODPLAIN PERMIT - SOUTH CANTON PL	5,850.00	0.00	5,850.00

17-447

Doddridge County, West Virginia

RECEIPT NO: 8483

DATE: 2017/02/14

FROM: ANTERO MIDSTREAM

AMOUNT: \$ 5,850.00

FIVE THOUSAND EIGHT HUNDRED FIFTY DOLLARS AND 00 CENTS

FOR: #17-447 SOUTH CANTON PLAIN

00000105862 FP-BUILDING PERMITS

020-318

TOTAL: \$5,850.00

MICHAEL HEADLEY
SHERIFF & TREASURER

MEC
CLERK

Customer Copy

TOTAL INVOICES PAID ==>

5,850.00

0.00

5,850.00

DETACH AND RETAIN FOR TAX PURPOSES

FLOODPLAIN PERMIT #17-~~445~~ 447

Antero / SouthCarnton

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	X	
US ARMY CORP. ENGINEERS (USACE)	X	
US FISH & WILDLIFE SERVICES (USFWS)	X	
WV DEPT. NATURAL RESOURCES (WVDNR)	X	
WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)	X	
STATE HISTORIC & PRESERVATION OFFICE (SHPO)	X	
OFFICE of LAND & STREAM (OLS)	X	
DATE OF COMMISSION READING	02-21-17	
DATE AVAILABLE TO BE GRANTED	03-13-17	
PERMIT GRANTED	X	
COMPLETE	X	

Doddridge County Flood Plain Application Fee Calculator (if in Flood Plain)**South Canton Pipeline**

Estimated Construction Costs	\$1,070,000.00
Amount over \$100,000	\$970,000.00
Drilling Oil and Gas Well Fee	\$1,000.00
\$5 per \$1,000 over \$100,000	\$4,850.00
Amount Due with application	\$5,850.00



Doddridge County Floodplain Permits

(Week of February 20, 2017)

Please take notice that on the **7th day of February, 2017**, **Antero Midstream, LLC** filed an application for a Floodplain Permit **#17-447** to develop land located at or about **39.327989N, 80.842300W to 39.335283N, 80.803025W, Long Run, Arnolds Creek, Middle Island Creek, and Nutter Fork**. The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. Any interested persons who desire to comment shall present the same in writing by **March 13, 2017** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Clerk of the County Court at 108 Court Street Ste. 1, West Union, WV 26456. **This project is South Canton Pipeline.**


Midstream Partners LP
Antero Midstream, LLC
535 White Oaks Blvd
Bridgeport, WV 26330
Office 304.842.4100
Fax 304.842.4102

January 27, 2017

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

A04501 | A04502

Mr. Eidel:

Antero Midstream LLC would like to submit a Doddridge County Floodplain permit application for our *South Canton Pipeline* project. Our project is located in Doddridge County beginning at coordinates 39.327989N, 80.842300W and continues to coordinates 39.335283N, 80.803025W. Per the FIRM Maps #54017C0105C, and #54017C0110C this location is in the floodplain.

Attached you will find the following:

- Doddridge County Floodplain Permit Application
- Design Plan
- No-Rise Certificate
- WV Flood Tool Map
- FIRM Maps

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 II
Floodplain Engineer
Antero Resources Corporation

Enclosures



January 9, 2017

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

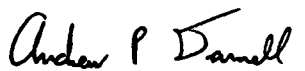
Subject: Antero Midstream, LLC.
South Canton Pipeline
No-Rise Certificate
Doddridge County, West Virginia
CEC Project 165-379

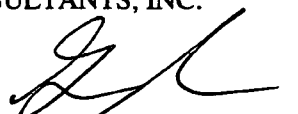
Civil & Environmental Consultants, Inc. (CEC) is pleased to evaluate the potential floodplain impacts for the above referenced project on behalf of Antero Midstream, LLC., 535 White Oaks Blvd, Bridgeport, WV 26330. Antero Midstream, LLC. proposes to install one 20" low pressure steel gas line and one 24" high pressure steel gas line. Proposed erosion and sediment control measures include rip rap, erosion control blankets, orange safety fence, silt savers, water bars, trench breakers, timber mats, stone construction entrances, etc. Portions of the proposed project are located within the Long Run and Arnold Creek Zone A flood hazard area, according to the Flood Insurance Rate Map (FIRM) for Doddridge County, map panel 54017C0105C with an effective date of October 4, 2011. The proposed project is also located within the Middle Island Creek Zone AE and the Np4 Stream Zone A flood hazard areas according to the FIRM for Doddridge County, map panel 54017C0110C with an effective date of October 4, 2011. Permanent waterbars will be placed in the floodplain; however, the material needed to construct the berm will be excavated from the up-gradient side of the berm. Therefore, a net loss of floodplain storage is not expected. All other disturbed areas will be returned to existing conditions at the conclusion of the work. As a result, the project will not result in a decrease of the available floodplain storage area and will not adversely affect the existing base flood elevation of Long Run, Arnold Creek, and Np4 Stream. Furthermore, the proposed pipeline crossing of Middle Island Creek will be installed by HDD bore methods and will not have any earthwork disturbance within the Zone AE flood hazard area.

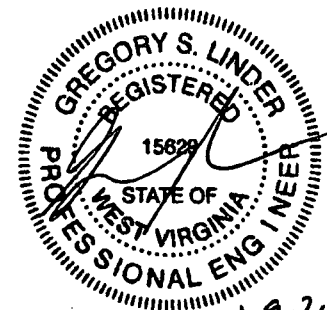
This no-rise certificate is provided in support of the floodplain development permit application. Your time and effort in reviewing this floodplain development permit application is appreciated. Please feel free to contact me at 304-933-3119 or via e-mail at glinder@cecinc.com or contact Ms. Rachel Grzybek at 304-842-4008 or via e-mail at rgrzybek@anteroresources.com if you have questions or need additional information.

Respectfully submitted,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.


Andrew P. Darnell, E.I.
Assistant Project Manager


Greg S. Linder, P.E.
Senior Project Manager





Permit# 17-447
Project Name: South Canton PL
Permittees Name: Antero Midstream
LLC.

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

Boris Quon

DATE

1-27-17

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):		
Corporate POC Title:		
Corporate POC Primary Phone:		
Corporate POC Primary Email:		
Corporate FEIN:	Corporate DUNS:	
Corporate Website: www.anteroresources.com		
Local Mailing Address: 535 White Oaks Boulevard		
City: Bridgeport	State: WV	Zip: 26330
Local Project Manager (PM):		
Local PM Primary Phone:		
Local PM Secondary Phone:		
Local PM Primary Email:		
Person Filing Application: Rachel Grzybek		
Applicant Title: Environmental Specialist II		
Applicant Primary Phone: (304) 842-4008		
Applicant Secondary Phone: (304) 641-2396		
Applicant Primary Email: rgrzybek@anteroresources.com		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Project Narrative:

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

Project Narrative:
The South Canton Pipeline project begins near the Doddridge/Tyler County Line north of Long Run and continues crossing Long Run, Arnold Creek, Middle Island Creek, and Nutter Fork. The project ends north of Nutter Fork. The proposed project involves the installation of a 20" low pressure and 24" high pressure steel gas lines. Proposed erosion and sediment control measures include rip rap, erosion control blankets, orange safety fence, silt savers, water bars, trench breakers, timber mats, stone construction entrances, etc. Portions of the proposed project are located within the Long Run and Arnold Creek Zone A flood hazard area, according to the Flood Insurance Rate Map (FIRM) for Doddridge County, map panel 54017C0105C with an effective date of October 4, 2011. The proposed project is also located within the Middle Island Creek Zone AE and the Np4 Stream Zone A flood hazard areas according to the FIRM for Doddridge County, map panel 54017C0110C with an effective date of October 4, 2011. Permanent water bars will be placed in the floodplain; however, the material needed to construct the berm will be excavated from the up-gradient side of the berm. Therefore, a net loss of floodplain storage is not expected. All other disturbed areas will be returned to existing conditions at the conclusion of the work. The project will not result in a decrease of the available floodplain storage area and will not adversely affect the existing base flood elevation of Long Run, Arnold Creek, and Np4 Stream. Furthermore, the proposed pipeline crossing of Middle Island Creek will be installed by HDD bore methods and will not have any earthwork disturbance within the Zone AE flood hazard area.

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Proposed Development:

Please check all elements of the proposed project that apply.

DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES)

A. STRUCTURAL DEVELOPMENT

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

B. OTHER DEVELOPMENT ACTIVITIES:

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

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Development Site/Property Information:

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

Property Designation: 1 of 3

Site/Property Information:		
Legal Description: LONG RUN 4.41 AC		
Physical Address/911 Address: County Route 26 (Long Run Road)		
Decimal Latitude/Longitude: 39.320767° N, 80.840225° W		
DMS Latitude/Longitude: 39° 19' 14.76" N, 80° 50' 24.81" W		
District: 01-Central	Map: 4	Parcel: 1.2
Land Book Description:		
Deed Book Reference: Book 312, Page 461		
Tax Map Reference: 09-01-0004-0001-0002		
Existing Buildings/Use of Property: South Canton Pipeline: Long Run stream crossing (open cut)		

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

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Property Owner Data:

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

Property Designation: 1 of 3

6

Property Owner Data:		
Name of Primary Owner (PO): James E. Shepherd II		
PO Address: 4801 Long Run Road		
City: Pennsboro	State: WV	Zip: 26415
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6890		

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: 1 of 3

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

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.

4

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO): Michael Shepherd		
Physical Address: 4362 Long Run Road		
City: Greenwood	State: WV	Zip: 26415
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6876		

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

5

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Carlie James		
Physical Address: 151 Kelley James Lane		
City: West Union	State: WV	Zip: 26456
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6883		

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

Development Site/Property Information:

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

Property Designation: 2 of 3

Site/Property Information:		
Legal Description: ARNOLDS CREEK 23.20 AC		
Physical Address/911 Address: County Route 11 (Arnolds Creek Road)		
Decimal Latitude/Longitude: 39.317200° N, 80.82710° W		
DMS Latitude/Longitude: 39° 19' 01.92" N, 80° 49' 37.56" W		
District: 01-Central	Map: 4	Parcel: 14
Land Book Description:		
Deed Book Reference: Book SF8, Page 405		
Tax Map Reference: 09-01-0004-0014-0000		
Existing Buildings/Use of Property: South Canton Pipeline: Arnolds Creek stream crossing (open cut)		

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

Property Owner Data:

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

Property Designation: 2 of 3

3

Property Owner Data:		
Name of Primary Owner (PO): Eugene Vance Chipps II		
PO Address: 304 Tymber Creek Drive		
City: Clarksburg	State: WV	Zip: 26301
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6852		

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:		

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: 2 of 3

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

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): Eugene Vance Chipps II		
Physical Address: 304 Tymber Creek Drive		
City: Clarksburg	State: WV	Zip: 26301
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Eugene Vance Chipps II		
Physical Address: 304 Tymber Creek Drive		
City: Clarksburg	State: WV	Zip: 26301
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

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: 3 of 3

Site/Property Information:		
Legal Description: M I CREEK 357.75 AC		
Physical Address/911 Address: West Virginia 18		
Decimal Latitude/Longitude: 39.330000° N, 80.789700° W		
DMS Latitude/Longitude: 39° 19' 48.00" N, 80° 47' 22.92" W		
District: 08-West Union Mag	Map: 4	Parcel: 28
Land Book Description:		
Deed Book Reference: Book WB28, Page 314		
Tax Map Reference: 09-08-0004-0028-0000		
Existing Buildings/Use of Property: South Canton Pipeline: Middle Island Creek stream crossing (HDD)		

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

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: 3 of 3

Property Owner Data:		
2 Name of Primary Owner (PO): John Paul Strickling Et Al		
PO Address: 756 Strickling Farm Lane		
City: West Union	State: WV	Zip: 26456
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6845		

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:		

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: 3 of 3

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

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): Robert P Holden & Sherri M. Bailey (Surv)		
Physical Address: 127 Crystal Lake Road		
City: West Union	State: WV	Zip: 26456
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6869		

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

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): Joel W. and Bonnie Ostroff		
Physical Address: 2912 Joyce Road		
City: Roslyn	State: PA	Zip: 19001
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email: 7015 3430 0001 1569 6838		

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO): N/A		
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

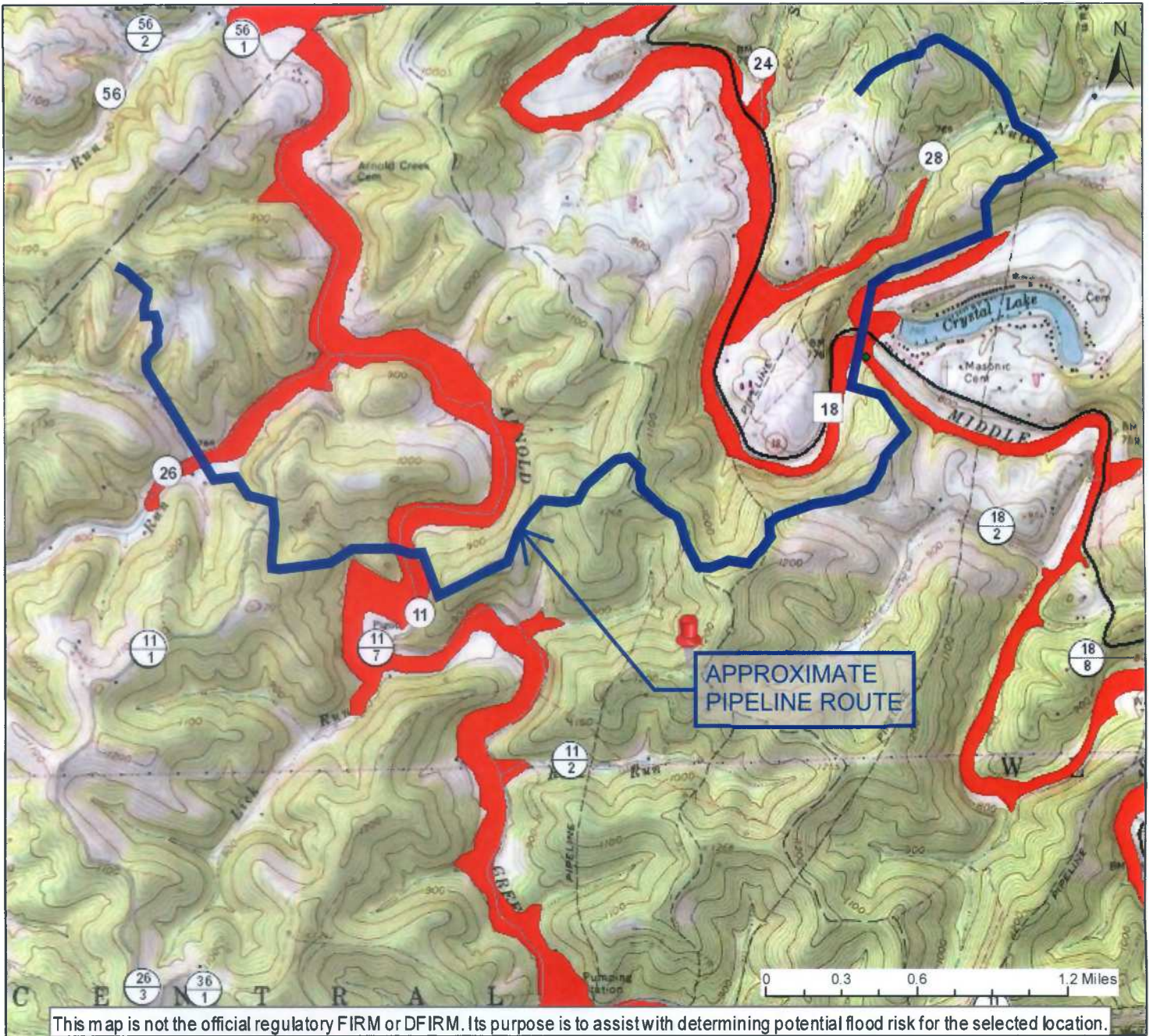
Please read print name, sign and date below:

- 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: Brian A. Guadalupe Date: 1-27-17

Applicant Printed Name: BRIAN GUADALUPE

South Canton Pipeline



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 January 3, 2017

Flood Hazard Area:

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

FEMA Issued Flood Map: 54017C0110C

Watershed (HUC8): Little Musringum-Middle Island (5

Elevation: About 748 ft

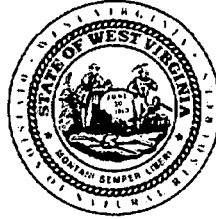
Location (long, lat): (80.802308 W, 39.324925 N)

Location (UTM 17N): (517040, 4352853)

Contacts: Doddridge

CRS Information: N/A

Parcel Number:



DIVISION OF NATURAL RESOURCES

324 Fourth Avenue, Room 200
South Charleston WV 25303-1228
TDD (304) 558-1439
TDD 1-800-354-6087
Fax (304) 558-6048
Telephone (304) 558-3225
March 13, 2017

Jim Justice
Governor

Stephen S. McDaniel
Director

Division of Natural Resources
RIGHT OF ENTRY

Re: R-17-VI/09-454

Antero Midstream LLC
c/o Heather S. Sexton
109 Platinum Drive, Suite E
Bridgeport WV, 26330-

Dear Sir or Madam:

The Division of Natural Resources hereby grants to you for License and Right of Entry for the purpose of conducting activities associated with the construction, operation and reclamation of the South Canton HP/LP Pipelines Project along Slaughter Run near West Union in Doddridge County, West Virginia.

The proposed project will impact a total of forty-nine feet (49') and sixty-eight feet (68') at two (2) separate locations of Slaughter Run. We recommend strict adherence to the approved mitigation plan for restoration and enhancement approved for this project by the U.S. Army Corp. of Engineers and the West Virginia Department of Environmental Protection.

The State's issuance of this Right-of-Entry does not provide for the applicant to work outside the requested boundaries nor does the State assume any liability for the applicant's construction activities. By accepting this Right-of-Entry, the applicant assumes liability for any/all damages caused by this activity to both upstream and downstream landowners.

Guidelines of Best Management Practices for Sediment and Erosion Control as outlined by the Section of Water Resources, Division of Environmental Protection must be followed. Copies of those guidelines are available from the Section of Water Resources, Telephone No. (304) 926-0440.

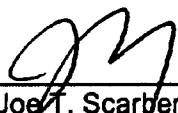
Antero Midstream LLC
R-17-VI/09-454
Page 2
March 13, 2017

The issuance of this Right of Entry by the Division of Natural Resources does not preclude the necessity to obtain a permit from the Corps of Engineers or any other state or federal permits which may be required by law, nor does this Right of Entry negate the need to comply with the West Virginia Water Pollution Control Act and/or the State Environmental Quality Board's administrative regulations, applicant is also responsible for determining if the proposed activity is located within an identified flood plain and it is the applicant's responsibility for contacting the local governmental agency in charge of that program and obtaining a flood plain development permit for it. This Right of Entry does not grant any rights or privileges, or permission to enter upon or to cross the property of any other person, nor is permission granted to remove any material that lies upon the property of any other persons. Work should be completed in as brief a period as possible and within one year from the date of this letter. In the event you fail or refuse to comply with any of the terms or conditions herein, this Right of Entry will be canceled and considered null and void and the Corporation will reject further applications.

Your check is now due and payable in the amount of two thousand dollars (\$2,000.00) to the Division of Natural Resources covering the first year's annual fee of this agreement. The annual fee shall remain in effect as long as you are operating aforesaid facility. You must notify this office in writing when you cease operating the aforesaid facility and the property has been reclaimed.

Please indicate 's approval of the Right of Entry by having an authorized representative of the Company sign both copies of this Letter Agreement and returning one (1) copy to this office. The other copy of the Letter Agreement may be retained for your files.

If you have any questions, please contact our office at (304) 558-3225.

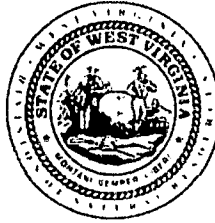


Joe T. Scarberry, Supervisor
Office of Land and Streams

Antero Midstream LLC

JTS:cb

pc: Paul Johansen, Chief of Wildlife Resources
Bret Preston, Assistant Chief of Fisheries
DNR Fish Biologist, District
Jeremy Bandy, Environmental Enforcement
DNR Conservation Officers, Doddridge County



DIVISION OF NATURAL RESOURCES
324 Fourth Avenue, Room 200
South Charleston WV 25303-1228
TDD (304) 558-1439
TDD 1-800-354-6087
Fax (304) 558-6048
Telephone (304) 558-3225

Jim Justice
Governor

Stephen S. McDaniel
Director

February 28, 2017

Division of Natural Resources
LICENSE AND RIGHT OF ENTRY

Re: R-17-VI/09-455

Antero Midstream LLC
c/o Heather S. Sexton
109 Platinum Drive
Suite E
Bridgeport, WV 26330-

Dear Sir or Madam:

The Division of Natural Resources hereby grants to you for a period of one (1) year a License and Right of Entry for the purpose of grading for various lengths (see Exhibit A) at four (4) separate locations (South Canton HP/LP Pipelines Project) along Slaughter Run, West Union District, Doddridge County, West Virginia.

This License and Right of Entry is subject to the following terms and conditions:

1. No in stream work during the fish-spawning season (April 1-June 30).
2. Work should be completed as quickly as possible during low flows in designated work areas only.
3. Any stream bed disturbance should be restricted to the immediate area. In stream use of equipment should be kept to a minimum.
4. All shore areas disturbed by this operation must be reshaped, seeded, and mulched immediately upon completion of work. The prompt establishment of vegetative cover will reduce future damage from high water levels.
5. Guidance should be obtained from NRCS (formerly SCS) and a registered engineer for the design and construction. Must allow for passage of at least ten year flow.
6. River gravel may not be used to stabilize banks.
7. Average width and depth of the new channel should be the same as existing

Antero Midstream LLC
R-17-VI/09-455
Page 2
February 28, 2017

channel.

8. Measures such as hay bales must be used to reduce downstream siltation.
9. The State's issuance of this Right-of-Entry does not provide for the applicant to work outside the requested boundaries nor does the State assume any liability for the applicant's/landowner's construction activities. By accepting this Right-of-Entry, the applicant/landowner assumes liability for any/all damages caused by this activity to both upstream and downstream landowners.
10. A 404 permit may be required from the U.S. Army Corps of Engineers. You may call them at 304-529-5395/412-395-7152

Guidelines of Best Management Practices for Sediment and Erosion Control as outlined by the Section of Water Resources, Division of Environmental Protection must be followed. Copies of those guidelines are available from the Section of Water Resources, Telephone No. (304) 926-0495.

The issuance of this License and Right of Entry by the Division of Natural Resources does not preclude the necessity to obtain a permit from the Corps of Engineers or any other state or federal permits which may be required by law, nor does this License and Right of Entry negate the need to comply with the West Virginia Water Pollution Control Act and/or the State Environmental Quality Board's administrative regulations, applicant is also responsible for determining if the proposed activity is located within an identified flood plain and it is the applicant's responsibility for contacting the local governmental agency in charge of that program and obtaining a flood plain development permit for it. This License and Right of Entry does not grant any rights or privileges, or permission to enter upon or to cross the property of any other person, nor is permission granted to remove any material that lies upon the property of any other persons. Work should be completed in as brief a period as possible and within one year from the date of this letter. In the event you fail or refuse to comply with any of the terms or conditions herein, this License and Right of Entry will be canceled and considered null and void and the Division will reject further applications.

Your check in the amount of \$400.00 is now due and payable to the Division of Natural Resources covering the one-time fee for this agreement. Your agreement will be effective upon receipt of your payment in full.

Sincerely,



Joe T. Scarberry, Supervisor
Office of Land and Streams

JTS:cb

pc: DNR Fish Biologist
Mr. Jeremy Bandy, Environmental Enforcement
DNR Conservation Officers

Exhibit A

Table 1- Proposed Stream Impacts

R-17-VI/09-455

FEATURE LABEL	OHWL WIDTH (FT.)	OHWL DEPTH (FT.)	LAT/LONG	LENGTH OF LOD IMPACT (FT.)	AREA OF LOD IMPACT (ACRES)	FILL QUANTITY (CY)	WATERWAY	PROPOSED CROSSING DESCRIPTION
* LAN-S1 (EPH)	1.00	0.08	39.33520, -80.80276	115.7	.0027	30	SLAUGHTER RUN	PERM. FILL FOR COMPRESSOR STATION
LAN-S2 (EPH)	1.08	0.25	39.33555, -80.80272	48.6	.0012	13.6	SLAUGHTER RUN	PERM. FILL FOR COMPRESSOR STATION
* LAN-S5 (EPH)	1.42	0.50	39.33559, -80.80477	118.5	.0039	43.6	SLAUGHTER RUN	PERM. FILL FOR COMPRESSOR STATION
LAN-S7 (EPH)	1.67	0.25	39.33534, -80.80258	68	.0026	29.4	SLAUGHTER RUN	PERM. FILL FOR COMPRESSOR STATION
* LAN-S10 (EPH)	1.08	0.38	39.33384, -80.80283	30.6	.0008	3.7	NUTTER FORK	PERM. FILL FOR COMPRESSOR STATION
* LAN-S11 (EPH)	1.08	0.50	39.33379, -80.80323	18.5	.0005	1.8	NUTTER FORK	PERM. FILL FOR COMPRESSOR STATION



DIVISION OF NATURAL RESOURCES
324 Fourth Avenue, Room 200
South Charleston WV 25303-1228
TDD (304) 558-1439
TDD 1-800-354-6087
Fax (304) 558-6048
Telephone (304) 558-3225

Jim Justice
Governor

Stephen S. McDaniel
Director

February 28, 2017

Division of Natural Resources
RIGHT OF ENTRY

Re: LS-17-VI/09-456

Antero Midstream LLC
c/o Heather S. Sexton
109 Platinum Drive
Suite E
Bridgeport, WV 26330-

Dear Sir or Madam:

The Division of Natural Resources hereby grants to you for a period of ten (10) years from the date hereof, a Right of Entry to install, use and maintain a timber mat crossing at thirty (30) separate locations (South Canton HP/LP Pipelines Project) along Arnold Creek, Long Run, Middle Island Creek, Slaughter Run, Nutter Fork near West Union in Doddridge County, West Virginia.

This Right of Entry is subject to the following terms and conditions:

1. No in stream work during the fish-spawning season (April 1-June 30).
2. Work should be completed as quickly as possible during low flows in designated work areas only.
3. Any streambed disturbance should be restricted to the immediate area. In stream use of equipment should be kept to a minimum.
4. All shore areas disturbed by this operation must be reshaped, seeded and mulched immediately upon completion of work. The prompt establishment of vegetative cover will reduce future damage from high water levels.
5. Green concrete must not be put in the stream (highly toxic to aquatic life).
6. Guidance should be obtained from NRCS (formerly SCS) and a registered engineer for the design and construction. Must allow for passage of at least ten-year year flood flow.
7. Best management practices should be followed; measures such as hay bales must be used to reduce downstream siltation.

Antero Midstream LLC
LS-17-VI/09-456
Page 2
February 28, 2017

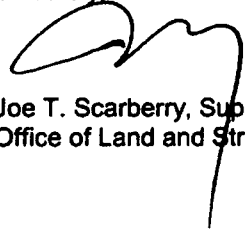
8. Applicant is responsible for removing debris from in and around the installation periodically to prevent stream flow obstruction.
9. Durable head walls of logs, crossties, rock, or concrete shall be constructed at both the upstream and downstream ends of crossing to prevent erosion of fill material into the stream.
10. The State's issuance of this Right-of-Entry does not provide for the applicant to work outside the requested boundaries nor does the State assume any liability for the applicant's/landowner's construction activities. By accepting this Right-of-Entry, the applicant/landowner assumes liability for any/all damages caused by this activity to both upstream and downstream landowners.

Guidelines of Best Management Practices for Sediment and Erosion Control as outlined by the Section of Water Resources, Division of Environmental Protection must be followed. Copies of those guidelines are available from the Section of Water Resources, Telephone No. (304) 926-0440.

The issuance of this Right of Entry by the Division of Natural Resources does not preclude the necessity for you to obtain a permit from the U.S. Corps of Engineers District Office, Permit Section, or any other state or federal permits which may be required by law, nor does this Right of Entry negate the need to comply with the West Virginia Water Pollution Control Act and/or the State Environmental Quality Board's administrative regulations, applicant is also responsible for determining if the proposed activity is located within an identified flood plain and it is the applicant's responsibility for contacting the local governmental agency in charge of that program and obtaining a flood plain development permit for it. This Right of Entry does not grant any rights or privileges, or permission to enter upon or to cross the property of any other person, nor is permission granted to remove any material that lies upon the property of any other persons. Work should be completed in as brief a period as possible and within one year from the date of this letter. In the event you fail or refuse to comply with any of the terms or conditions herein, this Right of Entry will be canceled and considered null and void and the Division will reject further applications.

Your payment is now due and payable in the amount of \$3000.00 to the Division of Natural Resources covering the first year's annual fee of this agreement. Your agreement will be effective upon receipt of your payment in full. You must notify this office in writing when this installation has been removed.

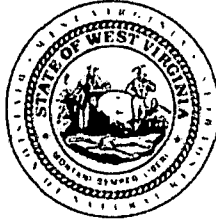
Sincerely,



Joe T. Scarberry, Supervisor
Office of Land and Streams

JTS:cb

pc: DNR Fish Biologist
Jeremy Bandy, Environmental Enforcement
DNR Conservation Officers



DIVISION OF NATURAL RESOURCES
324 Fourth Avenue, Room 200
South Charleston WV 25303-1228
TDD (304) 558-1439
TDD 1-800-354-6087
Fax (304) 558-6048
Telephone (304) 558-3225

Jim Justice
Governor

Stephen S. McDaniel
Director

February 28, 2017

Division of Natural Resources
LICENSE AND RIGHT OF ENTRY

Re: P-17-VI/09-457

Antero Midstream LLC
c/o Heather S. Sexton
109 Platinum Drive
Suite E
Bridgeport, WV 26330-

Dear Sir or Madam:

The Division of Natural Resources hereby grants to you for a term of ten (10) years, from the date hereof, a License and Right of Entry to construct, replace, cover, repair, operate, maintain, use and remove a twenty inch (20") pipeline at twenty-five (25) separate locations and two (2) twenty-four inch (24") pipeline at three (3) separate locations (South Canton HP/LP Pipelines Project) along Long Run, Arnold Creek, Middle Island Creek, and Slaughter Run, West Union District in Doddridge County, West Virginia, as shown located and highlighted in red on the map attached hereto as Exhibit A - E.

This License and Right of Entry is subject to the following terms and conditions:

High Quality Streams (HQS) as listed in the West Virginia Division of Natural Resources High Quality Stream Sixth Edition published in 2001 and for any trout streams and direct tributaries of trout streams:

- Directional boring is the only method permitted during the fish spawning season. Fish spawning season for warmwater streams runs from April 1st through June 30th. Trout spawning season runs from October 1st through April 30th.
- Other dry ditch methods (pump around, flume or cofferdam) as described in WVDEP water resources manual (published 2006) on page 3.21-4 may be used outside of spawning seasons.
- Each crossing that utilizes dry ditch methods must be completed in 2 consecutive work days.

Non-high quality stream:

- Directional boring or other dry ditch methods (pump around, flume or cofferdam) as described in WVDEP water resources manual (published 2006) on page 3.21-4 may be used at all times during fish spawning season from April 1st through June 30th. This eliminates the need for spawning season restrictions.
- Crossings using methods other than directional boring. Must be completed in 1 work day.

Antero Midstream LLC
P-17-VI/09-457
Page 2
February 28, 2017

- Only ephemeral/intermittent streams that are dry can be trenched.

Bank Stabilization

All bank stabilization projects must begin immediately upon completion of utility line crossing and be completed within 24 hours of completion of utility line crossing.

Freshwater Mussels

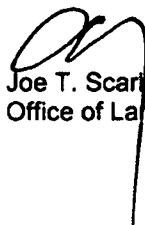
Mussel surveys on streams with known US Fish and Wildlife listed or candidate endangered species will be required if directional boring is not an option. Contact Janet Clayton of the WVDNR Wildlife Diversity Program for information concerning mussels at 304-637-0245.

For further assistance, contact the appropriate WVDNR District Fisheries Biologist.
District 1 304-825-6787 District 2 304-822-3551 District 3 304-924-6211
District 4 304-256-6947 District 5 304-675-0871 District 6 304-420-4550

The issuance of this License and Right of Entry by the Division of Natural Resources does not preclude the necessity to obtain a permit from the Corps of Engineers or any other state or federal permits which may be required by law, nor does this License and Right of Entry negate the need to comply with the West Virginia Water Pollution Control Act and/or the State Environmental Quality Board's administrative regulations, applicant is also responsible for determining if the proposed activity is located within an identified flood plain and it is the applicant's responsibility for contacting the local governmental agency in charge of that program and obtaining a flood plain development permit for it. This License and Right of Entry does not grant any rights or privileges, or permission to enter upon or to cross the property of any other person, nor is permission granted to remove any material that lies upon the property of any other persons. Work should be completed in as brief a period as possible and within one year from the date of this letter. In the event you fail or refuse to comply with any of the terms or conditions herein, this License and Right of Entry will be canceled and considered null and void and the Division will reject further applications.

Your check in the amount of \$8825.00 is now due and payable to the Division of Natural Resources covering the (10) ten-year fee of this agreement. Your agreement will be effective upon receipt of your payment in full.

Sincerely,



Joe T. Scarberry, Supervisor
Office of Land and Streams

JTS:cb

attachment

pc: DNR Fish Biologist
Jeremy Bandy, Environmental Enforcement
DNR Conservation Officers

January 26, 2017

Ms. Carrie Brooks
WV Division of Natural Resources – Office of Land and Streams
324 Fourth Avenue, Room 200
South Charleston, WV 25303-1228



**Re: Stream Activity Application
Antero Midstream LLC - South Canton HP/LP Pipelines
Doddridge County, West Virginia
Langan Project No.: 260010801**

Dear Ms. Brooks:

On behalf of Antero Midstream LLC (Antero), Langan Engineering and Environmental Services, Inc. (Langan) submits this Stream Activity Application for the proposed South Canton HP/LP Pipelines project located in Doddridge County, West Virginia (Figure 1). The project will include construction of a proposed compressor pad (limit-of-disturbance (LOD) approximately 14.36 acres), a 24-inch high pressure steel gas line, a 24-inch low pressure steel gas line and a 20-inch low pressure steel gas line (combined pipeline LOD approximately 63.17 acres). The 24-inch high pressure steel gas line and 24-inch low pressure steel gas line will extend from the existing West End Connector (WEC) Pipeline to the South Canton Compressor Station and will be buried below ground. The 20-inch low pressure steel gas line will be buried within the existing WEC Pipeline right-of-way (ROW) beginning at the Tamela Valve Site and will terminate at the start of the 24-inch low pressure pipeline. The center point coordinates of the proposed South Canton Compressor Station LOD are 39°20'05.06"N, -80°48'12.01"W. The South Canton HP/LP Pipelines LOD is proposed to begin at the Tamela Valve Site (coordinates 39°19'40.76"N, -80°50'32.28"W) and terminate at the South Canton Compressor Station (coordinates 39°20'07.02"N, -80°48'10.89"W). Ten existing access roads will be utilized for construction. No improvements to these access roads are proposed (Figure 2).

Langan delineated streams and wetlands for the project on October 26-27, 2016, and November 9 and 15, 2016. Two portions of the project were delineated by the Thrasher Group between the months of September and December, 2014 and AllStar Ecology, LLC on February 23-25, 2015. The project proposes permanent impacts from structural fill to six ephemeral streams associated with the compressor station construction. Temporary impacts from open-cut pipeline crossings are proposed to 20 ephemeral streams, five intermittent streams and three perennial streams. Temporary disturbances from the use of timber mats for equipment crossing will be used over 21 ephemeral streams, four intermittent streams and five perennial streams. Please refer to Table 1 – Proposed Stream Impacts and Table 2 – Proposed Stream Disturbances for additional information regarding proposed stream crossings.

For additional minimization efforts, impacts to Middle Island Creek, THR-S47, THR-S48, and THR-S195 were avoided by use of a horizontal directional bore crossing method. All aquatic features, excluding permanent impacts from structural fill, will be restored to original contours and conditions once construction is complete. Crossings will be completed within 72 hours.

We appreciate your timely review of this request. Should you require additional information or have any questions, please contact Corrin MacLuckie at 303-357-6420 or cmacluckie@anteroresources.com.

Sincerely,
Langan Engineering and Environmental Services, Inc.



Heather S. Sexton
Natural Resources Project Manager

Enclosures: Figure 1 – USGS Topographic Map
Figure 2 – Aerial Imagery Map
Table 1 – Proposed Stream Impacts
Table 2 – Proposed Stream Disturbances
Attachment A – Stream Activity Application Form

cc: Corrin MacLuckie, Antero
Chris Hummel, Antero
Cody Hughes, Antero
Jason Hanna, Langan



January 23, 2017

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

Randall Reid-Smith, Commissioner

Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562

EEO/AA Employer

RECEIVED
JAN 27 2017

Mr. Seth Mitchell
Principal Investigator
SWCA Environmental Consultants
200 Bursca Drive, Suite 207
Bridgeville, Pennsylvania 15017

RE: South Canton and HP/LP Pipelines Project – Antero Midstream, LLC
FR#: 17-223-DO

Dear Mr. Mitchell:

We have reviewed the submitted technical reports titled, *Abbreviated Technical Report Phase I Archaeological Investigation of the Proposed South Canton HP/LP Pipelines Project, Doddridge County, West Virginia* and *Architectural Survey for the Proposed South Canton HP/LP Pipelines Project, Doddridge County, West Virginia*, that were prepared for the above referenced project by SWCA Environmental Consultants. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

According to the submitted information, Antero Midstream, LLC proposes to complete the South Canton HP/LP pipelines project which will include construction of a compressor pad, a buried 24-inch high-pressure steel gas line, and a buried 02-inch low-pressure steel gas line, resulting in a 79.83 acre limit-of-disturbance (LOD) for the project. It is our understanding that the proposed project will utilize existing access roads and that no improvements are proposed for the access roads. It is also our understanding that, for the proposed project, the Area of Potential Effects (APE) is defined as the proposed construction workspace. This proposed construction workspace includes the 100-foot-wide construction corridor for the proposed pipelines and the compressor station. We also understand that approximately 4.6 miles of the proposed project area is collocated within the right-of-way of the recently constructed WEC Pipeline.

Archaeological Resources:

According to the report, a systematic archaeological survey was conducted within the APE in areas which have not been previously disturbed. Archaeological survey methodology included visual inspection of the entire proposed project area and the excavation of shovel probes within the proposed project area. The report states that no archaeological resources were recorded as a result of this survey. However, the map presented on Sheet 4 of 4 in Appendix B indicates that only a portion of the LOD where the compressor station will be constructed was archaeologically tested despite the area having limited disturbances and being situated on slopes less than 20 percent. Pg. 17 of the report states that the LOD comprising the compressor station has been previously disturbed by "The construction of the dwelling and ancillary structures, and the entrenchment of associated residential utilities, have impacted the ground surface in the area." While aerial imagery shows a dwelling located in this area, in our opinion it is unlikely that the partial development of this landform disturbed the area to a significant level. We request to be informed of the reasoning behind the decision not to archaeologically test the remaining portion of the LOD containing the compressor station.

January 23, 2017
Mr. S. Mitchell
FR# 17-223-DO
Page 2

Architectural Resources:

We have reviewed the submitted information and appreciate the development of a viewshed analysis to take into account both the potential direct and indirect effects for the APE of the proposed project. Although two (2) previously identified built resources, N Central Station Arch Bridge (DO-0109) and Lick Run Girder Bridge (DO-0110), were identified within the study area and were determined to be *eligible* for the National Register of Historic Places during the 2013 *West Virginia Statewide Bridge Survey*, both bridges are outside the limit of disturbance (LOD) and will not be affected by the proposed project. Thank you for the submittal of the Historic Property Inventory (HPI) forms. We concur with the consultant that two (2) of the four (4) newly identified built resources documented as a result of this survey are *not eligible* for the National Register, Leadmon Property (DO-0229) and Montgomery Property (DO-0231). For the remaining two (2) resources identified during the survey, Iseman Property (DO-0228) and Eiff Property (DO-0230), lack of property access prevented proper evaluation of the National Register eligibility, yet based on the included mapping and photographs, we agree that the proposed project will not adversely affect these properties. No further consultation is necessary regarding architectural resources; however, we do ask that you contact our office if your project should change.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Katie M. Turner, Archaeologist, or Benjamin M. Riggle, Structural Historian, at (304) 558-0240.*

Sincerely,



Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/KMT/BMR



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

Randall Reid-Smith, Commissioner

Phone 304.558.0220 • www.wvculture.org
Fax 304.558.2779 • TDD 304.558.3562
EEO/AA Employer

February 7, 2017

RECEIVED
FEB 13 2017

Mr. Seth Mitchell
Principal Investigator
SWCA Environmental Consultants
200 Bursca Drive, Suite 207
Bridgeport, Pennsylvania 15017

RE: South Canton and HP/LP Pipelines Project – Antero Midstream, LLC
Revised Phase I Report
FR#: 17-223-DO-1

Dear Mr. Mitchell:

We have reviewed the technical report titled, *Abbreviated Technical Report Phase I Archaeological Investigation of the Proposed South Canton HP/LP Pipelines Project, Doddridge County, West Virginia*, that was prepared by SWCA Environmental Consultants for the above referenced project. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties," we submit our comments.

Archaeological Resources:

In our response letter dated January 23, 2017 we requested to be informed of the reasoning behind the decision not to archaeologically test the remaining portion of the proposed project's limit-of-disturbance (LOD) which will contain the compressor station. The above referenced report states that the portion of the LOD which will contain the compressor station is situated on terrain with slopes over 20% in areas and has been previously disturbed. Previous disturbances within the LOD include the construction of a well pad and associated infrastructure in addition to disturbances from modern residential dwelling construction. The updated map presented on Sheet 4 of 4 in Appendix B further demonstrates the areas within the LOD which were not archaeologically excavated due to disturbances and slope. The consultant concludes that no further archaeological investigations are necessary. We concur with this determination. In our opinion the portion of the LOD which will contain the compressor station does not contain archaeological resources that are eligible for or listed in the National Register of Historic Places. No further consultation is necessary regarding archaeological resources.

We appreciate the opportunity to be of service. *If you have questions regarding our comments or the Section 106 process, please contact Katie M. Turner, Archaeologist, at (304) 558-0240.*

Sincerely,

Susan M. Pierce
Deputy State Historic Preservation Officer

SMP/KMT

Brooks, Carrie T

From: Morrison, Scott F
Sent: Thursday, February 23, 2017 1:54 PM
To: Brooks, Carrie T
Subject: FW: South Canton HP/LP Pipelines - Stream Activity Application Response
Attachments: South Canton WVDNR Clearance.pdf; Janet Clayton Email - Mussel Survey Concurrence.pdf; Antero Midstream LLC, R-17-VI 09-455, LS-17-VI 09-456, and P-17-VI 09-45....pdf

PLC's #7, 11, and 1

From: Brooks, Carrie T
Sent: Tuesday, February 21, 2017 4:43 PM
To: Morrison, Scott F
Subject: FW: South Canton HP/LP Pipelines - Stream Activity Application Response

Scott,

Attached is Janet Clayton's approval. I await your condition approval for grading bank work, timber mat crossings, and pipeline crossings.

Thank you,

Carrie Brooks
WV DNR
Office of Land and Streams
324 4th Avenue, Room 200
South Charleston, WV 25303
(304) 558-3225
Carrie.t.brooks@wv.gov

From: Sara Krampe [<mailto:skrampe@Langan.com>]
Sent: Tuesday, February 21, 2017 1:23 PM
To: Brooks, Carrie T
Cc: cmacluckie@anteroresources.com; Heather Sexton; Jason Hanna
Subject: South Canton HP/LP Pipelines - Stream Activity Application Response

Hi Carrie,

In response to your letter dated February 15, 2017 for the referenced project, I have attached the WVDNR clearance for this project and an email from Janet Clayton concurring with the results of mussel surveys that were performed. We received our 404 authorization from the USACE for this project already and need to begin construction as soon as possible. Please let me know if you require any additional information.

Thank you!
Sara

Sara Krampe

[Print](#) | [Close Window](#)

Subject: RE: Arnold Creek Mussel Survey Report
From: "Clayton, Janet L" <Janet.L.Clayton@wv.gov>
Date: Tue, Dec 02, 2014 8:27 am
To: "sarah@allstarecology.com" <sarah@allstarecology.com>
Attach: image001.jpg

No mussels found. No further mussel issues need to be addressed for this crossing.

Janet L. Clayton
Wildlife Diversity Biologist
Mussel Program Leader
WV Division of Natural Resources
Wildlife Resources Section
PO Box 67
Elkins, WV 26241
voice 304-637-0245
fax 304-637-0250

From: sarah@allstarecology.com [mailto:sarah@allstarecology.com]
Sent: Tuesday, November 11, 2014 12:05 PM
To: Clayton, Janet L
Subject: Arnold Creek Mussel Survey Report

Hi Janet,

Please find the attached report for the Arnold Creek mussel surveys for Antero's West End Connector Pipeline crossings. Let me know if you have any questions, edits, etc.

Thanks!

Sarah

Sarah Veselka, M.S.
Senior Project Manager / Member
SFS Certified Taxonomist, Family Level Aquatic Insects

AllStar Ecology, LLC.
1582 Meadowdale Rd.
Fairmont, WV 26554
Office: 304-816-3490
Toll-Free: 866-213-2666
Cell: 304-282-9493
sarah@allstarecology.com

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ALLSTAR ECOLOGY
Natural Resource Specialists

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DIVISION OF NATURAL RESOURCES

Wildlife Resources Section

Operations Center

P.O. Box 67

Elkins, West Virginia 26241-3235

Telephone (304) 637-0245

Fax (304) 637-0250

Earl Ray Tomblin
Governor

Robert A. Fala
Director

January 13, 2017

Ms. Heather S. Sexton
Langan Engineering and Environmental Services, Inc.
109 Platinum Drive, Suite E
Bridgeport, WV 26330

Dear Ms. Sexton:

We have reviewed Natural Heritage Program files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed South Canton HP/LP Pipeline project in Doddridge County, WV (Project No. 260010801).

We have no known records of any RTE species or sensitive habitats within the project area. Langan should be aware that US Fish and Wildlife Service concurrence is required prior to using HDD on Middle Island Creek. Other than mussel surveys, the Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review. This response is valid for two years.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or barbara.d.sargent@wv.gov. Enclosed please find an invoice.

Sincerely,

A handwritten signature in black ink, appearing to read "Barbara Sargent", is written over the typed name.

Barbara Sargent
Environmental Resources Specialist
Environmental Coordination
Operations Unit

enclosure

S:\Monthly\BSargent\Invoices\Langan.doc

NO. 217-330

INVOICE

West Virginia Division of Natural Resources

Wildlife Resources Section, P.O. Box 67, Elkins, WV 26241

Attention: Debbie Cooper

In Account With: Langan Engineering and Environmental Services, Inc
109 Platinum Drive, Suite E
Bridgeport, WV 26330

Date: January 13, 2017

Attention: Ms. Heather S. Sexton

For the retrieval and compilation of information on rare, threatened and endangered species and sensitive habitats for the proposed South Canton HP/LP Pipeline project in Doddridge County, WV (Project No. 260010801).

AMOUNT DUE: \$75.00

Make check payable to WV Division of Natural Resources, and mail to the attention of Debbie Cooper at the address above.

Please reference the invoice number on your check.

Brooks, Carrie T

From: Corrin MacLuckie <cmacluckie@anteroresources.com>
Sent: Monday, February 06, 2017 6:03 PM
To: Brooks, Carrie T
Subject: RE: Antero's South Canton HP/LP Pipelines

Carrie-

Flow will be completely impeded to LAN-S2 and LAN-S7 due to grading for the compressor station pad. The remaining streams proposed for permanent impacts within the compressor station LOD will still have flow, with the exception of the area of impact, within and outside of the LOD during and after construction activities. All of these permanent stream impacts are a result of grading for the compressor station pad. Feel free to call if you need further clarification.

Thanks!
Corrin

Corrin MacLuckie
Environmental Specialist II



1615 Wynkoop Street
Denver, Colorado 80202
Desk: (303) 357-6420
Mobile: (720) 582-3487
Email: cmacluckie@anteroresources.com

From: Brooks, Carrie T [<mailto:Carrie.T.Brooks@wv.gov>]
Sent: Tuesday, January 31, 2017 12:48 PM
To: Corrin MacLuckie
Subject: Antero's South Canton HP/LP Pipelines

Good afternoon,

We recently received the stream activity application for Antero's South Canton HP/LP Pipelines and require additional information. The charts included with the project state that there will be permanent fill for compressor station at six locations. Will this fill completely impede (no flow) the stream? IF so I wanted to let you know that there will be a \$6000 annual fee associated with that permit. IF the stream will still be able to flow, I will need to know the exact activity proposed for each stream crossing. IF you have any questions, please don't hesitate to ask.

Thank you,

Carrie Brooks
WV DNR
Office of Land and Streams
324 4th Avenue, Room 200
South Charleston, WV 25303
(304) 558-3225



George Eidel <doddridgecountyfpm@gmail.com>

WEC to Markwest Tie-In Buried Gasline

Rachel Grzybek <rgrzybek@anteroresources.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Mon, Feb 6, 2017 at 10:00 AM

Looks like we are waiting on a just about all of them (USACE, USFWS, OLS, WVDNR, WVDEP), except SHPO which you can find attached. I'll forward all others to you once received.

Thanks,

Rachel Grzybek

Phone: (304) 842-4008

Cell: (304) 641-2396

Fax: (304) 842-4102

rgrzybek@anteroresources.com

From: George Eidel [mailto:doddridgecountyfpm@gmail.com]
Sent: Monday, February 06, 2017 8:25 AM
To: Rachel Grzybek
Subject: Re: WEC to Markwest Tie-In Buried Gasline

[Quoted text hidden]

 **20170127_WV SHPO Response Letter_South Canton HP_LP Pipelines.pdf**
1473K

MAR15 17 1:35PM

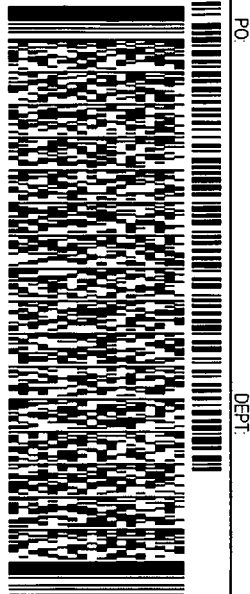
ORIGIN ID:CKBA (304) 842-4100
RACHEL GRZYBEK
ANTERO RESOURCES
535 WHITE OAKS BLVD
BRIDGEPORT, WV 26330
UNITED STATES US

SHIP DATE: 14MAR17
ACTWGST: 1.50 LB
CAD: 106562859IN/NET3850
BILL SENDER

TO **GEORGE EIDEL**
DODDRIDGE COUNTY FPM
108 COURT ST STE 1

WEST UNION WV 26456
REF: (304) 281-7407
INV: PO: DEPT:

546J31ADB63C1

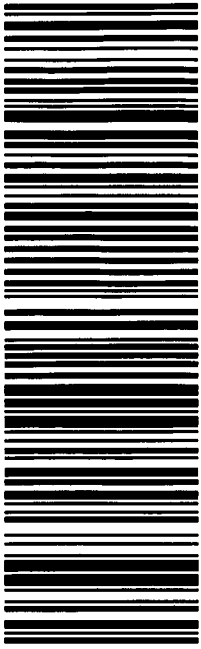


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MAR15 17 1:35PM

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OFFICE OF LAND AND STREAMS
STREAM ACTIVITY APPLICATION

1. Name of Applicant: Antero Midstream LLC
(Landowner)

2. Date: January 24, 2017

3. Complete mailing address of applicant: 1615 Wynkoop Street, Denver, CO 80202

Telephone Number: (303) 357-7310

Fax Number: (303) 357-7315

E-Mail Address: cmacluckie@anteroresources.com

4. Name, address, telephone number, and title of applicant's authorized agent (i.e. contractor employed by landowner):

Heather S. Sexton, 724-514-5126, 109 Platinum Drive, Suite E, Bridgeport, WV 26330

Please if you want the approval sent to the agent

5. Describe the proposed activity, its purpose and intended use after completion, type of equipment to be used in the stream, amount of material to be dredged (if any), plan for disposing of dredged materials, length of stream/bank to be worked or type and size of structure to be placed in the stream (i.e. length and width of bridge, diameter and length of culvert). **One copy of a map (topographical or detailed, hand-drawn) showing exact location of the work site (enabling Officials to locate site) must accompany this application, and all other information that may be important to this application.**

The proposed South Canton HP/LP Pipelines project will include construction of a proposed compressor pad (limit-of-disturbance (LOD) approximately 14.36 acres), a 24-inch high pressure steel gas line, a 24-inch low pressure steel gas line, and a 20-inch low pressure steel gas line (combined pipeline LOD approximately 63.17 acres). The 24-inch high and low pressure pipelines will extend from the existing West End Connector (WEC) Pipeline to the South Canton Compressor Station and will be buried below ground. The 20-inch low pressure pipeline will be buried within the existing WEC Pipeline right-of-way (ROW) beginning at the Tamela Valve Site and will terminate at the start of the 24-inch low pressure pipeline. The center point coordinates of the proposed South Canton Compressor Station LOD are 39°20'05.06"N, -80°48'12.01"W. The South Canton HP/LP Pipelines LOD is proposed to begin at the Tamela Valve Site (coordinates 39°19'40.76"N, -80°50'32.28"W) and terminate at the South Canton Compressor Station (coordinates 39°20'07.02"N, -80°48'10.89"W). Ten existing access roads will be utilized for construction. No improvements to these access roads or the WEC access roads are proposed (Figure 2).

P-17-VI/9-457 D.B.
The project proposes permanent impacts from structural fill to six ephemeral streams associated with the compressor station construction. Temporary impacts from open-cut pipeline crossings are proposed to 20 ephemeral streams, four intermittent streams and three perennial streams. Temporary disturbances from the use of timber mats for equipment crossing will be used over 21 ephemeral streams, four intermittent streams and five perennial streams. Please refer to Table 1 – Proposed Stream Impacts and Table 2 – Proposed Stream Disturbances for additional information regarding proposed stream crossings.

P-17-VI/9- Sdb B.P.
Impacts to Middle Island Creek, THR-S47, THR-S48, and THR-S195 were avoided by use of a horizontal directional bore crossing method. Standard construction equipment (ie - excavators and bulldozers) will be used for the construction of the project. The crossings will be completed within 72 hours. All aquatic features, excluding permanent impacts from structural fill, will be restored to original contours and conditions once construction is complete.

LS 17-VI/9- D.B.

(if additional space is required, continue on a separate sheet)

OLS Form 1 (08/07)

(S#)

Pipeline

Mussel Survey Required 02/13/17

6. Please the proposed use:

Private: _____
(person use)

Public: _____
(Government Agency)

Commerical: _____
(Business)

7. Location where proposed activity exists or will occur:

Long Run, Arnold Creek, Middle Island Creek, Nutter Fork and various unnamed tributaries to each of these named streams

Name of Water Way (if unnamed or unknown tributary, provide the stream that is flows into)

Doddridge
County

West Union
District (taxable)

West Union
Closest City or Town

8. Date activity is proposed to commence: February 2017

Date activity is expected to be complete: February 2018

9. Is any portion of the activity for which authorization is sought now complete? Yes _____ No
(If the answer is "Yes", give reasons in Section 5 including month and year the activity was completed)

10. Below is a list of entities that may require permits. Please list all approvals or certifications required by other Government Agencies for the above-described activity:

Issuing agency: Corps of Engineers - (304) 399-5710 Type of approval: Nationwide Permit 12 PCN
(412) 395-7170
(412) 395-7157

Identification No.: _____ Date of approval: Pending

Issuing agency: County Commission Type of approval: Floodplain Coordination
Flood Plain Coordinator

Identification No.: _____ Date of approval: Pending

Issuing agency: City Government Type of approval: _____
(if in City Limits the County isn't needed)

Identification No.: _____ Date of approval: _____

11. Has any agency denied approval for the activity described herein? Yes _____ No
(if "Yes", explain in Section 5 and/or attach a copy of the denial)

12: If activity is a pipeline construction (that is, gas, water, or sewer) give:
Material pipeline is made of: Steel Gas Line

Size of Pipeline: one 20-inch pipeline and two 24-inch pipelines

Maximum pressure of the pipeline: Maximum Anticipated Operating Pressure - 1,440 psi

Please provide the appropriate line number and if a Gathering or Well Line provide the A.P.I. Well Number:

Transmission: _____ Distribution: _____ Gathering: Well Line: _____ A.P.I Well Number: _____

13: Application is hereby made for authorization to conduct the activities described herein. I certify that I am familiar with the information in this application, and that to the best of my knowledge and belief such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities.

Heather S. Sexton

Signature of Applicant or Agent

Office of Land and Streams
Building 74, Room 200
324 Fourth Avenue
South Charleston, WV 25303
Phone Number 304-558-3225
Fax Number 304-558-6048



OFFICE OF LAND AND STREAMS
STREAM ACTIVITY APPLICATION

1. Name of Applicant: <u>Antero Midstream LLC</u> (Landowner)
2. Date: <u>January 24, 2017</u>
3. Complete mailing address of applicant: <u>1615 Wynkoop Street, Denver, CO 80202</u> Telephone Number: <u>(303) 357-7310</u> Fax Number: <u>(303) 357-7315</u> E-Mail Address: <u>cmacluckie@anteroresources.com</u>
4. Name, address, telephone number, and title of applicant's authorized agent (i.e. contractor employed by landowner): <u>Heather S. Sexton, 724-514-5126, 109 Platinum Drive, Suite E, Bridgeport, WV 26330</u> Please <input checked="" type="checkbox"/> if you want the approval sent to the agent <input checked="" type="checkbox"/>
5. Describe the proposed activity, its purpose and intended use after completion, type of equipment to be used in the stream, amount of material to be dredged (if any), plan for disposing of dredged materials, length of stream/bank to be worked or type and size of structure to be placed in the stream (i.e. length and width of bridge, diameter and length of culvert). One copy of a map (topographical or detailed, hand-drawn) showing exact location of the work site (enabling Officials to locate site) must accompany this application, and all other information that may be important to this application. <p>The proposed South Canton HP/LP Pipelines project will include construction of a proposed compressor pad (limit-of-disturbance (LOD) approximately 14.36 acres), a 24-inch high pressure steel gas line, a 24-inch low pressure steel gas line, and a 20-inch low pressure steel gas line (combined pipeline LOD approximately 63.17 acres). The 24-inch high and low pressure pipelines will extend from the existing West End Connector (WEC) Pipeline to the South Canton Compressor Station and will be buried below ground. The 20-inch low pressure pipeline will be buried within the existing WEC Pipeline right-of-way (ROW) beginning at the Tamela Valve Site and will terminate at the start of the 24-inch low pressure pipeline. The center point coordinates of the proposed South Canton Compressor Station LOD are 39°20'05.06"N, -80°48'12.01"W. The South Canton HP/LP Pipelines LOD is proposed to begin at the Tamela Valve Site (coordinates 39°19'40.76"N, -80°50'32.28"W) and terminate at the South Canton Compressor Station (coordinates 39°20'07.02"N, -80°48'10.89"W). Ten existing access roads will be utilized for construction. No improvements to these access roads or the WEC access roads are proposed (Figure 2).</p> <p>The project proposes permanent impacts from structural fill to six ephemeral streams associated with the compressor station construction. Temporary impacts from open-cut pipeline crossings are proposed to 20 ephemeral streams, four intermittent streams and three perennial streams. Temporary disturbances from the use of <u>timber mats</u> for equipment crossing will be used over 21 ephemeral streams, four intermittent streams and five perennial streams. Please refer to Table 1 – Proposed Stream Impacts and Table 2 – Proposed Stream Disturbances for additional information regarding proposed stream crossings.</p> <p>Impacts to Middle Island Creek, THR-S47, THR-S48, and THR-S195 were avoided by use of a horizontal directional bore crossing method. Standard construction equipment (ie - excavators and bulldozers) will be used for the construction of the project. The crossings will be completed within 72 hours. All aquatic features, excluding permanent impacts from structural fill, will be restored to original contours and conditions once construction is complete.</p>

(if additional space is required, continue on a separate sheet)

OLS Form 1 (08/07)

LS# 11 Timber Mat

Mussel Survey Required 02/13/17

6. Please the proposed use:

Private: _____
(person use)

Public: _____
(Government Agency)

Commerical: _____
(Business)

7. Location where proposed activity exists or will occur:

Long Run, Arnold Creek, Middle Island Creek, Nutter Fork and various unnamed tributaries to each of these named streams
Name of Water Way (if unnamed or unknown tributary, provide the stream that is flows into)

Doddridge
County

West Union
District (taxable)

West Union
Closest City or Town

8. Date activity is proposed to commence: February 2017

Date activity is expected to be complete: February 2018

9. Is any portion of the activity for which authorization is sought now complete? Yes _____ No
(If the answer is "Yes", give reasons in Section 5 including month and year the activity was completed)

10. Below is a list of entities that may require permits. Please list all approvals or certifications required by other Government Agencies for the above-described activity:

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(412) 395-7170
(412) 395-7157

Identification No.: _____ Date of approval: Pending

Issuing agency: County Commission Type of approval: Floodplain Coordination
Flood Plain Coordinator

Identification No.: _____ Date of approval: Pending

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(if in City Limits the County isn't needed)

Identification No.: _____ Date of approval: _____

11. Has any agency denied approval for the activity described herein? Yes _____ No
(If "Yes", explain in Section 5 and/or attach a copy of the denial)

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Maximum pressure of the pipeline: Maximum Anticipated Operating Pressure - 1,440 psi

Please provide the appropriate line number and if a Gathering or Well Line provide the A.P.I. Well Number:

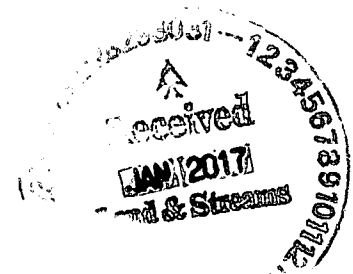
Transmission: _____ Distribution: _____ Gathering: X Well Line: _____ A.P.I Well Number: _____

13: Application is hereby made for authorization to conduct the activities described herein. I certify that I am familiar with the information in this application, and that to the best of my knowledge and belief such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities.

Heather S. Sexton

Signature of Applicant or Agent

Office of Land and Streams
Building 74, Room 200
324 Fourth Avenue
South Charleston, WV 25303
Phone Number 304-558-3225
Fax Number 304-558-6048





Project Number: 200010001

LANGAN
 690 Pelham Drive, Suite 6
 Birmingham, WV 26208
 T 724.214.9100 F 724.214.9101 www.langan.com

Langan Engineering & Environmental Services, Inc.
 Langan Engineering, Environmental, Surveying and
 Landscape Architecture, D PC
 Langan International LLC
 Collectively known as Langan

0 200 400
ft

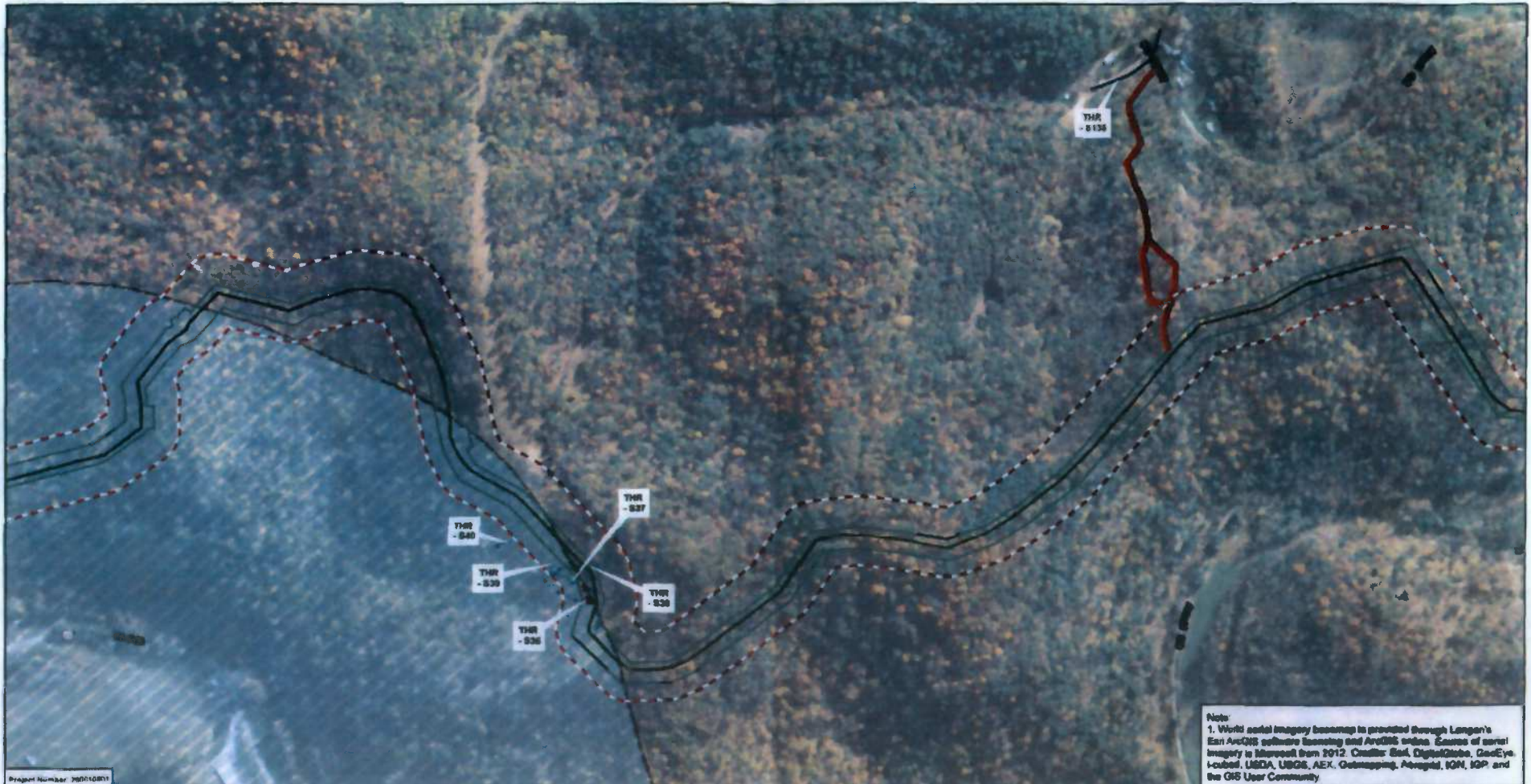
	Ephemeral		Langan (LAN) - Area of Interest
	Intermittent		Thresher (THR) - Area of Interest
	Perennial		ARStar (ASE) - Area of Interest
	PEM Wetland		Aquatic Buffer - August 10, 2016
	PUB Wetland		Terrestrial Buffer - December 28, 2016
	Pond		

	Proposed Pipeline Alignment
	Pipeline Limit of Disturbance - 63.17 acres
	Compressor Station Limit of Disturbance - 14.36 acres
	Timber Mat
	Existing Access Road

Antero Midstream LLC

Figure 2
 Aerial Imagery Map
 South Canton
 HP/LP Pipelines Project

Date: 1/19/2017 Sheet 1 of 5



Note:
 1. World aerial imagery base map is provided through Langan's
 Esri ArcGIS software licensing and ArcGIS online. Sources of aerial
 imagery is Microsoft from 2012. Credits: Esri, DigitalGlobe, GeoEye,
 i-cubed, USDA, USGS, AEK, Getmapping, Aergrid, IGN, IGP and
 the GIS User Community

Project Number: 76010811

LANGAN
 100 Platinum Drive, Suite B
 Springfield, WV 26159
 T 724.614.8100 F 724.614.8700 www.langan.com

Langan Engineering & Environmental Services, Inc.
 Langan Engineering, Environmental, Surveying and
 Landscape Architecture, LLC
 Langan International LLC
 Collectively known as Langan

Ephemeral	Langan (LAN) - Area of Interest
Intermittent	Thresher (THR) - Area of Interest
Perennial	ASESr (ASE) - Area of Interest
PEM Wetland	Aquatic Buffer - August 10, 2016
PUB Wetland	Terrestrial Buffer - December 28, 2016
Pond	

Proposed Pipeline Alignment
Pipeline Limit of Disturbance - 63.17 acres
Compressor Station Limit of Disturbance - 14.36 acres
Timber Mat
Existing Access Road

Antero Midstream LLC	
Figure 2 Aerial Imagery Map South Canton HP/LP Pipelines Project	
Date: 1/19/2017	Sheet 2 of 5

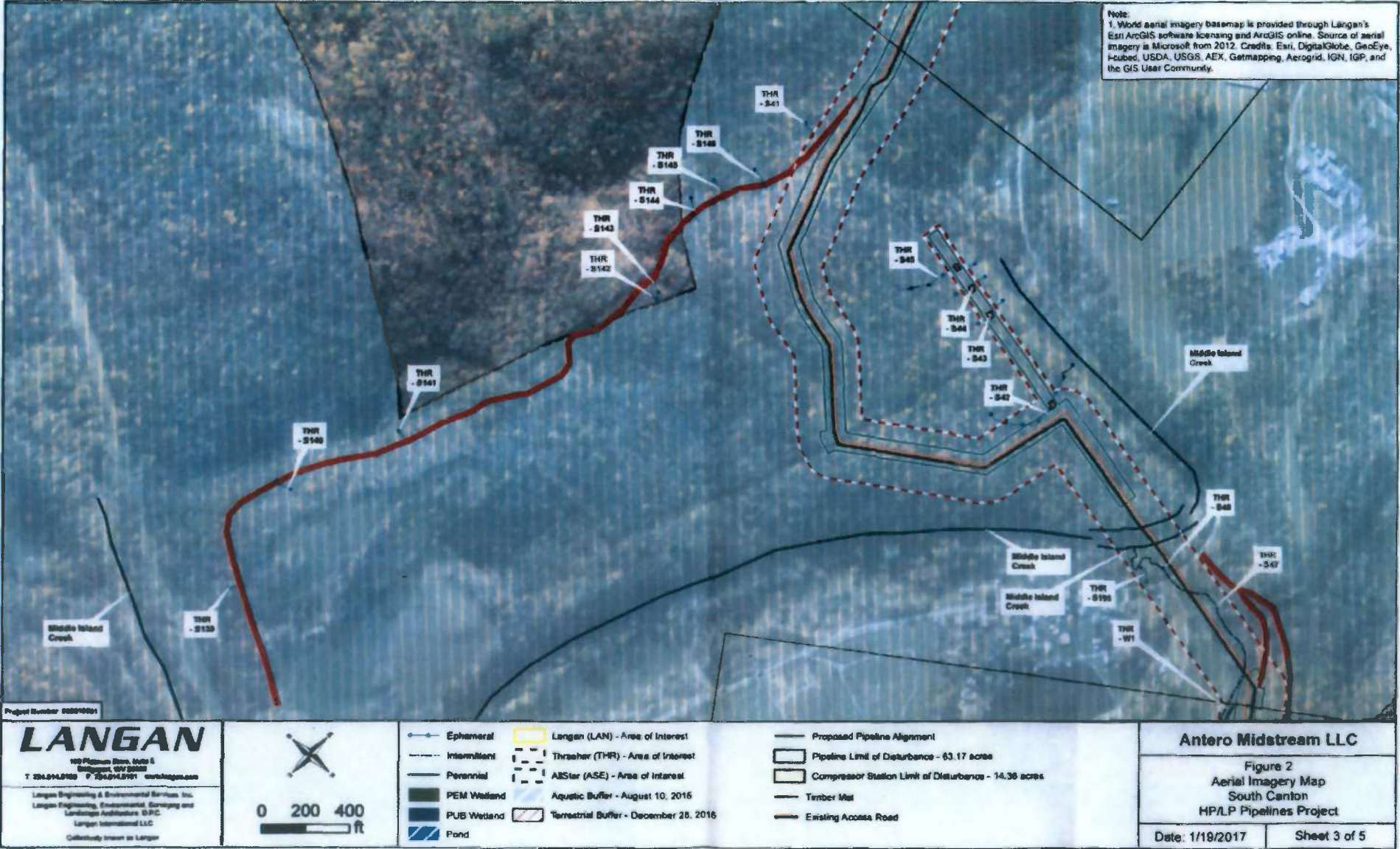
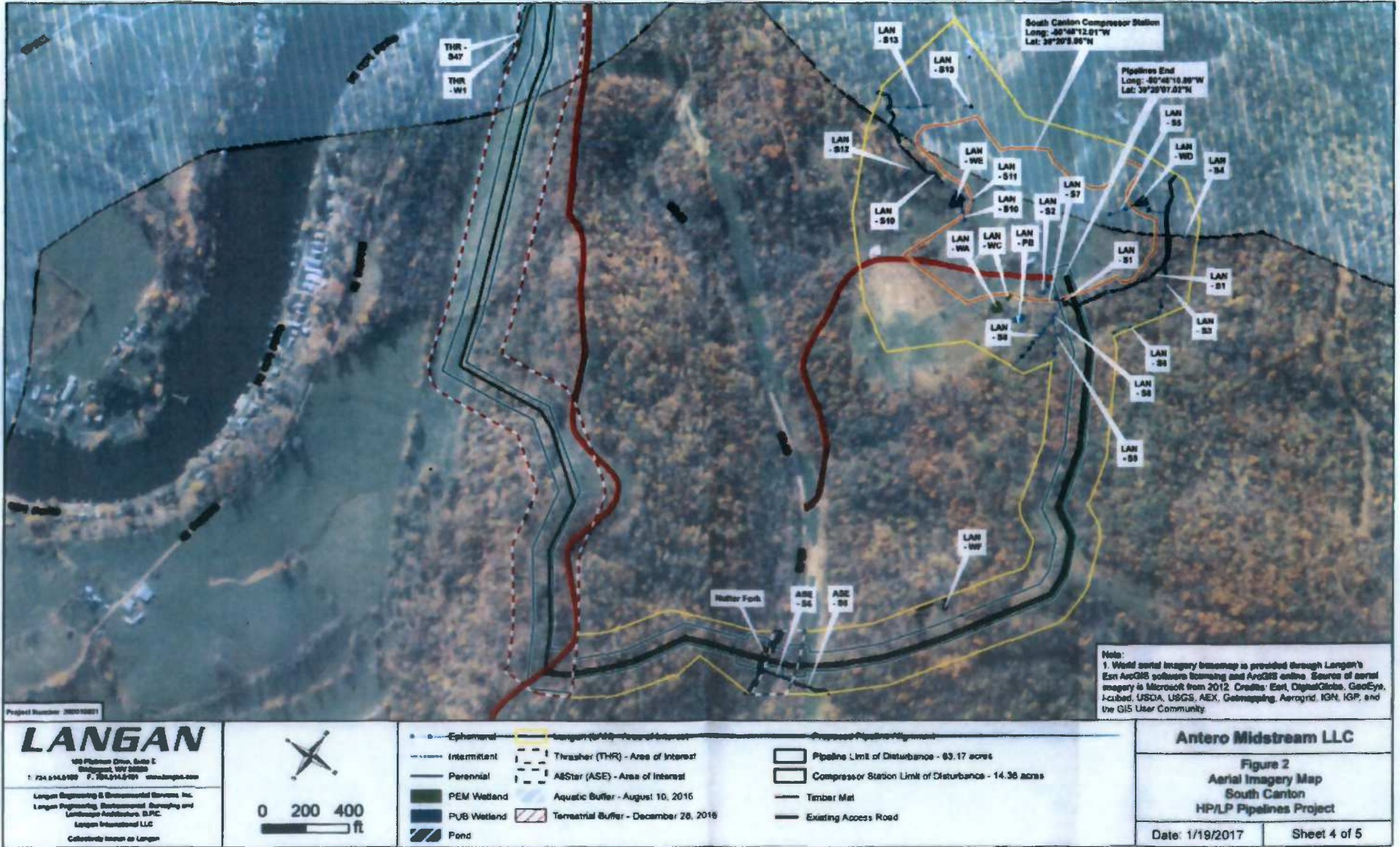


Exhibit D

P-17-VI/09-457





Note:
 1. West Union USGS Quadrangle Map
 Topographic base map is provided through Langan's Esri
 ArcGIS software licensing and ArcGIS online.
 Copyright: © 2011 National Geographic Society, Inc.



Project Number: 2000-11001

<p>LANGAN 100 Platinum Drive, Suite E Independence, MO 64603 T: 781.514.5100 F: 781.514.5001 www.langan.com</p> <p>Langan Engineering & Environmental Services, Inc. Langan Engineering, Environmental, Surveying and Landscaping Architects & P.C. Langan International LLC Celebrating 100 Years at Langan</p>		<ul style="list-style-type: none"> NHD Stream NW Wetland Compressor Station Limits of Disturbance - 14.26 acres Existing Access Road Proposed Pipeline Alignment Pipeline Limit of Disturbance - 63.17 acres 	<ul style="list-style-type: none"> Threshor (THR) - Area of Interest ARStar (ASE) - Area of Interest Langan (LAN) - Area of Interest Aquatic Buffer - August 10, 2016 Terrestrial Buffer - December 28, 2016 	<ul style="list-style-type: none"> Timber Mat 	<p style="text-align: center;">Antero Midstream LLC</p> <p style="text-align: center;">Figure 1 USGS Topographic Map South Canton HP/LP Pipelines Project</p> <p>Date: 1/19/2017 Index Map</p>
--	--	--	--	---	---

Note:
 1. World aerial imagery basemap is provided through Langan's
 Esri ArcGIS software licensing and ArcGIS online. Source of aerial
 imagery is Microsoft from 2012. Credits: Esri, DigitalGlobe, GeoEye,
 IGN, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and
 the GIS User Community.



Project Number: 200010001

<p>LANGAN 100 Platnum Blvd, Suite 112 Raleigh, WV 26039 T: 724.514.5100 F: 724.514.5101 www.langan.com</p> <p>Langan Engineering & Environmental Services, Inc. Langan Engineering, Environmental, Surveying and Landscaping Architecture, D.P.C. Langan International LLC Courtesy: Inverto de Langan</p>		<table border="0"> <tr> <td></td> <td>Spherulal</td> <td></td> <td>Langan (LAN) - Area of Interest</td> <td></td> <td>Proposed Pipeline Alignment</td> </tr> <tr> <td></td> <td>Intermittent</td> <td></td> <td>Thrasher (THR) - Area of Interest</td> <td></td> <td>Pipeline Limit of Disturbance - 83.17 acres</td> </tr> <tr> <td></td> <td>Perennial</td> <td></td> <td>AltStar (ASE) - Area of Interest</td> <td></td> <td>Compressor Station Limit of Disturbance - 14.36 acres</td> </tr> <tr> <td></td> <td>PEM Wetland</td> <td></td> <td>Aquatic Buffer - August 10, 2016</td> <td></td> <td>Timber Mat</td> </tr> <tr> <td></td> <td>PUB Wetland</td> <td></td> <td>Terrestrial Buffer - December 28, 2016</td> <td></td> <td>Existing Access Road</td> </tr> <tr> <td></td> <td>Pond</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Spherulal		Langan (LAN) - Area of Interest		Proposed Pipeline Alignment		Intermittent		Thrasher (THR) - Area of Interest		Pipeline Limit of Disturbance - 83.17 acres		Perennial		AltStar (ASE) - Area of Interest		Compressor Station Limit of Disturbance - 14.36 acres		PEM Wetland		Aquatic Buffer - August 10, 2016		Timber Mat		PUB Wetland		Terrestrial Buffer - December 28, 2016		Existing Access Road		Pond					<p>Antero Midstream LLC</p> <p>Figure 2 Aerial Imagery Map South Canton HP/LP Pipelines Project</p> <p>Date: 1/19/2017 Index Map</p>
	Spherulal		Langan (LAN) - Area of Interest		Proposed Pipeline Alignment																																		
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	Perennial		AltStar (ASE) - Area of Interest		Compressor Station Limit of Disturbance - 14.36 acres																																		
	PEM Wetland		Aquatic Buffer - August 10, 2016		Timber Mat																																		
	PUB Wetland		Terrestrial Buffer - December 28, 2016		Existing Access Road																																		
	Pond																																						

Note
 1. World aerial imagery basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Source of aerial imagery is Microsoft from 2012. Credits: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community.



Project Number: 200412021

LANGAN

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Langan Engineering & Environmental Services, Inc.
 Langan Engineering, Environmental, Surveying and
 Technology International, D.P.C.
 Langan International, LLC
 Collectively known as Langan



- Ephemeral
- Intermittent
- Perennial
- PEM Wetland
- PUB Wetland
- Pond
- Langan (LAN) - Area of Interest
- Thresher (THR) - Area of Interest
- AASter (ASE) - Area of Interest
- Aquatic Buffer - August 10, 2016
- Terrestrial Buffer - December 28, 2016

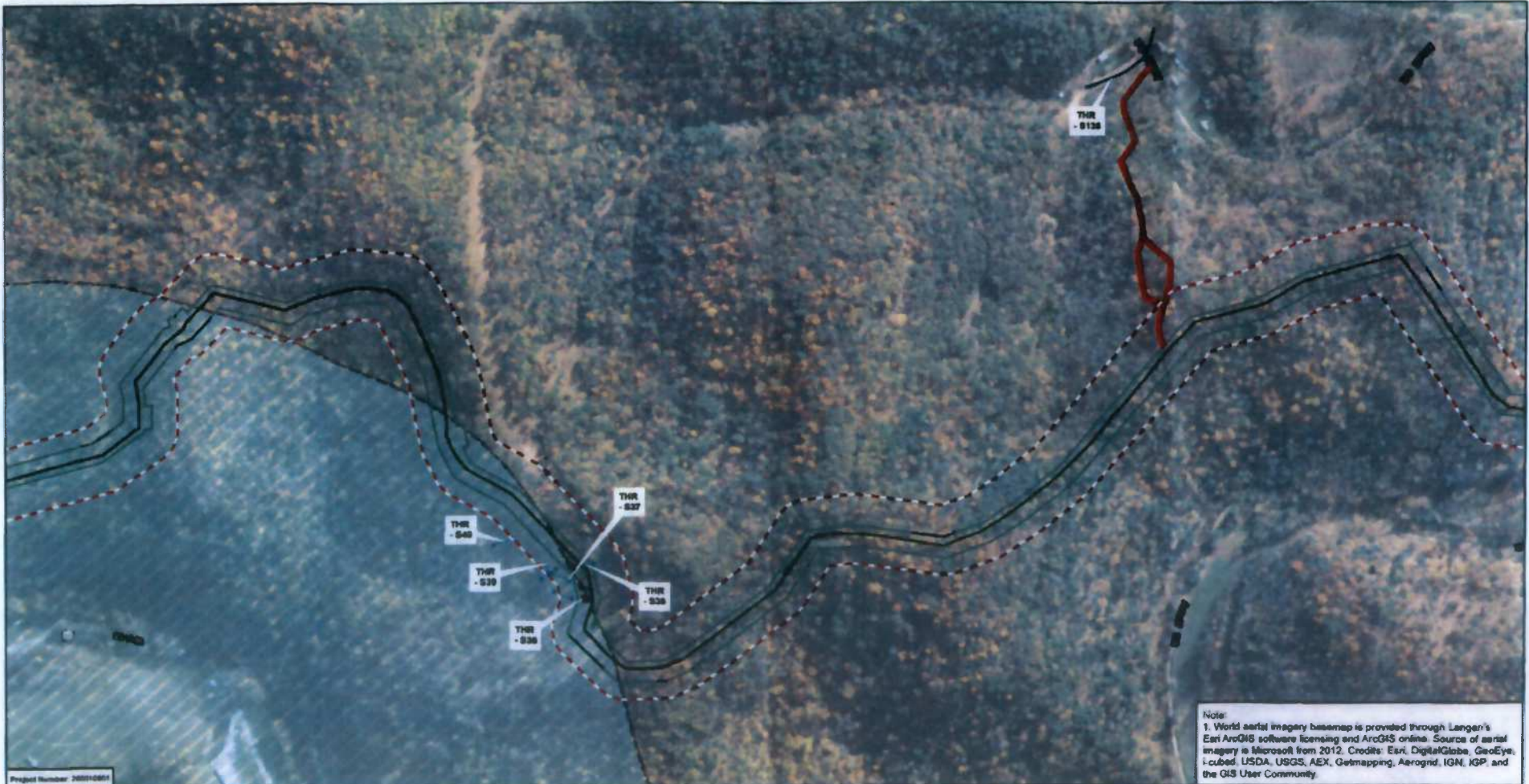
- Proposed Pipeline Alignment
- Pipeline Limit of Disturbance - 63.17 acres
- Compressor Station Limit of Disturbance - 14.36 acres
- Timber Mat
- Existing Access Road

Antero Midstream LLC

Figure 2
 Aerial Imagery Map
 South Canton
 HP/LP Pipelines Project

Date: 1/19/2017

Sheet 1 of 5



Note:
 1. World aerial imagery base map is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Source of aerial imagery is Microsoft from 2012. Credits: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community.

Project Number: 200110011

LANGAN
 100 Pelham Drive, Suite G
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Langan Engineering & Environmental Services, Inc.
 Langan Engineering, Environmental, Surveying and
 Landscape Architecture, D.P.C.
 Langan International LLC
 Collectively known as Langan



- Ephemeral
- Intermittent
- Perennial
- PEM Wetland
- PUB Wetland
- Pond
- Langan (LAN) - Area of Interest
- Threshold (TWR) - Area of Interest
- AllStar (ASE) - Area of Interest
- Aquatic Buffer - August 10, 2016
- Terrestrial Buffer - December 28, 2016

- Proposed Pipeline Alignment
- Pipeline Limit of Disturbance - 63.17 acres
- Compressor Station Limit of Disturbance - 14.36 acres
- Timber Met
- Existing Access Road

Antero Midstream LLC

Figure 2
 Aerial Imagery Map
 South Canton
 HP/LP Pipelines Project

Date: 1/19/2017 Sheet 2 of 5

Note:
 1. World aerial imagery basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Source of aerial imagery is Microsoft from 2012. Credits: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community.



Project Number 70001001

LANGAN
 100 Platinum Drive, Suite 6
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 Langan Engineering, Environmental, Surveying and
 Landscape Architecture, S.P.C.
 Langan International LLC
 Collectively known as Langan



- Ephemeral
- Intermittent
- Perennial
- PEM Wetland
- PUB Wetland
- Pond
- Langan (LAN) - Area of Interest
- Thresh (THR) - Area of Interest
- ANStar (ASE) - Area of Interest
- Aquatic Buffer - August 10, 2016
- Terrestrial Buffer - December 28, 2016

- Proposed Pipeline Alignment
- Pipeline Limit of Disturbance - 63.17 acres
- Compressor Station Limit of Disturbance - 14.30 acres
- Timber Mat
- Existing Access Road

Antero Midstream LLC

Figure 2
 Aerial Imagery Map
 South Canton
 HP/LP Pipelines Project

Date: 1/19/2017 Sheet 3 of 5



Note:
 1. World aerial imagery base map is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Source of aerial imagery is Microsoft from 2012. Credits: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community.

Project Number: 200910001

LANGAN
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 Langan International LLC
 Collectively known as Langan

North Arrow
 0 200 400 ft

Ephemeral	Proposed Right-of-Way	Pipeline Limit of Disturbance - 63.17 acres
Intermittent	Threshor (THR) - Area of Interest	Compressor Station Limit of Disturbance - 14.36 acres
Perennial	AllStar (ASE) - Area of Interest	Timber Mat
PEM Wetland	Aquatic Buffer - August 10, 2016	Existing Access Road
PUB Wetland	Terrestrial Buffer - December 28, 2016	
Pond		

Antero Midstream LLC

Figure 2
 Aerial Imagery Map
 South Canton
 HP/LP Pipelines Project

Date: 1/19/2017 Sheet 4 of 5



Note:
 1. World aerial imagery base map is provided through Langan's
 Esri ArcGIS software licensing and ArcGIS online. Source of aerial
 imagery is Microsoft from 2012. Credits: Esri, DigitalGlobe, GeoEye,
 iSatellite, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and
 the GIS User Community.

Project Number: 100010001

LANGAN
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 Shepherd, WV 25389
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Langan Engineering & Environmental Services, Inc.
 Langan Engineering, Environmental, Surveying and
 Landscape Architecture, D.P.C.
 Langan International LLC
 Collectively known as Langan

0 200 400
ft

Ephemeral	Langan (LAN) - Area of Interest
Intermittent	Thrasher (THR) - Area of Interest
Perennial	AASter (ASE) - Area of Interest
PEM Wetland	Aquatic Buffer - August 10, 2016
PUB Wetland	Terrestrial Buffer - December 28, 2016
Pond	

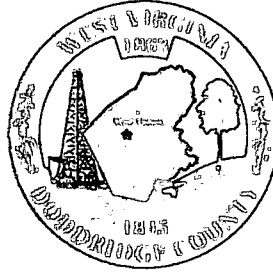
Proposed Pipeline Alignment
Pipeline Limit of Disturbance - 63.17 acres
Compressor Station Limit of Disturbance - 14.36 acres
Timber Mat
Existing Access Road

Antero Midstream LLC

Figure 2
 Aerial Imagery Map
 South Canton
 HP/LP Pipelines Project

Date: 1/19/2017 Sheet 5 of 5

EXHIBIT # 2



Doddridge County Office of Emergency Management
Floodplain Administrator

To: HEP Shalewater Solutions LLC
1660 17th St suite 350.
Denver CO 80202

From: George Eidel, Floodplain Administrator

Ref: HEP Shalewater Solutions LLC Central Station Waste Water Treatment Project Permit # 16-415

This project has had a stop work order placed on it since March 2, 2016. After meeting with company officials and requiring them to obtain permits and/or documentation from various local, state and federal agencies on the project (See Doddridge County Floodplain Permit #16-) in order to show that there will be no adverse effects to the surrounding area due to the development at this site. The company has complied with this office and showed that, through a detailed study, there will be no adverse effects. The company is awaiting a Letter of Map Revision based on Fill (LOMR-F) from the Federal Emergency Management Agency (FEMA), in Washington DC, to be approved. This is the final step needed to lift the stop work order. This office and FEMA region 3 office feel that the company may restart operations, at this time, at the Central Station site based on their documentation. **The stipulation will be that, if when reviewed by FEMA headquarters it is found that there are issues and the LOMR-F is denied, the company will have to remove all equipment and the fill (Dirt) that has been placed at the site will need to be removed.** If the company agrees to these terms the stop work order will be removed and work may continue at the site.

George Eidel,

Doddridge County Emergency Manager/Floodplain Administrator

Date: April 14, 2016

Anthony Gutta

President

HEP Shalewater Solutions LLC

Christ Stanton

Director of Residual Waste

HEP Shalewater Solutions LLC

Our office had a meeting this morning March 4, 2016 with Douglas R. Amos, Senior Associate with the engineering firm of Hatch Mott MacDonald and Tony Gutta, President Shalewater Solutions to discuss issues with a floodplain permit at a work site located about 50 to 100 yards north of Route 50 on Central Station Rd. The permit, for a waste water treatment facility, was submitted last Friday, February 26, 2016 and was announced at the next Doddridge County Commission meeting on Tuesday morning, March 1, 2016. At that time, Mirijana Beram, a local activist with the Doddridge County Watershed Association, questioned myself George Eidel (Doddridge County Emergency Manager/Floodplain Manager) as well as an engineer (Ricardo Chambers of Hatch Mott Macdonald) and a Senior Manager (Chris Stanton of Shalewater Solutions) on the project. Miss Beram also went out into the hall to question these two gentlemen more on the project after the meeting. Miss Beram then went out to the site and took pictures, sending our office an email and some of the pictures. After receiving Miss Berams email, I went out to the site and found issues forcing a stop work order to be placed on the project, this is what led to the meeting today. The site was shut down on Wednesday, March 2, 2016, the company place two personnel at the entrance to the site to ensure that it was safe. Mr. Gutta reported to my office that on the night of March 2, 2016 at 12:29 am he received a text from his employees at the gate that they had an issue. A light blue Toyota Tacoma had gone passed the site 9 times, the men then went to Route 50 where they had cell reception to call 911 to report the issue. Upon returning to the site someone was on the site beating on the tanks. We had the sheriff (Mike Headley) come over and address them, he stated that he was aware of the 911 call but when his officer went out to the area no one was there. The Sheriff did not seem too concerned, in my opinion he just passed this off to locals being disruptive. It is this offices opinion that this could potentially become an eco - terrorism issue as Mr. Gutta stated that if any of the equipment is compromised it could lead to contaminated water entering the waterway (Arnolds Creek) directly adjacent to the site. At this time all of the tanks are empty and no work activity has started due to the permitting issue. If there are any questions please contact our office at 304-873-1343, my cell at 304-281-7407.

Shalewater Solutions Central Station Project

Monday February 15, 2016 I was approached by Commissioner Ronnie Travis while at the court house, he gave me a paper with a picture on it and told me that a resident had taken it and wanted to know what was going on. I told Commissioner Travis that I would look into the situation and get back to him. The picture was of a sign (see attached) with an empty lot and creek behind it (this was taken the day before Feb. 14th), the sign said "For info on NPDES Stormwater Permit WV0115925 To comment on Sediment Control Plan: Call 800-654-5227 or DEP.Plan@wv.gov, 2031 Pleasant Valley Rd. Ste.#1 Fairmont, WV 26554-9295 Application Date:01/11/2016, Project: Shalewater Solutions Central Station Site, Project Description: Clear, Level and bring site to grade. Construct a water treatment unit to treat wastewater from the oil and gas well production facilities. SHALEWATER SOLUTIONS, LLC (304)592-2794". I am familiar with this area as I had driven Central Station Road in December and that same lot was at grade at just above the creek level, it had some old pipe and equipment on it that time.

On Tuesday, February 16, 2016 at 10:30am (See copy) I emailed a Tonya Mathers who is with the WV Department of Environmental Protection Agency (EPA) to see what was going on at the Central Station site, attached was the picture I was given. She never returned my inquiry, Wednesday, February 17, 2016 at 2:45 pm I got an email address for Shalewater Solutions and sent a them a letter asking for information from them on this project. I had also called the number on the sign and left a message for them to contact my office. On Monday February 22, 2016 at 3:05 pm I was contacted by a Joseph Angotti who took my information and told me someone would be in contact with my office. A little while later a Chris Stanton called and told me that he would call the engineering firm working on the project and they would contact me. See the attached emails for a continuation of what transpired.

ELEVATION CERTIFICATE

IMPORTANT: Follow the instructions on pages 1-9.

OMB No. 1660-0008
Expiration Date: July 31, 2015

SECTION A - PROPERTY INFORMATION

FOR INSURANCE COMPANY USE

A1. Building Owner's Name: DANIEL H. RYMER AND JANET S RYMER

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.: 4654 Sunny Side Rd, GREENWOOD, WV 26415

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.): DEED BOOK 897 PAGE 115

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): RESIDENTIAL

A5. Latitude/Longitude: Lat. 39°16'10.76" N Long. 80°53'02.29" E

A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.

A7. Building Diagram Number: 2

A8. For a building with a crawlspace or enclosure(s):
 a) Square footage of crawlspace or enclosure(s): 1124 sq ft
 b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade: 4
 c) Total net area of flood openings in A8.b: 1022.4 sq in
 d) Engineered flood openings? Yes No

A9. For a building with an attached garage:
 a) Square footage of attached garage: 463 sq ft
 b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade: 0
 c) Total net area of flood openings in A9.b: 0 sq in
 d) Engineered flood openings? Yes No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number: DODDRIDGE COUNTY

B2. County Name: DODDRIDGE

B3. State: WV

B4. Map/Panel Number: 540024/0100

B5. Suffix: C

B6. FIRM Index Date: 10/04/2011

B7. FIRM Panel Effective/Revised Date: 10/04/2011

B8. Flood Zone(s): A

B9. Base Flood Elevation(s) (Zone AO, use base flood depth):

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:
 FIS Profile FIRM Community Determined Other/Source:

B11. Indicate elevation datum used for BFE in Item B9: NGVD:1929 NAVD 1988 Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? Yes No
 Designation Date: / / CBRS OPA

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: Construction Drawings* Building Under Construction* Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.
 Benchmark Utilized: GPS WV VRS COORS NETWORK Vertical Datum: HARRISVILLE COORS STA.

Indicate elevation datum used for the elevations in items a) through h) below. NGVD 1929 NAVD 1988 Other/Source:

Datum used for building elevations must be the same as that used for the BFE.

		Check the measurement used.
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	863 70	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
b) Top of the next higher floor	815 30	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
c) Bottom of the lowest horizontal structural member (V Zones only)		<input type="checkbox"/> feet <input type="checkbox"/> meters
d) Attached garage (top of slab)	864 34	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)		<input type="checkbox"/> feet <input type="checkbox"/> meters
f) Lowest adjacent (finished) grade next to building (LAG)	862 14	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
g) Highest adjacent (finished) grade next to building (HAG)	844 64	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	862 43	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Check here if comments are provided on back of form. Check here if attachments.

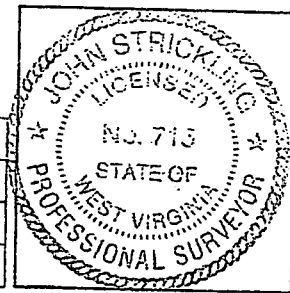
Were latitude and longitude in Section A provided by a licensed land surveyor? Yes No

Certifier's Name: JOHN STRICKLING License Number: 715

Title: PROFESSIONAL LAND SURVEYOR Company Name: STRICKLING SURVEYING

Address: 130 ENGLANDS RUN ROAD City: WEST UNION State: WV ZIP Code: 26456

Signature: [Signature] Date: 4/9/14 Telephone: 304 873 1592



ELEVATION CERTIFICATE, page 2

IMPORTANT: In these spaces, copy the corresponding information from Section A.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 4554 Sunnyside Rd	FOR INSURANCE COMPANY USE	
City GREENWOOD	State HI	ZIP Code 26415
Policy Number:		Company NAIC Number:

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments: THERE IS NO BASE FLOOD ELEVATIONS SHOWN IN THIS AREA. THE CRAWL SPACE OPENINGS ARE NOT DESIGNED FLOOD OPENINGS.

Signature: [Signature] Date: 4/7/14

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).

a) Top of bottom floor (including basement, crawlspace, or enclosure) is 6.89 feet meters above or below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is 0.00 feet meters above or below the LAG.

E2. For Building Diagrams 6-9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 8-9 of instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ feet meters above or below the HAG.

E3. Attached garage (top of slab) is 0.25 feet meters above or below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is _____ feet meters above or below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown. The local official must certify this information in Section G.

SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner or Owner's Authorized Representative's Name: JOHN STRICKLING

Address: 30 ENGLANDS ROW RD City: WEST UNION State: HI ZIP Code: 26456

Signature: [Signature] Date: 4/7/14 Telephone: 204 873 1592

Comments: _____

Check here if attachments.

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8-G10. In Puerto Rico only, enter meters.

G1. The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2. A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3. The following information (Items G4-G10) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate Of Compliance/Occupancy Issued
G7. This permit has been issued for: <input type="checkbox"/> New Construction <input type="checkbox"/> Substantial Improvement		
G8. Elevation of as-built lowest floor (including basement) of the building: _____ <input type="checkbox"/> feet <input type="checkbox"/> meters Datum _____		
G9. BFE or (in Zone AO) depth of flooding at the building site: _____ <input type="checkbox"/> feet <input type="checkbox"/> meters Datum _____		
G10. Community's design flood elevation: _____ <input type="checkbox"/> feet <input type="checkbox"/> meters Datum _____		
Local Official's Name		Title
Community Name		Telephone
Signature		Date
Comments		

Check here if attachments.

Replaces all previous editions.

Building Photographs

See Instructions for Item A6.

IMPORTANT: In these spaces, copy the corresponding information from Section A.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.
4554 Sunnyside Rd.

City
GREENWOOD

State

MD

ZIP Code

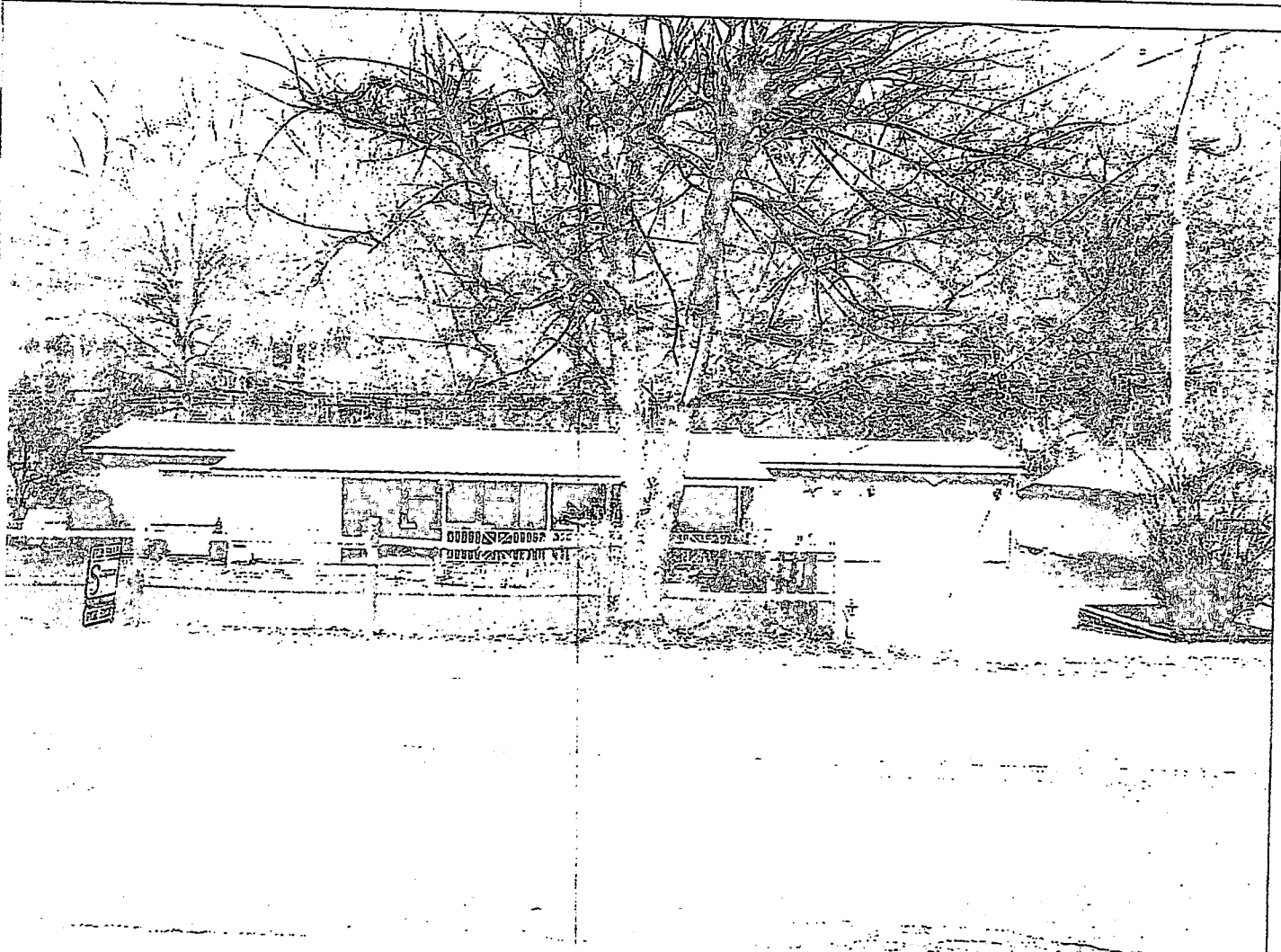
26415

FOR INSURANCE COMPANY USE

Policy Number:

Company NAIC Number:

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for Item A6. Identify all photographs with date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.



FRONT VIEW

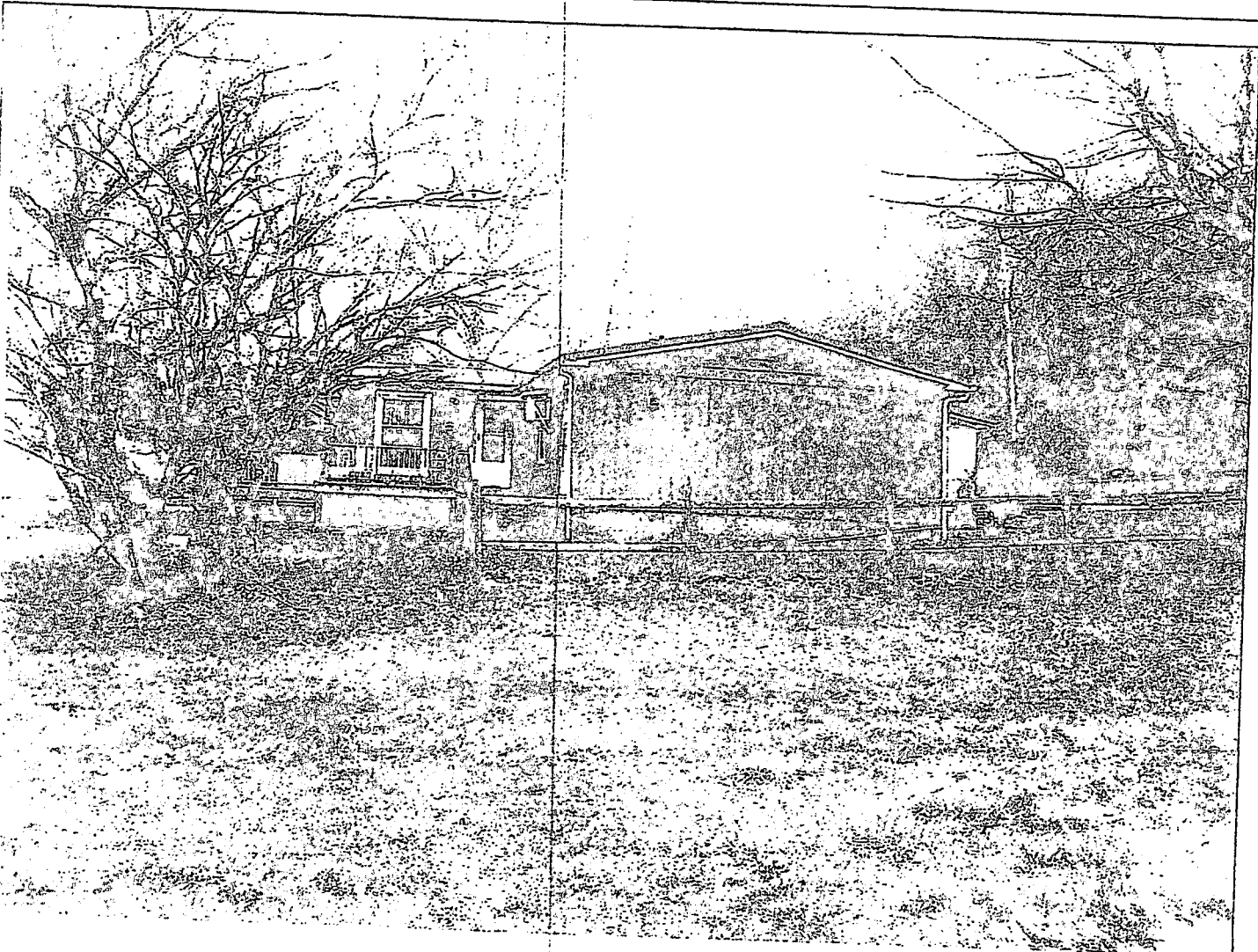
Building Photographs

See Instructions for Item A6.

IMPORTANT: In these spaces, copy the corresponding information from Section A.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.		FOR INSURANCE COMPANY USE	
4554 Sunny Side Rd		Policy Number:	
City	State	ZIP Code	Company NAIC Number:
GREENWOOD	W.V.	26415	

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for Item A6. Identify all photographs with date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.



LEFT SIDE VIEW

EXHIBIT # 4

**DODDRIDGE COUNTY
FLOODPLAIN DEVELOPMENT PERMIT APPLICATION
Floodplain Management Program**

Date of Application: _____ Permit# _____

Application Information

Name: _____ Mailing Address: _____
City: _____ State: _____ Phone: _____

Contractor Information & License Number(if applicable) WV License #: _____ City License# _____

Name: _____ Mailing Address: _____
City: _____ State: _____ Phone: _____

Property Address: _____ **Cost of Improvement:** _____
(Provide directions if no address below) **(Provide Documentation)**

- Type of Structure:** (Check All That Apply)
- | | |
|----------------------------------|---------------------------------|
| _____ Residential | _____ Demolition |
| _____ Excavation/Fill Activities | _____ Commercial/Industrial |
| _____ Manufactured Home | _____ Garage/Detached Structure |
| | _____ Other (explain) |

Description of Work To Be Completed:

Signature _____

APPLICANT WILL PROVIDE ONE COPY OF PLANS AND SPECIFICATIONS OF THE PROPOSED CONSTRUCTION.

FOR USE BY FLOOD PLAIN MANAGER

PERMIT # _____

IS THE PROPERTY IN FLOOD ZONE (CIRCLE WHICH APPLIES)	A	AE	IN FLOODWAY	X
IS ADDITIONAL INFORMATION REQUIRED? (FIRMette attached)	Y	N		
ARE OTHER FEDERAL, STATE, OR LOCAL PERMITS REQUIRED?	Y	N		
ARE OTHER CITY REGULATIONS APPLICABLE?	Y	N		
IS THIS A SUBSTANTIAL IMPROVEMENT?	Y	N		
IS THERE A NON-CONVERSION AGREEMENT	Y	N		
IS THERE PROPER FLOOD VENTING IN THE FOUNDATION?	Y	N		
SITE PLANS ATTACHED?	Y	N		
ELEVATION CERTIFICATE REQUIRED/ATTACHED?	Y	N		
ESTIMATED COST OF DEVELOPMENT/ IMPROVEMENT		\$		
FREEBOARD REQUIRED?	Y	N	HOW MUCH?	1ft 2ft

PERMIT APPLICATION APPROVED

PERMIT APPLICATION REJECTED

SPECIAL INSTRUCTIONS BY THE FLOODPLAIN MANAGER.

FLOOD PLAIN MANAGER

DATE

Civil & Environmental Consultants, Inc.

January 9, 2017

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

Subject: Antero Midstream, LLC.
South Canton Pipeline
No-Rise Certificate
Doddridge County, West Virginia
CEC Project 165-379

Civil & Environmental Consultants, Inc. (CEC) is pleased to evaluate the potential floodplain impacts for the above referenced project on behalf of Antero Midstream, LLC., 535 White Oaks Blvd, Bridgeport, WV 26330. Antero Midstream, LLC. proposes to install one 20" low pressure steel gas line and one 24" high pressure steel gas line. Proposed erosion and sediment control measures include rip rap, erosion control blankets, orange safety fence, silt savers, water bars, trench breakers, timber mats, stone construction entrances, etc. Portions of the proposed project are located within the Long Run and Arnold

Table 1 - Proposed Stream Impacts, Continued

FEATURE LABEL	OHWL WIDTH (FT.)	OHWL DEPTH (FT.)	LAT/LONG	LENGTH OF LOD IMPACT (FT.)	AREA OF LOD IMPACT (ACRES)	FILL QUANTITY (CY)	WATERWAY	PROPOSED CROSSING DESCRIPTION
THR-S7 (EPH)	1.50	0.25	39.32602, -80.84107	6.3	.0002	2.4	LONG RUN	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S12 (EPH)	2.00	0.25	39.32452, -80.83980	24.9	.0011	12.9	LONG RUN	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
LONG RUN (PER)	22.00	3.00	39.32055, -80.83938	91.6	.0463	522.5	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S15 (INT)	4.30	1.20	39.32005, -80.83891	99.6	.0098	111.0	LONG RUN	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S16 (EPH)	1.30	0.40	39.31958, -80.83702	94.6	.0028	31.9	LONG RUN	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S17 (EPH)	0.30	0.20	39.31930, -80.83719	91.4	.0006	7.1	LONG RUN	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL

Table 1 - Proposed Stream Impacts, Continued

FEATURE LABEL	OHWL WIDTH (FT.)	OHWL DEPTH (FT.)	LAT/LONG	LENGTH OF LOD IMPACT (FT.)	AREA OF LOD IMPACT (ACRES)	FILL QUANTITY (CY)	WATERWAY	PROPOSED CROSSING DESCRIPTION
THR-S18 (EPH)	2.30	1.10	39.31841, -80.83678	102.3	.0054	61.0	LONG RUN	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S20 (EPH)	1.30	0.40	39.31723, -80.83633	27.1	.0008	9.1	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL
THR-S21 (EPH)	1.10	0.40	39.31637, -80.83632	48.1	.0012	13.7	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL
THR-S22 (EPH)	2.00	0.30	39.31629, -80.83645	96.0	.0044	49.8	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL
THR-S24 (INT)	3.10	1.20	39.31601, -80.83652	101.7	.0072	81.7	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S25 (EPH)	2.80	1.60	39.31587, -80.83627	48.7	.0031	35.4	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL

Table 1 - Proposed Stream Impacts, Continued

FEATURE LABEL	OHWM WIDTH (FT.)	OHWM DEPTH (FT.)	LAT/LONG	LENGTH OF LOD IMPACT (FT.)	AREA OF LOD IMPACT (ACRES)	FILL QUANTITY (CY)	WATERWAY	PROPOSED CROSSING DESCRIPTION
THR-S25 (INT)	2.80	1.60	39.31606, -80.83612	43.7	.0028	31.7	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S28 (INT)	1.30	1.50	39.31663, -80.83250	97.8	.0029	33.0	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S29 (EPH)	2.5	0.10	39.31690, -80.83229	77.5	.0045	50.2	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S30 (EPH)	2.20	0.20	39.31686, -80.83154	212.2	.0107	121.0	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL
THR-S31 (EPH)	3.40	1.60	39.31704, -80.83120	110.0	.0086	97.0	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL
THR-S33 (EPH)	3.40	1.70	39.31722, -80.83050	13.3	.0010	11.7	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL

Table 1 - Proposed Stream Impacts, Continued

FEATURE LABEL	OHWM WIDTH (FT.)	OHWM DEPTH (FT.)	LAT/LONG	LENGTH OF LOD IMPACT (FT.)	AREA OF LOD IMPACT (ACRES)	FILL QUANTITY (CY)	WATERWAY	PROPOSED CROSSING DESCRIPTION
THR-S34 CROSSING #1 (EPH)	3.60	0.70	39.31674, -80.82989	119.4	.0099	111.4	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S34 CROSSING #2 (EPH)	3.60	0.70	39.31674, -80.82989	57.5	.0048	53.7	ARNOLD CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
ARNOLD CREEK (PER)	48.00	5.00	39.31446, -80.82815	91.5	.1008	1138.7	MIDDLE ISLAND CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL
THR-S36 (EPH)	1.50	0.30	39.31974, -80.81409	25.4	.0009	9.9	MIDDLE ISLAND CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL
THR-S37 (EPH)	0.20	0.10	39.31956, -80.81415	98.4	.0005	5.1	MIDDLE ISLAND CREEK	OPEN CUT 20-INCH LP PIPELINE, NATIVE BACKFILL
THR-S38 (EPH)	2.30	0.80	39.31938, -80.81401	118.5	.0063	70.7	MIDDLE ISLAND CREEK	OPEN CUT 20-INCH LP PIPELINE AND NATIVE BACKFILL

Table 1 - Proposed Stream Impacts, Continued

FEATURE LABEL	OHWL WIDTH (FT.)	OHWL DEPTH (FT.)	LAT/LONG	LENGTH OF LOD IMPACT (FT.)	AREA OF LOD IMPACT (ACRES)	FILL QUANTITY (CY)	WATERWAY	PROPOSED CROSSING DESCRIPTION
THR-S42 (EPH)	5.5	0.25	39.32336, -80.80300	119.9	.0151	171.0	MIDDLE ISLAND CREEK	OPEN CUT 20- INCH LP PIPELINE, NATIVE BACKFILL
ASE-S1 NUTTER FORK (PER)	20.00	0.83	39.33169, -80.77840	107.9	.0495	559.5	MIDDLE ISLAND CREEK	OPEN CUT 24- INCH HP PIPELINE, 24- INCH LP PIPELINE, NATIVE BACKFILL
LAN-S1 (INT)	4.33	0.33	39.33520, -80.80276	114.8	.0114	128.9	SLAUGHTER RUN	OPEN CUT 24- INCH HP PIPELINE, 24- INCH LP PIPELINE, NATIVE BACKFILL
LAN-S8 (EPH)	3.00	0.50	39.33546, -80.80133	36	.0025	28.0	SLAUGHTER RUN	OPEN CUT 24- INCH HP PIPELINE, 24- INCH LP PIPELINE, NATIVE BACKFILL

Table 2- Proposed Stream Disturbances

FEATURE LABEL	LAT/LONG	DIMENSION OF PROPOSED TIMBER MAT (FT. x FT.) ¹	WATERWAY	PROPOSED CROSSING DESCRIPTION
LONG RUN (PER) (PIPELINES)	39.32055, -80.83938	8x16	ARNOLD CREEK	TIMBER MAT
LONG RUN (PER) (ACCESS ROAD)	39.32026, -80.84091	8x16	ARNOLD CREEK	TIMBER MAT
THR-S15 (INT)	39.32005, -80.83891	8x16	LONG RUN	TIMBER MAT
THR-S16 (EPH)	39.31958, -80.83702	8x16	LONG RUN	TIMBER MAT
THR-S17 (EPH)	39.31930, -80.83719	8x16	LONG RUN	TIMBER MAT
THR-S18 (EPH)	39.31841, -80.83678	8x16	LONG RUN	TIMBER MAT
THR-S20 (EPH)	39.31723, -80.83633	8x16	ARNOLD CREEK	TIMBER MAT
THR-S21 (EPH)	39.31637, -80.83632	8x16	ARNOLD CREEK	TIMBER MAT
THR-S22 (EPH)	39.31629, -80.83645	8x16	ARNOLD CREEK	TIMBER MAT

Table 2- Proposed Stream Disturbances, Continued

FEATURE LABEL	LAT/LONG	DIMENSION OF PROPOSED TIMBER MAT (FT. x FT.) ¹	WATERWAY	PROPOSED CROSSING DESCRIPTION
THR-S24 (INT)	39.31601, -80.83652	8x16	ARNOLD CREEK	TIMBER MAT
THR-S25 (INT)	39.31606, -80.83612	8x16	ARNOLD CREEK	TIMBER MAT
THR-S28 (INT)	39.31663, -80.83250	8x16	ARNOLD CREEK	TIMBER MAT
THR-S30 (EPH)	39.31686, -80.83154	8x16	ARNOLD CREEK	TIMBER MAT
THR-S31 (EPH)	39.31704, -80.83120	8x16	ARNOLD CREEK	TIMBER MAT
THR-S33 (EPH)	39.31722, -80.83050	8x16	ARNOLD CREEK	TIMBER MAT
THR-S34 Crossing #1 (EPH)	39.31674, -80.82989	8x16	ARNOLD CREEK	TIMBER MAT
ARNOLD CREEK (PER)	39.31446, -80.82815	8x16	MIDDLE ISLAND CREEK	TIMBER MAT

Table 2- Proposed Stream Disturbances, Continued

FEATURE LABEL	LAT/LONG	DIMENSION OF PROPOSED TIMBER MAT (FT. x FT.) ¹	WATERWAY	PROPOSED CROSSING DESCRIPTION
THR-S36 (EPH)	39.31974, -80.81409	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
THR-S37 (EPH)	39.31956, -80.81415	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
THR-S38 (EPH)	39.31938, -80.81401	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
THR-S42 (EPH)	39.32336, - 80.80300	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
THR-S43 (EPH)	39.321953, -80.803544	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
THR-S44 (EPH)	39.321545,- 80.803660	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
THR-S45 (EPH)	39.321223, -80.803745	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
ASE-S1 NUTTER FORK (PER) (PIPELINES)	39.33169, -80.77840	12x35-40	MIDDLE ISLAND CREEK	TIMBER MAT

Table 2- Proposed Stream Disturbances, Continued

FEATURE LABEL	LAT/LONG	DIMENSION OF PROPOSED TIMBER MAT (FT. x FT.) ¹	WATERWAY	PROPOSED CROSSING DESCRIPTION
ASE-S1 NUTTER FORK (PER) (ACCESS ROAD)	39.33165, -80.77835	8x16	MIDDLE ISLAND CREEK	TIMBER MAT
LAN-S1 (EPH)	39.33550, -80.80270	8X16	SLAUGHTER RUN	TIMBER MAT
LAN-S8 (EPH)	39.33546, -80.80133	8x16	SLAUGHTER RUN	TIMBER MAT
THR-S149 (EPH)	39.33041, -80.78054	8x16	NUTTER FORK	TIMBER MAT
THR-S150 (EPH)	39.33252, -80.80337	8x16	NUTTER FORK	TIMBER MAT

Note 1: Contractor may use different size timber mat as needed based on field conditions to ensure timber mats are located outside of the ordinary high watermark of the stream.



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

REPLY TO
ATTENTION OF

FEB 16 2017

Regulatory Division
North Branch
LRH-2017-00014-OHR-Nutter Fork

PRELIMINARY JURISDICTIONAL DETERMINATION AND
NATIONWIDE PERMIT NO. 12 VERIFICATION

Ms. Corrin MacLuckie
Environmental Scientist
Antero Resource Corporation
1615 Wynkoop Street
Denver, Colorado 80202

Dear Ms. MacLuckie:

I refer to the Pre-Construction Notification (PCN) received in this office on December 28, 2016, with supplemental information received on January 30, 2017 concerning a proposal to discharge dredged and/or fill material into unnamed tributaries to Slaughter Run, Long Run, Arnold Creek, Nutter Fork and Middle Island Creek in conjunction with the construction of the *South Canton LP/HP Pipeline Project*. The proposed project is located in Doddridge County near the town of West Union, West Virginia (eastern terminus 39.32799, -80.8423, western terminus 39.33528, -80.80302). Your PCN has been assigned the following file number: LRH-2017-00014-OHR-Nutter Fork. Please reference this number on all future correspondence related to this project.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States 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 Department of the Army (DA) permit be obtained prior to discharging dredged or fill material into waters of the United States, 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

You have chosen to accept a preliminary jurisdictional determination (PJD) regarding the waters on the proposed project site in accordance with the Regulatory Guidance Letter for Jurisdictional Determinations (JDs) issued by the Corps on October 31, 2016 (Regulatory Guidance Letter No. 16-01). Based upon the information provided to this office, including the *Preconstruction Notification for South Canton LP/HP Pipeline Project...December 28, 2016, with supplemental information received on January 30, 2017*, there are fifty-seven (57) ephemeral streams totaling approximately 9,827 linear feet (lf), seven (7) intermittent streams totaling

2,686 lf, seven (7) perennial streams totaling 14,695 lf, and nine (9) wetlands totaling 0.35 acre present within the delineation boundary, as described in the enclosed PJD form.

You have declined to exercise the option to obtain an approved JD in this instance and at this time for the aquatic resources identified within the PJD boundary. For the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the aquatic resources described above and in the enclosed PJD form will be evaluated as if they are waters of the United States.

Enclosed please find two copies of the PJD form. If you agree with the findings of this PJD and understand your options regarding the same, please sign and date one copy of the PJD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to the following address:

Mr. Aca Ramey (LRH-2017-00014-OHR)
U.S. Army Corps of Engineers, Huntington District
Attn: Energy Resource Branch
502 8th Street
Huntington, West Virginia 25701.

Nationwide Permit #12

The proposed project, as described in the submitted information, has been reviewed in accordance with Section 404 and Section 10. Based on your description of the proposed work, and other information available to us, it has been determined that this project will not involve activities subject to the requirements of Section 10. However, this project will include the discharge of dredged or fill material into waters of the United States subject to the requirements of Section 404.

In the submitted PCN materials received in this office on December 28, 2016, with supplemental information received on January 30, 2017 you have requested a DA authorization to permanently discharge of dredged and/or fill material into approximately 400 lf of six (6) streams, and to temporarily discharge of dredged and/or fill material into approximately 2,276 lf into 28 streams as shown on the enclosed Table 1, in conjunction with *The South Canton LP/HP Pipeline Project*. The proposed project will consist of the construction of two 24-inch diameter low pressure/high pressure (LP/HP) subsurface natural gas pipelines within a 5.38-mile corridor. All work will be conducted in accordance with the drawings submitted with the PCN materials.

Based on your description of the proposed work, and other information available to us, it has been determined the proposed discharge of dredged and/or fill material into waters of the United States in conjunction with the construction of *The South Canton LP/HP Pipeline Project* meets the criteria for Nationwide Permit (NWP) No. 12 (enclosed) under the February 21, 2012 Federal Register, Reissuance of NWPs (77 FR 10184) provided you comply with all terms and conditions of the enclosed NWP No. 12, the enclosed special conditions, and the 401 Water Quality Certification (WQC) issued by the West Virginia Department of Environmental Protection.. Please be aware this NWP verification does not obviate the requirement to obtain any other federal, 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.

Enclosed is a copy of the NWP 12 to be kept at the project site during construction. You shall supply a copy of these documents to your project engineer responsible for construction activities.

Upon completion of the authorized work, the enclosed completion certification must be signed and returned to this office. If you have any questions concerning the above, please contact Aca Ramey of the Energy Resource Branch at 304-399-5166 or via e-mail at aca.c.ramey@usace.army.mil

Sincerely,



Teresa D. Spagna
Chief, North Branch

Enclosures

Nationwide Permit 12 Verification Special Conditions
South Canton LP/HP Pipeline Project
LRH-2017-00014-OHR
Page 1 of 2

1. All work will be conducted in accordance with the final plans provided by applicant Antero Midstream LLC and the site designs provided by Thrasher Inc. and Langan Engineering and Environmental Service, Inc..
2. Enclosed is a copy of Nationwide Permit 12, which will be kept at the site during construction. A copy of the nationwide permit verification, special conditions, and the enclosed construction plans must be kept at the site during construction. The permittee will supply a copy of these documents to their project engineer responsible for construction activities.
3. Upon completion of the activity authorized by this nationwide permit verification, the enclosed certification must be signed and returned to this office along with as-built drawings showing the location and configuration, as well as all pertinent dimensions and elevations of the activity authorized under this nationwide permit verification.
4. Construction activities will be performed during low flow conditions to the greatest extent practicable. Additionally, appropriate site specific best management practices for sediment and erosion control will be fully implemented during construction activities at the site.
5. 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.
6. 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.

Nationwide Permit 12 Verification Special Conditions
South Canton LP/HP Pipeline Project
LRH-2017-00014-OHR
Page 2 of 2

7. The proposed project site lies within the range of the federally-listed endangered Indiana bat (*Myotis sodalis*) and the federally-listed threatened northern long-eared bat (*Myotis septentrionalis*). Based on the information provided the permittee has agreed to implement the United States Fish and Wildlife Service's conservation measures to avoid adverse impacts to the Indiana bat by: implementing seasonal tree clearing (all trees greater than 5-inches DBH will only be cut between November 15 through March 31; avoiding cutting potential roost trees; minimizing the limits of disturbance; minimizing impacts (clearing) around suitable swarming and summer habitat and wetland/riparian buffers; collocating project features with previously disturbed or cleared areas; restoring or enhancing riparian/wetland areas; installing strong erosion and sediment controls; implementing a pollution control plan, and permanently preserving suitable habitat within or adjacent to the project site. If the permittee is unable to adhere to the seasonal tree-cutting restriction, further consultation under Section 7 of the Endangered Species Act will be necessary. The United States Fish and Wildlife Service may be contacted by mail at the West Virginia Field Office, 694 Beverly Pike, Elkins, West Virginia, 26241, or by phone at (304) 636-6586. The permittee must also contact the Regulatory Division in the event adherence to the seasonal tree-cutting restriction cannot be met.

8. 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 or to the extent 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.

9. The Myotid Bat Conservation Plan approved by the United States Fish and Wildlife Service on March 3, 2015, the Revised Indiana Bat Habitat Conservation Plan (Consultation Code: 05E2WV00-2017-SLI-0140) dated January 23, 2017 and approved on February 14, 2017 by the United States Fish and Wildlife Service contains conservation measures for the federally-listed Indiana bat (*Myotis sodalis*). The Nationwide Permit verification is conditional upon the permittee's compliance with the conservation measures identified within the Myotid Bat Conservation Plan, the Revised Indiana Bat Habitat Conservation Plan and the final 4(d) rule for the northern long-eared bat, a federally-listed threatened species which are hereby incorporated in this nationwide permit verification. Failure to comply with the conservation measures identified in the Myotid Bat Conservation Plan, the Revised Indiana Bat Habitat Conservation Plan or the final 4(d) rule would constitute non-compliance with your Corps nationwide permit verification. The USFWS - West Virginia Field Office is the appropriate authority to determine compliance with the conservation measures identified within the MBCP and the Endangered Species Act (ESA).

Table 1. Authorized Permanent and Temporary Discharge of Dredged and/or Fill Material Associated with the South Canton LP/HP Pipeline Project
LRH-2017-00014 OHR Nutter Fork

Streams	OIWM Width (FT)	OIWM Depth (FT)	Type of Impact	Length of Impact (FT)	Area of Impacts (Acres)	Fill Volume (CY)	Description of Impact	Nature of Impact	Comments
LAN-S1 (CS Impact)	1.00	0.08	Fill	115.7	.0027	30	Structural Fill	PERMANENT	PERM. FILL FOR COMPRESSOR STATION
LAN-S2	1.08	0.25	Fill	48.6	.0012	13.6	Structural Fill	PERMANENT	PERM. FILL FOR COMPRESSOR STATION
LAN-S5	1.42	0.50	Fill	118.5	.0039	43.6	Structural Fill	PERMANENT	PERM. FILL FOR COMPRESSOR STATION
LAN-S7	1.67	0.25	Fill	68	.0026	29.4	Structural Fill	PERMANENT	PERM. FILL FOR COMPRESSOR STATION
LAN-S10	1.08	0.38	Fill	30.6	.0008	3.7	Structural Fill	PERMANENT	PERM. FILL FOR COMPRESSOR STATION
LAN-S11	1.08	0.50	Fill	18.5	.0005	1.8	Structural Fill	PERMANENT	PERM. FILL FOR COMPRESSOR STATION
THR-S7	1.50	0.25	Open Cut	6.3	.0002	2.4	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S12	2.00	0.25	Open Cut	24.9	.0011	12.9	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
Long Run	22.00	3.00	Open Cut	91.6	.0463	522.5	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S15	4.30	1.20	Open Cut	99.6	.0098	111.0	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S16	1.30	0.40	Open Cut	94.6	.0028	31.9	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS

Table 1. Authorized Permanent and Temporary Discharge of Dredged and/or Fill Material Associated with the South-Canton LP/HP Pipeline Project
LRH-2017-00014-COR-Nutter Fork

Streams	OHWM Width (FT)	OHWM Depth (FT)	Type of Impact	Length of Impact (FT)	Area of Impacts (Acres)	Fill Quantity (CY)	Description of Impact	Nature of Impact	Comments
THR-S17	0.30	0.20	Open Cut	91.4	.0006	7.1	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S18	2.30	1.10	Open Cut	102.3	.0054	61.0	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S20	1.30	0.40	Open Cut	27.1	.0008	9.1	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S21	1.10	0.40	Open Cut	48.1	.0012	13.7	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S22	2.00	0.30	Open Cut	96.0	.0044	49.8	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S24	3.10	1.20	Open Cut	101.7	.0072	81.7	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S25 (EPH)	2.80	1.60	Open Cut	48.7	.0031	35.4	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S25 (INT)	2.8	1.60	Open Cut	43.7	.0028	31.7	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S28	1.30	1.50	Open Cut	97.8	.0029	33.0	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S29	2.5	0.10	Open Cut	77.5	.0045	50.2	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS

Table 1. Authorized Permanent and Temporary Discharge of Dredged and/or Fill Material Associated with the South Canton LP/HP Pipeline Project
LRH 2017-00014 OHR Notice Book

Streams	O&M Width (ft)	O&M Depth (ft)	Type of Impact	Length of Impact (ft)	Area of Impact (Acres)	Fill Quantity (CY)	Description of Impact	Nature of Impact	Comments
THR-S30	2.20	0.20	Open Cut	212.2	.0107	121.0	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S31	3.40	1.60	Open Cut	110.0	.0086	97.0	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S33	3.40	1.70	Open Cut	13.3	.0010	11.7	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S34 Crossing #1	3.60	0.70	Open Cut	119.4	.0099	111.4	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S34 Crossing #2	3.60	0.70	Open Cut	57.5	.0048	53.7	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
ARNOLD CREEK	48.00	5.00	Open Cut	91.5	.1008	1138.7	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S36	1.50	0.30	Open Cut	25.4	.0009	9.9	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S37	0.20	0.10	Open Cut	98.4	.0005	5.1	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S38	2.30	0.80	Open Cut	118.5	.0063	70.7	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
THR-S42	5.5	0.25	Open Cut	119.9	.0151	171.0	20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS

Table 1. Authorized Permanent and Temporary Discharge of Dredged and/or Fill Material Associated with the South Canton LP/HP Pipeline Project
 ERI-2017-00014-OHR-Nutter Fork

Streams	OTWWM Width (FT.)	OTWWM Depth (FT.)	Type of Impact	Length of Impact (FT.)	Area of Impact (Acres)	Fill Quantity (CY)	Description of Impact	Nature of Impact	Comments
ASE-S1 (Nutter Fork)	20.00	0.83	Open Cut	107.9	.0495	559.5	24-INCH HP PIPELINE, 20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
LAN-S1 (Pipelines Impact)	4.33	0.33	Open Cut	114.8	.0114	128.9	24-INCH HP PIPELINE, 20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS
LAN-S8	3.00	0.50	Open Cut	36	.0025	28.0	24-INCH HP PIPELINE, 20-INCH LP PIPELINE AND NATIVE BACKFILL	TEMPORARY	CROSSING TO BE COMPLETED WITHIN 72 HOURS

RD-E-AEF

Permit Number LRH-2017-00014-OHr-Nutter Fork

Name of Permittee: Ms. Corrin MacLuckie
Environmental Scientist
Antero Resources Corporation
1615 Wynkoop Street
Denver, CO 80202

Date of Issuance: 02/16/2017

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

Huntington District
U.S. Army Corps of Engineers
502 8th Street
Huntington, West Virginia 25701-2070
Attn: RD-E (LRH-2017-00014-Ramey)

Please note that your permitted activity is subject to a compliance inspection by a United States Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

CORPS OF ENGINEERS ADMINISTRATIVE APPEAL DECISIONS AND PROCEEDINGS
 FORM 100-1 (FOR APPEAL)

Applicant: Ms. Corrin MacLuckie	File Number: 2017-00014	Date: February 16, 2017
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
X	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inst/fuctions/cw/ceowb/tepo> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION I - REQUEST FOR APPEAL OR OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:

Mike Hatten, Chief, Regulatory Division, 304-399-6918
Teresa Spagna, Chief, North Regulatory Branch 304-399-6910
Susan Porter, Chief, South Regulatory Branch, 304 399-5325
Lee Robinette, Acting Chief, Energy Resource Branch, 304-399-5930
Address: U.S. Army Corps of Engineers
Regulatory Branch
502 8th Street
Huntington, WV 25701

If you only have questions regarding the appeal process you may also contact:

U.S. Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10524
Cincinnati, OH 45202-3222
Phone: (513) 684-7261
Fax: (513) 684-2460

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:

RGL 16-01: TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
7	39.33628575	-80.80477650	154	non-wetland	Section 404
8	39.33577384	-80.80479910	125	non-wetland	Section 404
9	39.33650542	-80.80314200	283	non-wetland	Section 404
10	39.33534666	-80.80258330	65	non-wetland	Section 404
11	39.33551881	-80.80201510	389	non-wetland	Section 404
12	39.33576919	-80.80200660	231	non-wetland	Section 404
13	39.33341705	-80.80313090	182	non-wetland	Section 404
14	39.33251982	-80.80337350	578	non-wetland	Section 404
15	39.33375220	-80.80319700	35	non-wetland	Section 404
16	39.33292012	-80.80304400	76	non-wetland	Section 404
17	39.33301286	-80.80442380	248	non-wetland	Section 404
18	39.32671669	-80.84230305	94.84	non-wetland	Section 404
19	39.3268324	-80.84199451	211.07	non-wetland	Section 404
20	39.32695151	-80.84119353	148.58	non-wetland	Section 404
21	39.32709599	-80.84003674	93.48	non-wetland	Section 404
22	39.32697151	-80.83993297	118.35	non-wetland	Section 404
23	39.32633367	-80.84125954	79.74	non-wetland	Section 404
24	39.32602232	-80.84107132	104.15	non-wetland	Section 404
25	39.32578733	-80.84105195	37.84	non-wetland	Section 404
26	39.32617537	-80.83957243	85.43	non-wetland	Section 404
27	39.32605627	-80.83964702	130.5	non-wetland	Section 404
28	39.32457092	-80.83951179	189.58	non-wetland	Section 404
29	39.32452439	-80.83980074	275.21	non-wetland	Section 404
30	39.32431463	-80.84000699	146.68	non-wetland	Section 404
31	39.32055732	-80.83938554	1097.5	non-wetland	Section 404
32	39.32005295	-80.83891528	423.53	non-wetland	Section 404
33	39.31958854	-80.83702084	375.67	non-wetland	Section 404
34	39.31930655	-80.83719265	93.41	non-wetland	Section 404

RGL 16-01: TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
35	39.31841519	-80.83678056	117.76	non-wetland	Section 404
36	39.31789845	-80.83628115	69.35	non-wetland	Section 404
37	39.31723679	-80.83633569	123.18	non-wetland	Section 404
38	39.31637067	-80.83632362	61.58	non-wetland	Section 404
39	39.31629887	-80.83645818	152.19	non-wetland	Section 404
40	39.31569249	-80.83684402	26.23	non-wetland	Section 404
41	39.31601002	-80.83652898	406.12	non-wetland	Section 404
42	39.31587357	-80.8362744	129.26	non-wetland	Section 404
43	39.31606701	-80.83612721	294.41	non-wetland	Section 404
44	39.31607907	-80.83589637	66.74	non-wetland	Section 404
45	39.31604286	-80.83557289	74.07	non-wetland	Section 404
46	39.31663432	-80.83250589	416.22	non-wetland	Section 404
47	39.31690502	-80.83229329	187.01	non-wetland	Section 404
48	39.31686725	-80.83154323	340.01	non-wetland	Section 404
49	39.31704628	-80.83120082	299.16	non-wetland	Section 404
50	39.31679713	-80.83067001	417.46	non-wetland	Section 404
51	39.31722788	-80.83050227	143.33	non-wetland	Section 404
52	39.31674866	-80.82989812	659.3	non-wetland	Section 404
53	39.31446642	-80.82815064	2205.3	non-wetland	Section 404
54	39.319745	-80.81409717	140.59	non-wetland	Section 404
55	39.31956058	-80.81415588	212.57	non-wetland	Section 404
56	39.31938042	-80.81401099	242.49	non-wetland	Section 404
57	39.31939765	-80.81375627	49	non-wetland	Section 404
58	39.31911778	-80.81308652	97.06	non-wetland	Section 404
59	39.31863935	-80.80371559	79.99	non-wetland	Section 404
60	39.32336707	-80.80300484	590.66	non-wetland	Section 404
61	39.32194289	-80.80357416	182.37	non-wetland	Section 404
62	39.32154553	-80.8036542	185.01	non-wetland	Section 404

RGL 16-01: TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
63	39.32115284	-80.80339132	404.11	non-wetland	Section 404
64	39.32231794	-80.80413218	9088.1	non-wetland	Section 404
65	39.32637401	-80.80253986	1288.83	non-wetland	Section 404
66	39.32587783	-80.80253418	45.81	non-wetland	Section 404
67	39.33181100	-80.77868200	425.9	non-wetland	Section 404
68	39.33543100	-80.79487400	144	non-wetland	Section 404
69	39.31856400	-80.83716200	81.19	non-wetland	Section 404
70	39.31922200	-80.83717400	79.89	non-wetland	Section 404
71	39.32573700	-80.80223700	103.63	non-wetland	Section 404
72	39.33486253	-80.80198431	0.05	wetland	Section 404
73	39.33516785	-80.80206223	0.04	wetland	Section 404
74	39.33489036	-80.80222953	0.01	wetland	Section 404
75	39.33551923	-80.80473705	0.01	wetland	Section 404
76	39.33556724	-80.80484935	0.05	wetland	Section 404
77	39.33369305	-80.80314961	0.01	wetland	Section 404
78	39.33362418	-80.80304890	0.09	wetland	Section 404
79	39.33630000	-80.79741000	0.004	wetland	Section 404
80	39.327907	-80.801053	0.086	wetland	Section 404

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: January 9, 2017

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Corrin MacLuckie, 1615 Wynkoop Street, Denver, Colorado 8021

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: LRH-2017-00014-OHR

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: West Virginia County/parish/borough: Doddridge City:

Center coordinates of site (lat/long in degree decimal format):

Lat.: 39.33474 Long.: -80.80334

Universal Transverse Mercator:

Name of nearest waterbody: Nutter Fork

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: January 9, 2017

Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
1	39.33538550	-80.80268620	145	non-wetland	Section 404
2	39.33599559	-80.80343820	521	non-wetland	Section 404
3	39.33523984	-80.80267720	49	non-wetland	Section 404
4	39.33650831	-80.80378030	299	non-wetland	Section 404
5	39.33631827	-80.80416530	47	non-wetland	Section 404
6	39.33593369	-80.80486600	445	non-wetland	Section 404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:

Map: Antero submitted report South Canton HP/LP Pipelines Project dated December 22, 2016

Data sheets prepared/submitted by or on behalf of the PJD requestor.

Office concurs with data sheets/delineation report.

Office does not concur with data sheets/delineation report. Rationale: _____

Data sheets prepared by the Corps: _____

Corps navigable waters' study: _____

U.S. Geological Survey Hydrologic Atlas: _____

USGS NHD data.

USGS 8 and 12 digit HUC maps.

U.S. Geological Survey map(s). Cite scale & quad name: WV-MCGRAWS 1:24K Quad

Natural Resources Conservation Service Soil Survey. Citation: _____

National wetlands inventory map(s). Cite name: _____

State/local wetland inventory map(s): _____

FEMA/FIRM maps: _____

100-year Floodplain Elevation is: _____ (National Geodetic Vertical Datum of 1929)

Photographs: Aerial (Name & Date): December 22, 2016 report

or Other (Name & Date): December 22, 2016 report

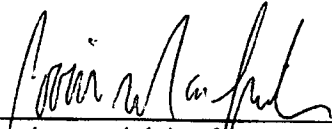
Previous determination(s). File no. and date of response letter: _____

Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

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Signature and date of
Regulatory staff member
completing PJD


Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Issuance Date: March 19, 2012
Expiration Date: March 18, 2017

NWP # 12

NATIONWIDE PERMITS FOR THE STATE OF WEST VIRGINIA

CORPS OF ENGINEERS REGULATORY PROGRAM ISSUANCE OF NATIONWIDE PERMITS

On February 21, 2012, the Corps of Engineers published, in the Federal Register, the final rule for the administration of its nationwide permit program regulations under the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and the Marine Protection, Research and Sanctuaries Act. The rule became effective on March 19, 2012.

An integral part of the Corps' regulatory program is the concept of nationwide permits (NWP) for minor activities. NWPs are activity specific, and are designed to relieve some of the administrative burdens associated with permit processing for both the applicant and the Federal government. The NWPs, published in the February 21, 2012, Federal Register, Issuance of Nationwide Permits (77 FR 10184), are issued by the Chief of Engineers, and are intended to apply throughout the entire United States and its territories. The Corps Districts representing West Virginia have imposed regional conditions on the NWPs that are applicable throughout the entire state. For convenience, all NWPs with the appropriate regional, general and special conditions are attached.

In response to the Federal Register Notice (77 FR 10184), the West Virginia Department of Environmental Protection (WVDEP) has issued 401 water quality certification, pending compliance with certain conditions and/or limitations, for the following NWPs: 3, 4, 5, 6, 7, 12, 13, 14, 16, 18, 19, 20, 21, 22, 25, 27, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 45, 46, 48, 49, 50 and 51.

An individual State Water Quality Certification is required for the following NWPs: 15, 17, 23, 34 and 43. Certification response is not applicable to NWPs: 1, 2, 8, 9, 10, 11, 24, 26, 28, 35, 44, 47, and 52.

Authorization for discharges covered by NWPs is denied without prejudice if: (1) the State Certification has been denied; or (2) the discharge is not in compliance with conditions imposed in the State Certification. Applicants wishing to conduct such discharges must first obtain either an individual water quality certificate or waiver from:

Director
West Virginia Department of Environmental Protection
601 57th Street
Charleston, West Virginia 25304

Some NWP's require advance notification. The notification must be made in writing as early as possible prior to commencing the proposed activity. The notification procedures are located under General Condition 31. The notification to the Corps can be made concurrently with the request for individual state certification, if required. The District Engineer may require an individual permit for any activity determined to have more than minimal adverse environmental effects, individually or cumulatively, or would be contrary to the public interest.

The NWP's provide a simplified, expeditious means of project authorization under various authorities of the Corps. We encourage prospective permit applicants to consider the advantages of nationwide permit authorization during the preliminary design of their projects. Assistance and further information regarding all aspects of the Corps regulatory program may be obtained by contacting:

HUNTINGTON DISTRICT

Name: Ginger Mullins, Chief, Regulatory Division
Address: U.S. Army Corps of Engineers, Huntington District
502 Eighth Street
Huntington, West Virginia 25701-2070
Phone: 304-399-5710

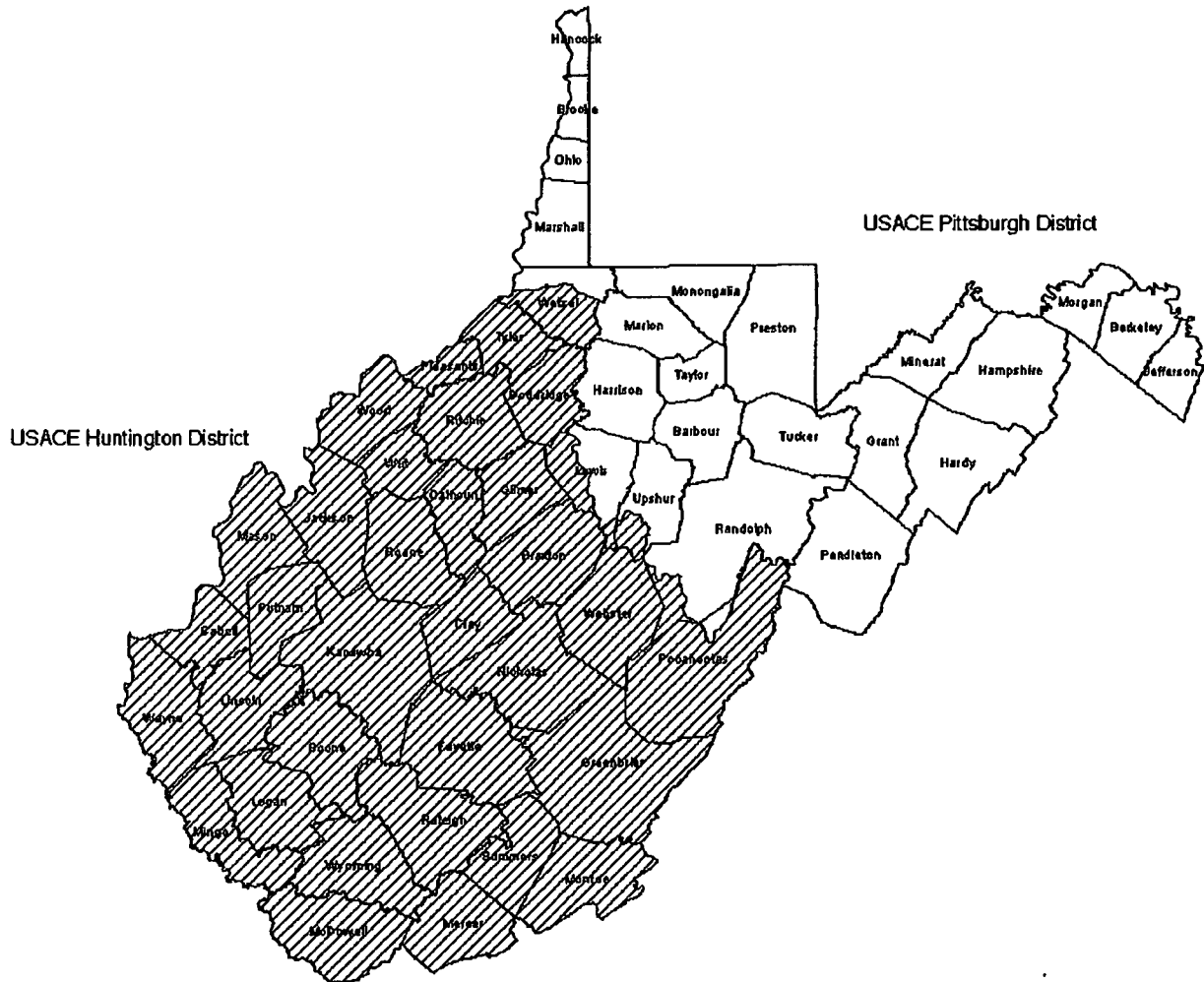
PITTSBURGH DISTRICT

Name: Scott Hans, Chief Regulatory Branch
Address: U.S. Army Corps of Engineers, Pittsburgh District
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, Pennsylvania 15222-4186
Phone: 412-395-7154

Attached is a map showing the district boundaries for the State of West Virginia.

Ginger Mullins, Chief
Regulatory Division

Corps Districts and Navigable Streams in The State of West Virginia



Huntington District

1. Ohio River.....Total Length in State
2. Kanawha River.....Total Length
3. New River.....Total Length in State
4. Big Sandy River.....Total Length
5. Tug Fork.....58 Miles
6. Elk River.....139 Miles
7. Gauley River.....75 Miles
8. Guyandotte River.....122 Miles
9. Little Kanawha River.....130.75 Miles
10. Greenbrier River.....150.50 Miles
11. Coal River.....57.90 Miles

Pittsburgh District

1. Ohio River.....Total Length in State
12. Monongahela River.....Total Length in State
13. Tygart River.....7 Miles
14. West Fork.....74 Miles
15. Shenandoah River.....Total Length in State
16. Potomac River.....Total Length in State

A. U.S. Army Corps of Engineers Nationwide Permit #12 for Utility Line Activities in West Virginia

This nationwide permit authorizes activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel

roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to or along a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 31.) **(Sections 10 and 404)**

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 3: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 4: For overhead utility lines authorized by this NWP, a copy of the PCN and NWP verification will be provided to the Department of Defense Siting Clearinghouse, which will evaluate potential effects on military activities.

B. Specific Regional Conditions for Nationwide Permit #12:

- For those utility line projects requiring notification, a USGS topographical map shall be provided showing the overall project area identifying beginning and ending termini.
- Notification is required for utility lines not regulated by a State or Federal agency (Federal Energy Regulatory Commission, Public Service District, etc.) or to individual family residences.
- Notification is required for all work in waters of the U.S. associated with the construction of utility line substations.
- Notification is required for all work in streams (perennial, intermittent, and ephemeral) associated with the construction of foundations for overhead utility line towers, poles, and anchors.
- The maximum allowable timeframe for temporary work in waters of the U.S. is limited to one year, unless the permittee receives prior written approval from the Corps of Engineers granting a time extension.
- Notification for aerial transmission lines over Section 10 waters must include the nominal system voltage and the additional clearance above low steel for bridges, if available, or above maximum high water elevation.
- Note: All aerial crossings will have the following minimum clearances above the clearance required for bridges, or the clearances which would be required by the U.S. Coast Guard for new fixed bridges, in the vicinity of the proposed crossing. These clearances are based on the low point of the line under conditions which produce the greatest sag, taking into consideration temperature, load, wind, length or span, and type of supports as outline in the Nation Electrical Safety Code. **For any non-electrical cable, the crossing must have a minimum clearance of 20 feet above the clearance required for bridges.**

<u>NOMINAL SYSTEM VOLTAGE, KV</u>	<u>ADDITIONAL CLEARANCE, FEET</u>
115 and below	20
138	22
161	24
230	26
350	30
500	35
700	42
750-765.	45

C. West Virginia 401 Water Quality Certification Special Conditions for Nationwide Permit #12:

For activities involving a discharge, the West Virginia 401 Water Quality Certification Standard Conditions apply.

- A. Points of ingress and egress to streams for equipment shall be within the work site. Location of ingress and egress outside the immediate work area requires prior approval of

the West Virginia Department of Environmental Protection Division of Water and Waste Management with concurrence from the West Virginia Division of Natural Resources.

- B.** Certification is limited to pipelines 36 inches or less in diameter. Individual stream crossings must be completed in a continuous, progressive manner and within 72 hours under normal (normal or below stream flow) conditions. Crossings on the Ohio, Kanawha, New and Monongahela Rivers and the Little Kanawha River, below the confluence with Hughes Rivers, are exempt from the 72-hour requirements, as are stream crossings requiring blasting. Whatever the situation, all stream activities shall be conducted in a continuous, progressive manner and be completed as rapidly as possible.
- C.** Shoreline restoration will be completed and stabilized in accordance with standard condition 5. Equipment tracking in wetlands will utilize protective mats when practical. Restoration of the disturbed areas will be completed within 72 hours of the completion of pipeline installation across the watercourse.
- D.** Surface disturbance will not extend beyond the right-of-way limits. Stream crossings will be conducted as close to a right angle to the watercourse as practical and the area of disturbance will be limited to reduce in stream activity.
- E.** Dredging for backfill material is not allowed.
- F.** Submarine-type pipeline crossings must be designed and constructed to prevent flotation and the possibility of leakage or rupture and the top of pipelines must be buried a minimum of three (3) feet below the stream bottom.
- G.** Where it is apparent that small boats, inner tubes, swimmers, etc. could be using the stream in the work area, easily seen warning signs must be placed a minimum of 50 feet upstream and downstream of the stream crossings construction site to advise stream users of the potential danger.
- H.** Individual State Water Quality Certification is required for pipelines transporting hazardous materials/substances as defined by the Toxic Substances Control Act, except pipelines carrying natural gas are exempt from this condition.
- I.** Individual State Water Quality Certification is required for utility lines within wetlands that would use or consider the use of herbicides for right-of-way maintenance.
- J.** Written notification to the Director of the Division of Water and Waste Management detailing the amount of water to be withdrawn by the intake structures is required. The proposed water withdrawal notification shall include sufficient detail to allow the resource agencies to determine if the proposed water withdrawal will have minimal impacts on aquatic resources.

- K. Individual State Water Quality Certification is required for an activity impacting greater than 200 linear feet on one or more of the streams listed in West Virginia State Certification, Standard Condition 15.
- L. Individual State Water Quality Certification is required for perennial and intermittent stream impacts greater than 300 linear feet.
- M. No structure authorized by this permit shall entrain or impinge fish or any other aquatic life or impede or prevent fish movement upstream or downstream without specific written authorization from the West Virginia Department of Environmental Protection, Division of Water and Waste Management with concurrence from West Virginia Division of Natural Resources.

**D. U.S. Army Corps of Engineers Nationwide Permit General Conditions
Applicable to ALL NWP**

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably

culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are

encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

17. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the

proposed work or that utilize the designated critical habitat that might be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWP.

(e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for obtaining any "take" permits required under the U.S. Fish and Wildlife Service's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such "take" permits are required for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on

the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties on which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district

engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, and provides a project-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine

credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWP's does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office

to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(I)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

31. Pre-Construction Notification. (a) **Timing.** Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division

engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 20 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWP's 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause, including the anticipated amount of loss of water of the United States expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
- (4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;
- (5) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) **Form of Pre-Construction Notification:** The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) **Agency Coordination:** (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWP's and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWP's, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

E. Regional General Conditions

Regional General Condition 1

Full Agency Pre-construction Notification: In an effort to expedite full agency permit review it is requested that all pre-construction notifications (PCNs) submitted for activities requesting a waiver and for those activities resulting in the loss of greater than ½ acre of waters of the United States (U.S.), include one original hard copy and five (5) additional copies of the PCN package. Applicants are encouraged to submit the five agency copies in electronic format as CDs, in order to minimize the use of paper and postage resources.

Regional General Condition 2

Pre-Construction Notification Submittals: In addition to the PCN requirements listed in NWP General Condition 31, all PCNs should include the following information:

- Graphic illustrations on 8 1/2" x 11" paper. The illustrations must clearly depict the project boundaries, including all elements and phases of the proposed project. Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map {a location map such as the U.S. Geological Survey (USGS) 7.5 Minute Series topographical map is highly encouraged}, a Plan View and a Typical Cross-Section Map. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view or cross-section). In addition, each illustration should be identified with a figure or attachment number and the project Latitude and Longitude.
- A written description of the proposed project including acreage(s) of waters of the U.S. (according to aquatic resource type) proposed to be directly or indirectly affected as a result of the proposed project, the linear footage of proposed direct and indirect stream impacts associated with the project, and cubic yards of fill proposed to be discharged.
- A description of the ways in which the project has been designed to avoid and minimize adverse impacts to waters of the U.S.
- Information concerning whether the proposed activity would affect any historic properties listed, determined to be eligible, or which they have reason to believe may be eligible, for listing on the National Register of Historic Places.
- Basic information about the general project area (encompassing a search radius of 2 miles

centered on the project area) including USGS 7.5' series topographic maps, National Register of Historic Places (NRHP) files including Historic Districts, and county atlases, histories and/or any historic USGS 15' series topographic map(s), brief description of the terrain and topography of the project area, acreage of the project area, proximity of the project area to major waterways, past land uses in the project area, and any past cultural resources studies or coordination for the project area, if available, along with photographs, keyed to mapping, showing the project area and any buildings or structures on adjacent parcels.

- The submittal of ground photographs to illustrate current conditions of the overall project site and impact site is highly encouraged.

Regional General Condition 3

Compensatory Mitigation: Compensatory mitigation will typically be required as indicated in accordance the terms and conditions of the NWP's in addition to all General and Regional conditions for projects with impacts that result in the conversion of a water of the U.S. to uplands or the conversion of one aquatic resource type to another.

Regional General Condition 4

Passage of Aquatic Life: Culverted crossings should be sized in a manner that allow the passage of aquatic life and freely pass bankfull flows. The only exception to this requirement would involve culvert placement in bedrock and/or extremely high gradient streams, in which countersinking of culverts is determined not to be practicable. In the event proposed crossings do not meet these criteria, compensatory mitigation may be required.

Regional General Condition 5

Endangered Species: Federally listed endangered species, subject to Section 7 of the Endangered Species Act, are located in nearly every county within West Virginia. As part of the PCN process, the district engineer (DE) will assume responsibility for determining project-related effects to endangered species. For projects that do not require a PCN, it is the applicant's responsibility to ensure that all elements of a proposed single and complete project comply with Section 7 of the Endangered Species Act.

Regional General Condition 6

Endangered Species Habitat: Due to the potential presence of endangered species or their habitats applicants are required to provide notification to the U.S. Fish and Wildlife Service Elkins Field Office, 694 Beverly Pike, Elkins, West Virginia 26241, for any work in the waterways listed in Appendix A. This appendix will be update as new species are listed by the U.S. Fish and Wildlife Service.

Regional General Condition 7

All PCNs involving work in the below listed waters require notification to the National Park Service and/or the Forest Service.

- New River;
- Bluestone River from the upstream boundary of Pipestem Park to Bluestone Reservoir;
- Meadow River from an area near the US 19 Bridge to its junction with the Gauley River;
- All streams within the Monongahela National Forest designated as National Wild and Scenic Study Rivers;
- All streams and other bodies of water in State and National Forests and Recreation Areas (included are streams and bodies of water located within the Spruce Knob, Seneca Rocks and Gauley River National Recreation Areas); and
- Streams and their tributaries as contained within the boundaries of the designated National Wilderness Areas or the headwaters of such rivers and their tributaries; Cranberry River, Red Creek, Laurel Fork and Otter Creek.

Regional General Condition 8

West Virginia Natural Stream Preservation Act: In accordance with the West Virginia Natural Stream Preservation Act, the following streams or rivers are protected from activities that would impound, divert or flood the body of water:

West Virginia Natural Stream Preservation Act

- Greenbrier River from its confluence with Knapps Creek to its confluence with the New River;
- Anthony Creek from its headwaters to its confluence with the Greenbrier River;
- Cranberry River from its headwaters to its confluence with the Gauley River;
- Birch River from Cora Brown Bridge in Nicholas County to its confluence with the Elk River; and
- New River from its confluence with the Greenbrier River to its confluence with the Gauley River.

Regional General Condition 9

Tier 3 Protected Waters: All PCNs involving work in Tier 3 Protected Waters (West Virginia Code of State Regulations, Requirements Governing Water Quality Standards, Title 47, Series 2) shall include prior written notification to the West Virginia Department of Environmental Protection, Division of Water and Waste Management. Tier 3 Protected Waters include, but are not limited to, all streams and rivers within the boundaries of Wilderness Areas designated by The Wilderness Act (16 U.S.C. §1131 et seq.) within the State, all Federally designated rivers under the "Wild and Scenic Rivers Act", 16 U.S.C. §1271 et seq.; all streams and other bodies of water in state parks which are high quality waters or naturally reproducing trout streams; waters in national parks and forests which are high quality waters or naturally reproducing trout

streams; waters designated under the "National Parks and Recreation Act of 1978", as amended; and pursuant to subsection 7.1 of 60CSR5, those waters whose unique character, ecological or recreational value, or pristine nature constitutes a valuable national or state resource.

Regional General Condition 10

Archeological Sites and Human Remains: In the event any archeological sites or human remains are uncovered during construction, the permittee shall cease all work immediately and contact the appropriate Corps District office, the West Virginia Division of Culture and History at 304-558-0240 and the appropriate county Sheriff's Office.

F. West Virginia Department of Environmental Protection 401 Water Quality Certification Standard Conditions Applicable to ALL NWP's

The following are West Virginia's Section 401 Water Quality Certification standard and special conditions that apply to the Nationwide Permits 1-52 as published on February 21, 2012 in Part III of the *Federal Register* (77 FR 10184), by the U.S. Army Corps of Engineers. These conditions must be implemented into any activity authorized by a U.S. Army Corps of Engineers Nationwide Permit(s). The State's certification of these Nationwide Permit activities does not replace the need for the applicant proposing an activity under the Nationwide Permit Program from obtaining other applicable permits/authorizations from the West Virginia Department of Environmental Protection and/or the Division of Natural Resources. Each permittee shall, if they do not understand or are not aware of applicable Nationwide Permit conditions, contact the Corps of Engineers prior to conducting any activity authorized by a Nationwide Permit in order to be advised of applicable conditions. These 401 Water Quality Certifications, with all attendant standard conditions and special conditions, are applicable to Corps of Engineers Civil Works Projects in West Virginia.

1. The permittee will investigate for the presence of water supply intakes or other activities within 1/2 mile downstream, which may be affected by suspended solids and turbidity increases caused by work in the watercourse. The permittee will give notice to operators of any such water supply intakes and such other water quality dependent activities as necessary before beginning work in the watercourse in sufficient time to allow preparation for any change in water quality.
2. Excavation, dredging or filling in the watercourse will be done only to the extent necessary to achieve the project's purpose.
3. Spoil materials from the watercourse or onshore operations, including sludge deposits, will not be dumped in the watercourse, or deposited in wetlands or other areas where the deposit may adversely affect the surface or ground waters of the state.
4. The permittee will employ measures to prevent or control spills from fuels, lubricants or any other materials used in connection with construction and restrict them from entering the watercourse. Storage areas for chemicals, explosives, lubricants, equipment fuels,

etc., as well as equipment refueling areas, must include containment measures (e.g., liner systems, dikes, etc.) to ensure that spillage of any material will not contact surface or ground waters. Storage areas and refueling areas shall be a minimum distance of 100 feet from any surface water body. All spills shall be promptly reported to the State Center for Pollution, Toxic Chemical and Oil Spills, 1-800-642-3074.

5. Upon completion of in-stream operations all disturbances below the ordinary high water mark will be properly stabilized within 24 hours to prevent soil erosion. Where possible, stabilization shall incorporate revegetation using bioengineering as an alternative to rip rap. If rip rap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created due to its placement. Fill is to be clean, nonhazardous and of such composition that it will not adversely affect the biological, chemical or physical properties of the receiving waters. Unsuitable materials include but are not limited to : Cadmium chromium arsenate (CCA) and creosote treated lumber, car bodies, tires, large household appliances, construction debris, and asphalt. To reduce potential slope failure and/or erosion behind the material, fill containing concrete must be of such weight and size that promotes stability during expected high flows. Loose large slab placement of concrete sections from demolition projects greater than thirty-six inches in its longest dimension and tires are prohibited. Rebar or wire in concrete should not extend further than one (1) inch. All activities require the use of clean and coarse non erodible materials with 15% or less of like fines that is properly sized to withstand expected high flows.
6. Runoff from any storage areas or spills will not be allowed to enter storm sewers without acceptable removal of solids, oils and toxic compounds. Discharges from retention/detention ponds must comply with permit requirements of the National Pollutant Discharge Elimination System permit program of the West Virginia Department of Environmental Protection, Division of Water and Waste Management.
7. Land disturbances, which are integral to the completion of the permitted activity and are one (1) acre or greater in total area, must comply with the National Pollutant Discharge Elimination System or other state stormwater permit requirements as established by the West Virginia Department of Environmental Protection, Division of Water and Waste Management, if applicable. Best Management Practices for Sediment and Erosion Control, as described in the West Virginia Department of Environmental Protection's Erosion and Sediment Control Best Management Practice Manual, 2006, or similar documents prepared by the West Virginia Division of Highways may be used. These handbooks are available from the respective agency offices.
8. Concrete will not be permitted to enter the watercourse unless contained by tightly sealed forms or cells. Concrete handling equipment shall not discharge waste washwater into wetlands or watercourses at any time without adequate wastewater treatment as approved by the West Virginia Department of Environmental Protection, Division of Water and Waste Management.
9. In stream work in designated warm water streams and their adjacent tributaries during the fish spawning season, April - June and trout waters and their adjacent tributaries during

the trout water fish spawning season September 15-March 31st requires a spawning season waiver from the West Virginia Division of Natural Resources, Wildlife Resources Section. For information about specific stream designations contact DEP's Water Quality Standards Section at 304-926-0495. The Wildlife Resources Section, Trout Fisheries Program at 304-637-0245 or Warm Water fisheries Program 304-558-2771 should be contacted if a waiver is needed. In stream work may occur during the respective spawning season in ephemeral waters without a waiver if all reasonable measures are taken to minimize turbidity and sedimentation downstream associated with the proposed project.

10. Removal of well-established riparian vegetation not directly associated with the project construction is prohibited. Disturbance and removal of vegetation from project construction area is to be avoided, where possible, and minimized when necessary. Removal of vegetation shall not be allowed where stream bank stability under normal flow conditions would be compromised.
11. Operation of equipment instream is to be minimized and accomplished during low flow periods when practical. Ingress and egress for equipment shall be within the work site. Location of ingress and egress outside the immediate work area requires prior approval of the West Virginia Department of Environmental Protection, Division of Water and Waste Management in concurrence with the West Virginia Division of Natural Resources.
12. The permittee will comply with water quality standards as contained in the West Virginia Code of State Regulations, Requirements Governing Water Quality Standards, Title 47, Series 2.
13. Stream activities permitted under the Nationwide Permit Program require that a West Virginia Public Lands Corporation Right of Entry be obtained. Application for this authorization should be made to the West Virginia Division of Natural Resources, Office of Lands and Streams, Building 74, Room 200, 324 Fourth Avenue, South Charleston, West Virginia 25303, or by contacting them at 304-558-3225. Any activity within the 100-year floodplain requires approval from the appropriate Floodplain Manager. The following website provides a statewide listing of Floodplain Managers in West Virginia: www.dhsem.wv.gov/mitigation/floodplain/Pages/default.aspx
14. The deposit of dredged or fill materials in island back channels, embayments or stream mouths on Section 10 Rivers is not certified for any of the Nationwide Permits. Stream mouth is defined as the area extending 100 feet upstream and 100 feet downstream on receiving streams that are classified as a Section 10 stream.
15. This Standard Condition requires prior written authorization from the West Virginia Department of Environmental Protection, Division of Water and Waste Management for use of any of the Nationwide Permits for all work in Outstanding National Resource Waters listed within Section A below. Prior written notification to the West Virginia Department of Environmental Protection, Division of Water and Waste Management, is required for use of Nationwide Permits 3, 6, 7, 12, 13, 14, 16, 17, 18, 19, 27, 29, 33, 39, 40, 41, 42,

45, and 48 in any of the streams listed in Sections B and C as follows, except as may be provided for in the individual nationwide permit:

- A. Tier 3 Protection-- West Virginia Code of State Regulations, Requirements Governing Water Quality Standards, Title 47, Series 2. **Outstanding National Resource Waters:** Outstanding National Resource Waters include, but are not limited to, all streams and rivers within the boundaries of Wilderness Areas designated by The Wilderness Act (16 U.S.C. §1131 et seq.) within the State, all Federally designated rivers under the "Wild and Scenic Rivers Act", 16 U.S.C. §1271 et seq.; all streams and other bodies of water in state parks which are high quality waters or naturally reproducing trout streams; waters in national parks and forests which are high quality waters or naturally reproducing trout streams; waters designated under the "National Parks and Recreation Act of 1978", as amended; and pursuant to subsection 7.1 of 60CSR5, those waters whose unique character, ecological or recreational value, or pristine nature constitutes a valuable national or state resource. The listing of Tier 3 streams is located at:
http://www.dep.wv.gov/WWE/Programs/wqs/Documents/Tier%203%20Info/WV_Tier_3_Maps_20101006.pdf
 - B. All naturally reproducing trout streams in the following counties; Barbour, Fayette, Grant, Greenbrier, Hampshire, Hardy, Mercer, Mineral, Monroe, Nicholas, Pendleton, Pocahontas, Preston, Raleigh, Randolph, Summers, Tucker, Upshur and Webster. For information about specific streams contact Wildlife Resource Section, Trout Fisheries Program at 304-637-0245;
 - C. 'West Virginia Natural Stream Preservation Act' - The following streams or rivers are protected from activities that would impound, divert or flood the body of water: Greenbrier River from its confluence with Knapps Creek to its confluence with the New River, Anthony Creek from its headwaters to its confluence with the Greenbrier River, Cranberry River from its headwaters to its confluence with the Gauley River, Birch River from Cora Brown Bridge in Nicholas County to the confluence of the river with the Elk River, and New River from its confluence with the Greenbrier River to its confluence with the Gauley River.
16. Wetland and Stream Mitigation guidelines – The discharge of fill material into a stream or wetland is authorized based upon the following criteria:
1. One-tenth to ½ acre of wetland impact requires a Pre-Construction Notice (PCN) and plan for mitigation to be submitted to the Corps of Engineers along with the proposed plan for mitigation provided to the state for approval.
 2. The amount of fill in a wetland, wetland complex or wetland system without mitigation is not to cumulatively exceed 1/10 acre.

3. "West Virginia Stream Wetland Valuation Metric" (SWVM) will be used to assist with the determination of required mitigation. The metric is available at the Huntington and Pittsburgh Army Corps of Engineers web sites:

In all instances, mitigation for all impacts incurred through use of these Nationwide Permits must first be directed to elimination of the impacts, then minimization of the impacts and lastly through compensatory mitigation. In many cases, the environmentally preferable compensatory mitigation may be provided through approved mitigation banks or the West Virginia in-lieu fee program. Permittee responsible compensatory mitigation may be performed using the methods of: restoration, enhancement, establishment and in certain circumstances preservation. In general, the required compensatory mitigation should be located in the same watershed as the impact site, and located where it is most likely to successfully replace lost functions and services as the impacted site. However, the use of mitigation banks or in-lieu fee for in-kind replacement is not restricted to the major watershed in which the impact has occurred until such time as mitigation banks or in-lieu projects are developed in each major watershed.

When permittee responsible in-kind replacement mitigation is used it is to be accomplished at the following ratios until such time an approved functional assessment methodology is established for the state of West Virginia:

Impacts to open water wetlands are to be one (1) acre replaced for one (1) acre impacted.

Impacts to wet meadow/emergent wetlands are to be two (2) acres replaced for one (1) acre impacted.

Impacts to shrub-shrub and forested wetlands are to be three (3) acres replaced for one (1) acre impacted.

In instances where compensatory in-kind mitigation is completed 12 months prior to the impact of the resource, the replacement ratio may be reduced to as low as one (1) acre created/restored to every one (1) acre impacted.

NOTE: The ratio of created/restored wetlands to impacted wetlands not only insure no net loss, but assure the adequate replacement of the impacted wetlands functions and values at the level existing prior to the impact. For many of the more complicated type wetlands, such as scrub-scrub and forested, the values and functions cannot readily be replaced through creation. Furthermore, not all wetland creation is successful.

In certain instances, the West Virginia Department of Environmental Protection, Division of Water and Waste Management may consider the acquisition of existing wetlands. Acquisition ratios are the following:

5 to 1 for open water wetlands;
10 to 1 for wet meadow/emergent wetlands and
15 to 1 for scrub-scrub and forested wetlands

Under extenuating circumstances the director may accept lower ratios for high quality wetlands under significant threat of development.

All wetlands acquired, using the acquisition method of mitigation, will either be deeded to the West Virginia Division of Natural Resources' Public Land Corporation for management by the Wildlife Resources Section or placed under a conservation easement and be protected from disturbance by the permittee or their designee. Third party oversight of the conservation easement by a non-profit conservation organization is preferred.

Streams. Compensatory mitigation projects for stream impacts should attempt to replace lost functions. Mitigation will be determined on a case-by-case basis based on the pre and post condition stream quality and complexity of the mitigation project utilizing the SWVM worksheets. Compensatory mitigation may require protection through deed restrictions or conservation easements by the permittee or their designee.

17. Streams with Mussel populations.

A. Should native freshwater mussels be encountered during the use of any Nationwide Permit, all activity is to cease immediately and the Wildlife Resources Section, Wildlife Diversity Program is to be contacted (304-637-0245) to determine significance of the mussel population and the action to be taken.

B. The following list of streams are known to have mussel populations which are established as a protected "no take" species by the state or contain protected habitat of mussels on the Federal Endangered Species list. Applicants wishing to conduct projects in these streams are strongly encouraged to contact the Wildlife Resources Section, Wildlife Diversity Program with a detailed project description and an accurate project location. For further information please contact the Wildlife Resources Section, Wildlife Diversity program at 304-637-0245.

Applicants should also give consideration to utilizing WVDNR's Wildlife Data Base Inquiry process. This resource is designed for the applicant as an informative preplanning tool. It allows the applicant to know, in advance, if they will be encountering any federally listed endangered species (ES), state species of concern and high quality fish and wildlife habitats such as trout streams, warm water fisheries, wetlands, karst and cave habitats. This inquiry can be obtained from the: Wildlife Data Base Coordinator, PO Box 67, Elkins West Virginia 26241. Information on what to submit to receive an inquiry should be directed to data base coordinator at 304-637-0245.

HUNTINGTON DISTRICT

	James River Drainage
J-1	Potts Creek
J-1-E	South Fork Potts Creek
J-3	Cove Creek
	Big Sandy River Drainage
BS	Big Sandy River
BST	Tug Fork River
	Kanawha River Drainage
K	Kanawha River
K-1	Crooked Creek
K-12	Thirteenmile Creek
K-14	Sixteenmile Creek
K-21	Buffalo Creek
K-22	Hurricane Creek
K-22-F	Mill Creek (Tackett Branch ?)
K-24	Little Hurricane Creek
K-26	Guano Creek
KC	Coal River
KC-10	Little Coal River
KE	Elk River
KE-23	Big Sandy Creek
KE-23-N	Granny Creek
KE-23-Q-.5	Hollywood Trace Fork
KE-31	King Shoals Run
KE-37	Laurel Creek
KE-74	Strange Creek
KE-76	Birch River
KE-9	Little Sandy Creek
KN	New River
KN-51	Indian Creek
KNB	Bluestone River
KNG	Greenbrier River
KNG-18	Wolf Creek
KNG-22	Muddy Creek
KNG-22-B	Mill Creek
KNG-23	Second Creek
KNG-53	Knapp Creek
KNG-61	Clover Creek (Cloverlick Creek)
KNG-66	Sitlington Creek
KNG-68	Deer Creek
KNG-79	West Fork Greenbrier River
KP	Pocatalico River

KP-17	Pocatalico Creek (Left Fork)
KP-17-B	Middle Fork Pocatalico Creek
KP-33-E	Cox Fork
KP-39	Big Lick
KP-41	Rush Creek
KP-45	Cranes Nest Run
	Little Kanawha River Drainage
LK	Little Kanawha River
LK- 86	Sand Fork
LK-11	Slate Creek
LK-23	Tucker Creek
LK-25	Reedy Creek
LK-25-?	Left Fork Reedy Creek
LK-25-R	Middle Fork Reedy Creek
LK-31	Spring Creek
LK-31-AA	Right Fork Spring Creek
LK-31-Z	Left Fork Spring Creek
LK-39	Straight Creek
LK-40	Leading Creek
LK-45	Yellow Creek
LK-53	Pine Creek
LK-66	Tanner Creek
LK-72	Cedar Creek
LK-75	Leading Creek
LK-75-K	Cove Creek
LK-75-N	Fink Creek
LK-86	Sand Fork
LK-94	Oil Creek
LK-95	Saltlick Creek
LKH	Hughes River
LKH-10	North Fork Hughes River
LKH-10-C	Gillespie Run
LKH-10-G	Devilhole Creek
LKH-10-J	Addis Run
LKH-10-R	Bonds Creek
LKH-4	Goose Creek
LKH-9	South Fork Hughes River
LKH-9-AA	Middle Fork South Fork Hughes River
LKH-9-J	Indian Creek
LKH-9-M	Leatherbark Creek
LKH-9-R	Spruce Creek
LKH-9-W	Slab Creek
LKH-9-X	Bone Creek
LKH-9-Y	Otterslide Creek
LKS	Steer Creek

LKS-10	Left Fork Steer Creek
LKS-9	Right Fork Steer Creek
LKW	West Fork Little Kanawha River
LKW-15	Henry's Fork
LKW-15-F	Laurel Run
LKW-15-J	Beech Fork
LKW-31	Left Fork West Fork Little Kanawha River

Guyandotte River Drainage

OG	Guyandotte River
OG	Barboursville Lake
OG-14	Charley's Creek
OG-24	TwOMile Creek
OGM	Mud River
OGM-12-A	Kilgore Creek
OGM-20	Trace Fork
OGM-22	Buffalo Creek
OGM-25	Middle Fork Mud River
OGM-33	Big Laurel Creek

Middle Island Creek Drainage

OMI	Middle Island Creek
OMI-4	McKim Creek
OMI-9	Sugar Creek
OMI-21	Sancho Creek
OMI-23	Point Pleasant Creek
OMI-23-A	Pursley Creek
OMI-23-B	Elk Fork
OMI-29	Indian Creek
OMI-30	McElroy Creek
OMI-40	Arnold Creek
OMI-43	Bluestone Creek
OMI-46	Meathouse Fork
OMI-46-E	Toms Fork
OMI-46-J	Indian Fork
OMI-47	Buckeye Creek
OMI-46-E	Toms Fork
OMI-46-J	Indian Fork

Buckeye Creek

Ohio River Direct Drainage

O	Ohio River
O-2	Twelvepole Creek
O-2-H	Beech Fork
O-2-P	West Fork Twelvepole Creek
O-2-Q	East Fork Twelvepole Creek
O-9	Guyan Creek
O-30-A	Tombleson Run embayment

O-31	Little Mill Creek
O-32	Mill Creek
O-32-D	Cow run
O-32-H	Parchment Creek
O-32-L-7	Grasslick Creek
O-32-L-8	Bear Fork
O-32-M	Elk Fork
O-32-N	Little Mill Creek
O-36	Sandy Creek
O-36-D	Crooked Fork
O-36-J	Left Fork Sandy Creek
O-36-J-5	Nesselroad Run
O-38	Little Sandy Creek
O-43-D	Little Pond Creek
O-44	Lee Creek
O-44-A	South Fork Lee Creek
O-44-B	North Fork Lee Creek

PITTSBURGH DISTRICT

Ohio River Direct Drainage

	Ohio River
O-57	French Creek
O-69	Fishing Creek
O-69-N	South Fork Fishing Creek
O-69-O	North Fork Fishing Creek
O-77	Fish Creek
O-77-J	Valley Run
O-77-O	WV Fork Fish Creek
O-77-O-8	Long Drain Creek
O-88	Wheeling Creek
O-88-D-2	Middle Wheeling Creek
O-88-L	Turkey Run
O-88-O	Enlow Fork
O-88-O-?	Dunkard Fork
O-92	Buffalo Creek

Cheat River Drainage

M	Monongahela River
M-1	Dunkard Creek
M-1-?	Blacks Run
M-1-C	Days Run
M-1-E	Miracle Run
M-1-E-?	Right Branch Miracle Run
M-1-F	WV Fk Dunkard
M-1-F-6	North Fork WV Fork Dunkard Creek

M-1-F-6-A	Camp Run
M-1-F-7	South Fork WV Fork Dunkard Creek
MT	Tygart Valley River
MW	West Fork River
MW-13	Tenmile Creek upstream of Little Tenmile
MW-13-I-4	Jacob's Fork
MW-13-I-4	Salem Fork
MW-2	Booths Creek
MW-21	Elk Creek
MW-21-G	Brushy Fork of Elk Creek
MW-21-M	Gnatty Creek
MW-29	Isaacs Creek
MW-31	Hackers Creek
MW-31-C	Jesse Run
MW-32	Kincheloe Creek
MW-36	Freemans Creek
MW-36-D	Right Fork Freemans Creek
MW-38	Stonecoal Creek
MW-55	Right Fork West Fork River
MC-60-D	Blackwater River
MC-60-D-10	Sand Run
MC-60-D-8-	
A ?	Glade Run
MC-60-K-16	West Fork Glady
P	Potomac River Drainage
P-4-M	Mill Creek
P-6	Back Creek
P-9	Sleepy Creek
PC	Cacapon River
PC-24	Lost River
PC-7	North River
PNB-4	Patterson Creek
PNB-4-EE	North Fork Patterson Creek (below dam near mouth)
PSB	South Branch Potomac River
PSB-21	South Fork South Branch

18. Isolated Wetlands.

In some cases, the Corps of Engineers may determine that an activity will not impact waters of the United States because the water is an isolated wetland, and therefore does not require a 404 permit. However, under West Virginia State code (§§22-11-3(23)) isolated wetlands are designated waters of the State. Accordingly, any applicant proposing to impact an isolated wetland must contact the West Virginia Department of Environmental Protection, Division of Water and Waste Management to obtain all necessary approvals for activities impacting any isolated wetlands.

APPENDIX A

Streams with potential presence of Federally listed threatened and endangered species or their habitat

HUNTINGTON DISTRICT:

1. Big Sandy Creek; Kanawha County: Snuffbox.
2. Bluestone River; Mercer and Summers counties (Bluestone Gorge to slackwater of Bluestone Reservoir): Virginia spiraea.
3. Cedar Creek; Braxton and Gilmer counties: Snuffbox.
4. Cove Creek; Monroe County: James spiny mussel.
5. Elk River; Braxton, Clay, and Kanawha counties (Sutton Dam to slackwater below Coonskin Park), including the lower one-half mile reaches of its tributaries Birch River, Blue Creek, and Laurel Creek: Clubshell, Pink mucket pearl mussel, Northern riffleshell, Rayed bean, and Snuffbox. The Elk River also contains the Diamond darter (candidate).
6. Fishing Creek; Wetzel County: Snuffbox.
7. Gauley River; Fayette and Nicholas counties (Summersville Dam to Swiss): Virginia spiraea.
8. Greenbrier River; Greenbrier and Pocahontas counties: Virginia spiraea.
9. Henry Fork; Calhoun and Roane counties: Snuffbox.
10. Hughes River; Ritchie and Wirt counties, including the lower one-half mile reach of its tributary Goose Creek: Snuffbox.
11. Kanawha River; Fayette, Kanawha, Mason, and Putnam counties: Fanshell, Pink mucket pearl mussel, Sheepnose, Spectaclecase, and Tubercled-blossum pearl mussel.
12. Leading Creek; Gilmer and Lewis counties, including the lower one-half mile reach of its tributary Fink Creek: Snuffbox.
13. Little Kanawha River; Braxton, Calhoun, Gilmer, Wirt, and Wood counties, including the lower one-half mile reaches of its tributaries Leading Creek (Calhoun Co., different stream than 5.d. above), Pine Creek, Sand Fork, Slate Creek, Straight Creek, Tanner Creek, Tucker Creek, and Walker Creek: Snuffbox.

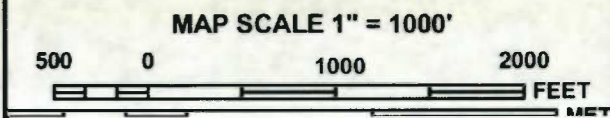
14. Marsh Fork River including Dingess Branch and Millers Camp Branch and associated palustrine emergent and scrub-shrub wetlands; Raleigh County: Virginia spiraea.
15. McElroy Creek; Doddridge and Tyler counties: Snuffbox.
16. Meadow River; Fayette, Greenbrier, and Nicholas counties: Virginia spiraea.
17. Meathouse Fork of Middle Island Creek; Doddridge County, including the lower one-half mile reaches of its tributary Toms Fork: Clubshell and Snuffbox.
18. Middle Island Creek; Doddridge, Pleasants, and Tyler counties, including the lower one-half mile reaches of its tributaries Arnold Creek, Bluestone Creek, Buckeye Creek, Indian Creek, McKim Creek, Point Pleasant Creek, and Sancho Creek: Clubshell, Rayed bean, and Snuffbox.
19. New River (Lower); Fayette County (Route 19 to Gauley Bridge): Virginia spiraea.
20. North Fork Hughes River; Ritchie and Wirt counties, including the lower one-half mile reaches of its tributaries Addis Run, Bonds Creek, Devilhole Creek, and Gillespie Run: Snuffbox.
21. Ohio River; Cabell, Jackson, Mason Pleasants, Tyler, Wetzel, and Wood counties: Fanshell, Pink mucket pearlymussel, Sheepnose, and Snuffbox.
22. Potts Creek and South Fork of Potts Creek; Monroe County: James spinymussel.
23. Reedy Creek; Roane and Wirt counties: Snuffbox.
24. South Fork Hughes River; Doddridge, Ritchie, and Wirt counties, including the lower one-half mile reaches of its tributaries Bone Creek, Indian Creek, Leatherbark Creek, Otterslide Creek, Slab Creek, and Spruce Creek: Clubshell and Snuffbox.
25. Spring Creek; Roane and Wirt counties: Snuffbox.
26. Steer Creek; Calhoun and Gilmer counties: Snuffbox.
27. Sugar Creek; Pleasants County: Snuffbox.
28. West Fork Little Kanawha River; Calhoun, Roane, and Wirt counties: Snuffbox.

PITTSBURGH DISTRICT

29. Back Creek; Berkeley County: Harperella.
30. Cacapon River; Morgan County: Harperella.

31. Dunkard Creek; Monongalia County: Snuffbox.
32. Fish Creek; Marshall County: Snuffbox.
33. Hackers Creek (of the West Fork River); Harrison and Lewis counties: Clubshell and Snuffbox.
34. Potomac River; Morgan County (from the mouth of the Cacapon River to the mouth of Sleepy Creek): Harperella.
35. Sleepy Creek; Morgan County: Harperella.
36. West Fork River; Harrison, Lewis, and Marion counties: Snuffbox.
37. Streams, springs, and wetlands connected to the groundwater system including caves, areas near sinkholes, and other groundwater/surface interfaces, from the Potomac River west to Opequon Creek, especially in the Rippon and Leetown Areas, and the Evitts Run Watershed; Jefferson and Berkeley counties: Madison Cave isopod.
38. Wetlands; Berkeley and Hardy counties: Northeastern bulrush.

Updated 7/13/12



PANEL 0105C

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

PANEL 105 OF 325
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0105	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
 54017C0105C
MAP REVISED
 OCTOBER 4, 2011

Federal Emergency Management Agency

305000 FT

300000 FT

39° 18' 45"

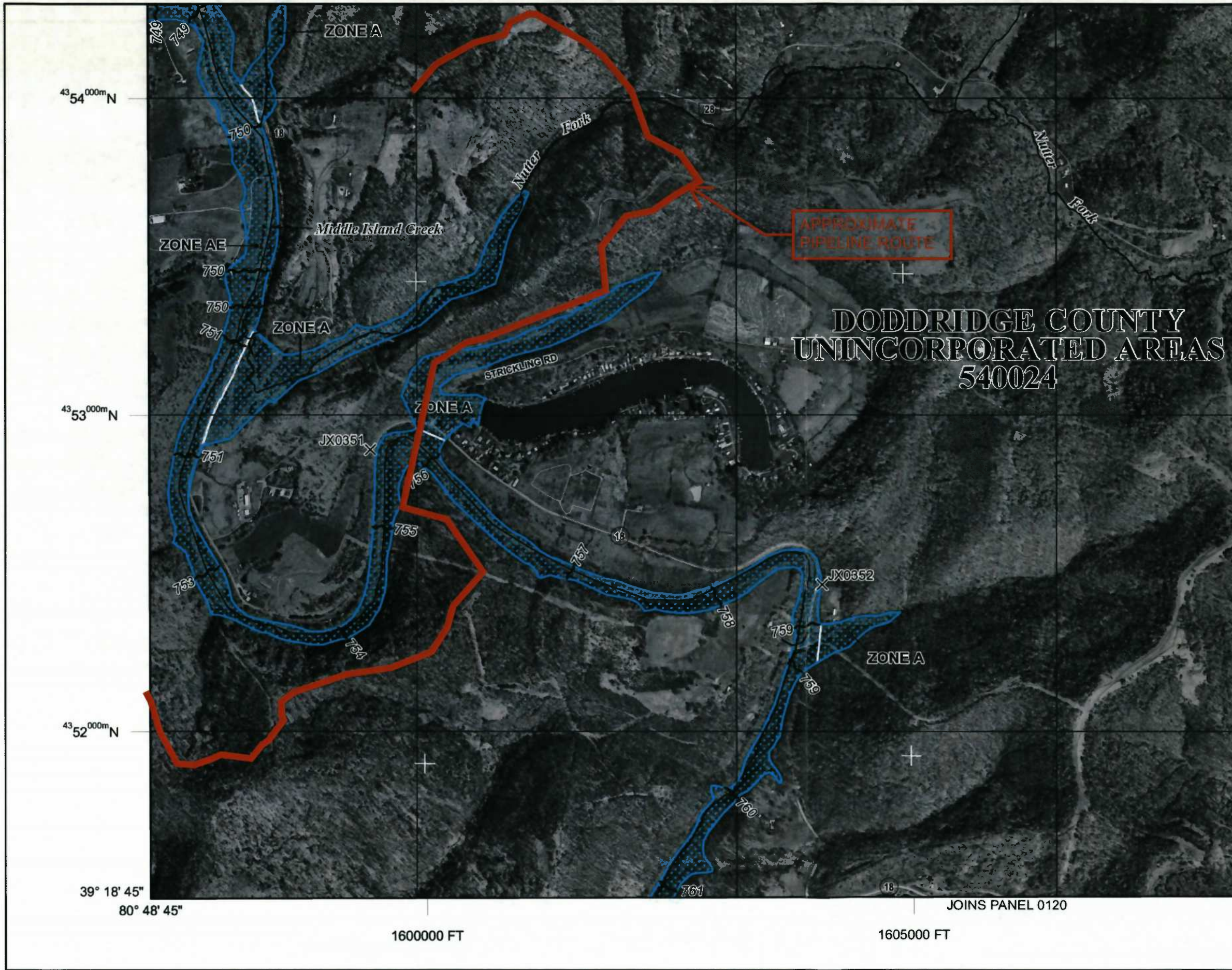
80° 48' 45"

JOINS PANEL 0115

1590000 FT

1595000 FT

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.mec.fema.gov



MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

APPROXIMATE PIPELINE ROUTE

DODDRIDGE COUNTY
UNINCORPORATED AREAS
540024

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0110C

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

PANEL 110 OF 325
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0110	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
54017C0110C
MAP REVISED
OCTOBER 4, 2011

Federal Emergency Management Agency

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ANTERO MIDSTREAM LLC

ISSUED FOR PERMITTING PLANS FOR THE

SOUTH CANTON 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE

AFE #A04766

101-050-6136

DODDRIDGE COUNTY , WEST VIRGINIA

DECEMBER 2016

AERIAL MAP



VICINITY MAP
FULL SCALE: 1"=4,000'
HALF SCALE: 1"=8,000'



PHONE: (303) 357-7310 | FAX: (303) 357-7315
1615 WYNKOOP STREET
DENVER, CO 80202

ENGINEER OF RECORD



PHONE: (304) 624-4108 | FAX: (304) 624-7831
600 WHITE OAKS BLVD., P.O. BOX 940
BRIDGEPORT, WV 26330

EXISTING INFORMATION SOURCES

BASE CONTOUR DATA PROVIDED BY BLUE MOUNTAIN, INC. AT TWO FOOT CONTOUR INTERVALS.

SUPPLEMENTAL SPOT ELEVATIONS AND ALIGNMENT PROVIDED BY:

THE THRASHER GROUP
600 WHITE OAKS BLVD., P.O. BOX 940
BRIDGEPORT, WV 26330

BENCHMARK:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, US SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), US SURVEY FOOT

ROAD DESIGNATIONS OBTAINED FROM WV-DOH
(<http://www.transportation.wv.gov>)

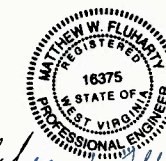
PLAN REPRODUCTION WARNING

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THESE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THESE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.

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Matthew W. Fluharty 12/02/16
MATTHEW W. FLUHARTY, WV P.E. # 16375

ISSUED FOR PERMITS DATE: 12/02/16 BY: *mf*
 ISSUED FOR CONSTRUCTION DATE: _____ BY: _____

LAYOUT FILE: COVER CAD FILE: R:\050-0136-S_CANTON_Pipeline-Antero-Survey\PLANS\COVER_SHEET.dwg USER: robert.j.lucsko PLOT DATE/TIME: 12/06/2016 4:35 PM

WVDOH GENERAL NOTES

- ALL CONSTRUCTION ON THE DIVISION OF HIGHWAYS RIGHT OF WAY WILL CONFORM TO THE FOLLOWING:
THE FOLLOWING NOTES APPLY TO ALL PROJECT PLAN SHEETS:
1. ALL METER SETTINGS ACROSS PAVED ROADS SHALL BE BORED OR MOLED, UNLESS OPEN CUT HAS BEEN APPROVED BY W.V.D.O.H. AND SPECIFICALLY INDICATED ON PLANS.
 2. NOTIFICATION OF PROPOSED EXCAVATION, DEMOLITION OR ANY OTHER EARTH DISTURBING ACTIVITIES ARE REQUIRED TO BE PLACED TO MISS UTILITY OF WEST VIRGINIA (1-800-245-4848) NOT LESS THAN FORTY EIGHT (48) BUSINESS HOURS BEFORE ANY SUCH WORK IS TO BEGIN.
 3. BEDDING SHALL BE PLACED ON ASPHALT SURFACE TO PROTECT THE PAVEMENT WHEN A TRENCHER OR TRACKED VEHICLE IS USED.
 4. THE WEST VIRGINIA DIVISION OF HIGHWAYS PUBLICATIONS "STANDARD SPECIFICATIONS ROADS AND BRIDGES" AND "ACCOMMODATIONS OF UTILITIES ON HIGHWAY RIGHT OF WAY" LATEST EDITION ARE PART OF THE PROJECT SPECIFICATIONS AND WILL BE ADHERED TO BY THE CONTRACTOR.
 5. ALL DAMAGE TO ROAD SURFACE SHALL BE REPAIRED ACCORDING TO THE WEST VIRGINIA DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS AND DETAILS.
 6. ALL EXISTING DUMP ROCK OR RIP RAP DITCHES DISTURBED BY THE WATER LINE CONTRACTOR SHALL BE RESTORED WITH THE SAME SIZE, GRADE AND QUALITY OF ROCK AFTER THE WATER LINE HAS BEEN INSTALLED. NEW DUMP ROCK (RIP RAP) IS TO BE PLACED IN ALL LOCATIONS WHERE THE DITCH LINE GRADE IS GREATER THAN 5% AND THERE IS NO EXISTING RIP RAP.
 7. TRAFFIC CONTROL SHALL CONFORM TO THE W.V.D.O.H. PUBLICATION "TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION AND MAINTENANCE" OPERATION LATEST EDITION.
 8. ALL BACKFILL MATERIAL AND COMPACTION REQUIREMENT SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THE ACCOMMODATION OF UTILITIES ON HIGHWAY RIGHT OF WAY AND ADJUSTMENT AND RELOCATION OF UTILITY FACILITIES ON HIGHWAY PROJECTS AND SUBJECT TO D.O.H. APPROVAL. EVIDENCE OF PROPER COMPACTION BY TESTING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TESTING SHALL BE ONE (1) PER DAY OR EVERY 500 LINEAL FEET OR AS DETERMINED BY THE DISTRICT MANAGER (ENGINEER) OR HIS AUTHORIZED REPRESENTATIVE.
 9. WATER LINES OR OTHER LINES SHALL BE PLACED EITHER AROUND, UNDER OR OVER DRAINAGE CULVERTS AS SHOWN ON PLANS.
 10. AGGREGATE SHOULDER STONE IS TO BE PLACED ON THE SHOULDER AT A THICKNESS EQUAL TO 6" OR ITS ORIGINAL THICKNESS WHICHEVER IS GREATER. PAVED SHOULDERS WILL BE PAVED.
 11. MAGNETIC MARKING TAPE SHALL BE INSTALLED AT A DEPTH OF 12" TO 18" BELOW THE SURFACE AND DIRECTLY ABOVE ALL LINES OR PIPE.
 12. REPAIR TO DRIVEWAYS ON W.V.D.O.H. RIGHT OF WAYS SHALL CONFORM TO THE APPROPRIATE W.V.D.O.H. TYPICAL REPAIR DETAIL.
 13. CLEANUP WILL BE ACCOMPLISHED DAILY. RIGHT OF WAYS SHALL CONFORM TO THE APPROPRIATE W.V.D.O.H. REPAIR. ALL CULVERTS AND DRAINAGE DITCHES SHALL BE OPEN AND MAINTAINED DURING CONSTRUCTION. SHOULDERS WILL BE RESTORED AND STABILIZED WITH STONE DAILY WITH APPROPRIATE STONE AT THE DISCRETION OF W.V.D.O.H.
 14. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED WITHIN SEVEN DAYS OF COMPLETION OF BACK FILL OPERATION.
 15. NO EXCESS EXCAVATION MATERIAL SHALL BE WASTED ON W.V.D.O.H. RIGHT OF WAYS WITHOUT THE AGREEMENT OF THE W.V.D.O.H.
 16. THE W.V.D.O.H. RESERVES THE RIGHT TO RELOCATE WATERLINES, FIRE HYDRANTS, AND VALVES AS DEEMED NECESSARY.
 17. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING UTILITY COMPANIES, PRIOR TO CONSTRUCTION TO OBTAIN UTILITY LOCATIONS AND PERFORMING EXPLORATORY WORK TO DETERMINE SUBSURFACE MATERIALS AND STRUCTURES THAT MAY AFFECT ITS WORK.
 18. PRIOR TO THE START OF ANY WORK WITHIN STATE HIGHWAY RIGHT-OF-WAY, THE CONTRACTOR SHALL GIVE THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION 48 HOURS NOTICE.
 19. THE CONTRACTOR IS RESPONSIBLE FOR ANY OFFSITE DISPOSAL REQUIRED. DISPOSAL SHALL BE TO AN ACCEPTABLE LEGAL SITE. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL AT DISPOSAL SITES.
 20. ALL ELEVATION GRADES AND DISTANCES SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE PRIOR TO CONSTRUCTION.
 21. ALL CONSTRUCTION SHALL MAINTAIN 5' FROM EDGE OF PAVEMENT OR BOTTOM OF DITCH UNLESS NO OTHER PRACTICAL MEANS OF CONSTRUCTION EXISTS.
 22. PERFORM ACCEPTABLE REPAIR OF ANY AND ALL SUB-BASE FAILURES THAT ARE CAUSED BY THE CONTRACTOR'S OPERATION ON A DAILY BASIS.
 23. PERFORM TOTAL REPAIR AND/OR REPLACEMENT OF ANY DAMAGED ASPHALT SURFACE AS DETERMINED BY THE W.V.D.O.H. REPRESENTATIVE.
 24. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL MAKE A COMPLETE VIDEO SHOWING THE ROAD SURFACE OF THE ENTIRE PROJECT OF ROADS TO BE UTILIZED IN THE CONSTRUCTION OF THE PROJECT AND PRESENT IT TO UTILITY SUPERVISOR W.V.D.O.H.
 25. REMOVE DITCH-LINE OBSTACLES AND/OR RECONSTRUCTION OF THE DITCH-LINE.
 26. IN THE CASE OF MANHOLES OR VALVES IF AT ALL POSSIBLE SHALL BE PLACED OUTSIDE THE ROADWAY, SHOULDER, OR DITCH LINE IF PLACED IN THE SHOULDER THERE IS TO BE A MINIMUM OF 6 INCHES OF COVER IN THE DITCH LINE THERE IS TO BE 12 INCHES OF COVER BETWEEN THE MANHOLE AND THE INVERT OF THE DITCH.
 27. ANY MANHOLES OR VALVES OR VALVE BOXES PLACED IN THE ROADWAY WILL BE ON THE SAME PLANE AS THE ROADWAY AND SET FLUSH WITH ROADWAY.
 28. ANY ROADS REQUIRING AN H.L.B.C. OVERLAY, FULL WIDTH OR PARTIAL, SHALL HAVE SHOULDER STONE FROM AN APPROVED SOURCE PLACED AS PER D.O.H. SPECIFICATIONS.
 29. THE DEPARTMENT OF HIGHWAYS REQUIRES THERE BE NO WORK WITHIN THE DEPARTMENT'S RIGHT-OF-WAY DURING SNOW AND ICE REMOVAL. THERE MAY BE EXCEPTIONS FOR EMERGENCY AND CASE BY CASE SITUATIONS WITH NOTIFICATION TO THE DEPARTMENT.

UTILITY AGENCIES SERVING PROJECT AREA

MISS UTILITY
1-800-245-4848

WEST VIRGINIA DIVISION OF HIGHWAYS
WVDOH DIST #6
1 DOT DRIVE
MOUNDSVILLE, WV 26041-1605
(304) 843-4000
(304) 843-4085 FAX
JOSH NORRIS - UTILITY SUPERVISOR - CROSSINGS
SHARON FLUHARTY - ENCROACHMENT PERMIT SUPERVISOR - TEMP. ACCESSES

GAS
DOMINION TRANSMISSION INC.
1-888-264-8240

ANTERO RESOURCES CORPORATION
1-303-357-7310

ENERGY CORPORATION OF AMERICA (ECA)
1-304-925-6100
(RICK JETT) 1-304-678-7446

KEY OIL COMPANY
1-304-269-7102
(GREG KELLY) 1-304-588-7610

RITCHIE PETROLEUM
1-304-659-2123
(JUSTIN SMITH) 1-304-266-6332

ALLIANCE PETROLEUM CORPORATION (APC)
1-330-493-0440
(GENE DILLON) 1-304-629-9120

POWER
MON POWER
1-800-686-0022

CABLE
AT&T
1-304-216-4100

SEWER
NO PUBLIC SEWER IN PROJECT AREA

WATER
NO PUBLIC WATER IN PROJECT AREA

TELEPHONE
VERIZON TELECOMMUNICATIONS
1-800-275-2355

RESPONSE TEAMS:
NATIONAL RESPONSE CENTER FOR REPORTING CHEMICAL OR OIL SPILLS
1-800-424-8802

STATE EMERGENCY SPILL NOTIFICATION
1-800-642-3074

EMERGENCY AMBULANCE, FIRE, LAW ENFORCEMENT
911

GENERAL NOTES

1. 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 WATER AND UTILITY SERVICES BEFORE BORING AND JACKING.
2. IN THE EVENT AN ERROR WITH THE PLANS SEEMS APPARENT, THE MATTER MUST BE TAKEN UP WITH THE ENGINEER FOR REVIEW BEFORE PROCEEDING WITH CONSTRUCTION.
3. ALL PERMITS MUST BE SECURED PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL COORDINATE ALL STREAM CROSSING INSTALLATIONS PROPOSED SO NOT TO DELAY THE CONSTRUCTION PROCESS. STREAM CROSSINGS ARE TO BE CONSTRUCTED USING AN OPEN CUT CROSSING METHOD UNLESS OTHERWISE SPECIFIED ON THE PLANS.
5. ALL WVDOH ROAD CROSSINGS TO BE CONSTRUCTED USING AN OPEN CUT CROSSING METHOD UNLESS OTHERWISE SPECIFIED ON THE PLANS. WVDOH TO BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN WVDOH R/W.
6. ALL CONSTRUCTION TO BE DONE IN THE PROPOSED PIPELINE LIMITS OF DISTURBANCE AS SHOWN.
7. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE STANDARDS AND SPECIFICATIONS PROVIDED IN A SEPARATE BOUND VOLUME.
8. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPE TYPES AND O.D. PRIOR TO CONNECTION.
9. 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.

EROSION & SEDIMENT CONTROL NOTES

1. 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/DWWM/STORMWATER/BMP/INDEX.HTML](https://apps.dep.wv.gov/DWWM/STORMWATER/BMP/INDEX.HTML)
2. EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN SHOWN ON PLANS AND DETAILED IN SPECIFICATIONS.
3. EXPOSED SOILS SHALL BE STABILIZED BY APPLICATION OF EFFECTIVE BMPs THAT PROTECT THE SOIL FROM THE EROSION FORCES OF RAINDROPS, FLOWING WATER, AND WIND.
4. CLEARING AND GRUBBING IS TO OCCUR IN THE NOTED LIMITS OF DISTURBANCE (L.O.D.) ONLY.
5. 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 21 DAYS OR MORE MUST BE SEEDED AND MULCHED WITHIN 7 DAYS.
6. 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.
7. TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPs SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH BMPs.
8. EROSION AND SEDIMENT CONTROL BMPs SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN 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.

CONSTRUCTION SEQUENCE OF EVENTS

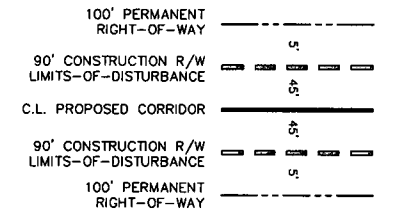
1. CALL MISS UTILITY (1-800-245-4848)
2. INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES.
3. CONSTRUCTION OF PIPELINE WITH RESTORATIONS.
4. TESTING OF PIPELINE AND APPURTENANCES.
5. PROJECT CLOSE-OUT, PUNCH LIST, CLEAN UP, REPAIRS, FINAL SEEDING AND MULCHING, ETC...

LEGEND / ABBREVIATIONS

- = EXISTING PIPELINE VENT
- = EXISTING WELL (AS NOTED)
- = EXISTING GAS METER
- = EXISTING RECTIFIERS
- = EXISTING PIPELINE MARKER
- = EXISTING GAS VALVE
- = EXISTING MONUMENT FOUND (AS NOTED)
- = EXISTING UTILITY POLE
- = EXISTING PIPELINE
- = EXISTING WATER LINE
- = EXISTING FENCE
- = EXISTING OVERHEAD UTILITY
- = EXISTING UNDERGROUND UTILITY
- = PROPERTY LINE
- = DOH RIGHT-OF-WAY LINE
- = PROPOSED PERMANENT RIGHT-OF-WAY
- = PROPOSED CONSTRUCTION RIGHT-OF-WAY
- = COMPRESSOR LIMITS-OF-DISTURBANCE
- = PROPOSED ANTERO CENTERLINE
- = EXISTING GROUND PROFILE
- = PROPOSED PIPELINE PROFILE
- = CONTOUR
- = PROJECT AREA-OF-INTEREST
- = PROPOSED ORANGE SAFETY FENCE
- = PROPOSED SILT SAVER BSRF-P1
- = PROPOSED SILT SAVER BSRF-P2
- = PROPOSED COMPOST FILTER SOCK
- = PROPOSED PERMANENT WATER BAR (PLAN)
- = DELINEATED STREAMS
- = DELINEATED WETLANDS
- = DELINEATED GROUNDWATER SEEP/SPRING
- = USFWS PROTECTIVE AQUATIC BUFFER
- = ROLLED EROSION CONTROL PRODUCT
- = PERMANENT RIGHT-OF-WAY
- = CONSTRUCTION RIGHT-OF-WAY
- = ADDITIONAL TEMPORARY WORKSPACE
- = STONE CONSTRUCTION ENTRANCE
- = TEMPORARY TIMBERMAT CROSSING
- = PROPOSED ACCESS ROAD
- = PIPELINE MILE POST
- = PROPOSED PERMANENT WATER BAR (PROFILE)
- = PROPOSED EARTH TRENCH BREAKER (PROFILE)
- = PROPOSED GAS LINE MARKER
- = PROPOSED TEST STATION
- = PROPOSED ANODE
- = PROPOSED RECTIFIER
- = PROPOSED INSULATION KIT
- = PROPOSED AC COUPON
- = PARCEL IDENTIFICATION

*LEGEND IS TYPICAL. NOT ALL ITEMS IN LEGEND APPEAR IN DRAWING

PROPOSED 100' PERMANENT RIGHT-OF-WAY



DRAWING INDEX

01	COVER	COVER SHEET
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03	SPECS	GENERAL CONSTRUCTION SPECS SHEET
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22	HTP	HYDROSTATIC TEST PROFILE SHEET
23-29	S&WC1-S&WC7	STREAM & WETLAND CROSSING SHEETS
30-39	ESCP1-ESCP10	ESCP DETAIL SHEETS



ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY
①	20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE	27,978 LF
②	20" STEEL API 5L PSL-2, X-60, 0.500" WALL, ARO COATED PIPE	2,287 LF
③	24" STEEL API 5L PSL-2, X-65, 0.500" WALL, FBE COATED PIPE	4,023 LF
④	24" STEEL API 5L PSL-2, X-65, 0.500" WALL, ARO COATED PIPE	120 LF
RECP	ROLLED EROSION CONTROL PRODUCT	1,161,345 SF
SS1	SILT SAVER BSRF-P1	10,448 LF
SS2	SILT SAVER BSRF-P2	21,841 LF
OSP	ORANGE SAFETY FENCE	13,054 LF
TB	EARTH TRENCH BREAKERS	164
WB	PERMANENT WATERBARS	192

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	DATE	BY
GM	GAS LINE MARKERS	136	
TS	TEST STATIONS	49	
REVISION			
1	REVISED PER COMMENTS FROM LANGAN	12/13/16	JDJ

GENERAL INFORMATION

1. FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
2. THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.



SOUTH CANTON PIPELINE GENERAL NOTES

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE DODDRIDGE COUNTY, WEST VIRGINIA

DATE:	12/13/2016	APP. NO.:	ADD708
SCALE:	AS SHOWN		
DRAWN BY:	JDJ (TDS)	SHEET	02 OF 39
CHECKED BY:	JOB (TDS)	SHT. NAME:	050-6136\S.CANTON\GNOTS
		REV.	1

USER: jared.d.jenkins
 PLOT DATE/TIME: 12/13/2016 8:02 AM
 LAYOUT P.L. C:\GIS\DWG\050-6136\S.CANTON PIPELINE-ANTERO-SURVEY\PLANS\GENERAL NOTES SHEETS.dwg

GENERAL CONSTRUCTION SPECIFICATIONS

1. GRADING

THE CONTRACTOR SHALL GRADE AS NECESSARY TO MITIGATE THE NECESSITY OF ABRUPT OVER-BENDS OR SAG-BENDS. CONTRACTOR SHALL MINIMIZE THE GRADING WHERE PRACTICAL TO PREVENT UNNECESSARY DISTURBANCE AND MINIMIZE WORK REQUIRED TO RETURN THE RIGHT-OF-WAY TO ITS ORIGINAL ELEVATIONS, SLOPES, AND PROFILE AS CLOSELY AS PRACTICAL, BUT CONSISTENT WITH MINIMIZING ABRUPT OVER-BENDS AND SAG-BENDS. GRADED SUBSOIL MATERIALS SHALL BE STOCK PILED SO IT CAN BE RETURNED TO ITS ORIGINAL DEPTH AND LOCATION AS OPPOSED TO SPREAD ALONG THE RIGHT-OF-WAY. THE CONTRACTOR SHALL GRUB, OR OTHERWISE REMOVE AND DISPOSED OF ALL STUMPS, ROOTS AND DEBRIS FOUND TO BE IN THE WAY OF CONSTRUCTION WITH PERMANENT RIGHT-OF-WAY LIMITS. WHEN THE CONTRACTOR IS CUTTING GRADE ALONG OR ACROSS EXISTING PIPELINES, SPOIL OR MATS SHALL BE PLACED OVER THE EXISTING LINES PER THE REQUIREMENTS OF THE OPERATING COMPANY OF THE FOREIGN PIPELINE.

2. COMPANY FOREIGN LINE AND UTILITY CROSSINGS

CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL SUCH CROSSINGS AND NOTIFY THE OWNER PRIOR TO ANY DITCHING ACTIVITY IN THE VICINITY OF THE CROSSINGS. A MINIMUM CLEARANCE OF 12 in., OR AS REQUIRED BY THE OWNER/OPERATOR, SHALL BE MAINTAINED FROM THE FOREIGN CROSSING. THE CONTRACTOR SHALL MAKE ALL REQUIRED "ONE-CALL" NOTIFICATIONS, AND KEEP DOCUMENTATION OF NOTIFICATIONS. THE CONTRACTOR SHALL KEEP THE MARKINGS FRESH AS NECESSARY DURING THE LENGTH OF THE CONSTRUCTION ACTIVITIES, MAKING NECESSARY RE-NOTIFICATIONS AS REQUIRED. COMPANY WILL LOCATE AND MARK LOCATIONS OF KNOWN COMPANY-OWNED FACILITIES WITHIN EXISTING OPERATING LOCATIONS.

IN AREAS WHERE UNDERGROUND FACILITIES, SUCH AS PIPELINES, ELECTRICAL LINES, FIBER OPTIC CABLES, ETC. EXISTING EXCAVATION BY MACHINE SHALL BE LIMITED TO NO CLOSER THAN 2 FEET (IN ANY DIRECTION) TO THE FACILITY. THE FACILITY SHALL THEN BE EXPOSED AND POSITIVELY LOCATED BY HAND EXCAVATION. AFTER THE FACILITY IS EXPOSED, AND ONLY WHILE A COMPANY REPRESENTATIVE IS ON-SITE, EXCAVATION BY MACHINE IS PERMITTED TO WITHIN 1 FOOT (IN ANY DIRECTION) OF THE FACILITY. THE REMAINING EXCAVATION MUST BE HAND DUG.

3. DITCH SPECIFICATIONS

DITCH WIDTH AND DEPTH - UNLESS OTHERWISE STATED ON THE DRAWINGS OR RIGHT-OF-WAY LINE LIST, THE DITCH SHALL BE A MINIMUM OF 12 in. WIDER THAN THE PIPE BEING LAID FOR PIPE DIAMETERS LESS THAN 12 in. AND A MINIMUM OF 18 in. WIDER FOR PIPE DIAMETERS 12 in. AND GREATER AND OF SUCH DEPTH THAT THE PIPE SHALL HAVE 36 in. MINIMUM COVER IN SOIL AND 24 in. IN CONSOLIDATED ROCK, MEASURED FROM THE TOP OF THE PIPE TO THE AVERAGE LEVEL OF THE ORIGINAL OR RESTORED GROUND ON THE TWO SIDES OF THE DITCH, WHICHEVER IS LOWER.

CONSOLIDATED ROCK - CONSOLIDATED ROCK IS DEFINED AS ROCK LAYERS WHERE THE UPPERMOST SURFACE EXISTS AT A HIGHER ELEVATION THAN THE ELEVATION OF THE TOP OF THE PIPE. THIS CONDITION PROVIDES PROTECTION AGAINST DAMAGE FROM EXTERNAL FORCES AND JUSTIFIES COVER.

DITCH GRADING - THE BOTTOM OF THE DITCH SHALL BE CUT TO A UNIFORM GRADE SO THAT THE FULL WIDTH OF THE DITCH SHALL BE AVAILABLE FOR PROVIDING SLACK IN THE LINE WHEN LAID.

BEND EXCAVATIONS - AT OVER-BENDS AND SIDE-BENDS, THE CONTRACTOR SHALL EXCAVATE THE DITCH TO ALLOW PROPER CLEARANCE BETWEEN THE INSIDE BEND OF THE PIPE AND THE BOTTOM OR SIDE OF THE DITCH TO MAINTAIN THE MINIMUM COVER.

ROCK - IN ALL CASES WHERE ROCK, OR ANY BOULDER LARGER THAN TWO in. IN DIAMETER IS ENCOUNTERED IN THE BOTTOM OF THE DITCH, THE DITCH SHALL BE EVENLY PADDED WITH SOIL, SAND OR OTHER PADDING MATERIAL IN ORDER TO PREVENT THE ROCK OR BOULDERS FROM COMING INTO CONTACT WITH THE PIPE COATING.

4. SPOIL BANK

THE SPOIL BANK FROM THE DITCHING OPERATIONS SHALL NOT BE PLACED ON ANY LOOSE DEBRIS OR FOREIGN MATTER WHICH MIGHT BECOME MIXED DURING PADDING AND BACKFILLING OPERATIONS. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN GAPS OR OPENINGS IN THE SPOIL BANK ACROSS CULTIVATED FIELDS, SO THAT EXCESSIVE RAINS DO NOT CAUSE WATER TO BACK UP AND FLOOD CULTIVATED SECTIONS. EXTREME CARE SHALL BE EXERCISED TO KEEP ALL DRAIN DITCHES AND WATER COURSES OPEN AND USEFUL.

5. TEMPORARY BRIDGES

WHEN THE DITCH IS EXCAVATED THROUGH LANDS WHERE LIVESTOCK/WILDLIFE IS CONFINED OR THROUGH AGRICULTURAL FIELDS WHERE THE COMPANY DETERMINES IT IS DESIRABLE FOR THE LANDOWNER OR TENANT TO HAVE A PASSAGEWAY ACROSS THE DITCH, THE CONTRACTOR SHALL PLUG THE DITCH OR PROVIDE SAFE, TEMPORARY BRIDGES FOR CROSSING THE DITCH AND LEAVE AN OPENING IN THE SPOIL BANK.

6. EXCAVATING NEAR IN-SERVICE PIPELINES

WHEN DITCHING PARALLEL TO AN EXISTING PIPELINE IN THE SAME RIGHTS-OF-WAY, NEAR THE EXISTING LINE AND DEEPER THAN THE EXISTING LINE, CARE SHOULD BE TAKEN TO LEAVE SUFFICIENT DISTANCE AND SUPPORT TO ENSURE SAID LINE DOES NOT SLOUGH OFF INTO NEW EXCAVATION. IF PARALLEL LINE IS A COUPLED HIGH PRESSURE LINE, IT IS NOT PERMITTED TO EXPOSE MORE THAN ONE COUPLING AT A TIME. IN ALL INSTANCES, THE WORK SHOULD BE PLANNED SUCH THAT THE EXCAVATION IS OPEN A MINIMUM AMOUNT OF TIME.

7. HAULING AND STRINGING

THE CONTRACTOR SHALL HAUL AND STRING PIPE, CASING AND OTHER MATERIALS TO THE RIGHT-OF-WAY OR WORK AREA. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TRUCKS AND EQUIPMENT FOR THE HAULING AND SPOTTING OF ALL MATERIALS. THE CONTRACTOR SHALL FURNISH SKIDS AND PLACE PIPE ON SKIDS ON THE RIGHT-OF-WAY IN A MANNER WHICH KEEPS BOTH ENDS FREE OF DIRT AND DEBRIS.

8. BENDING

FIELD BENDING - WHERE IT IS NECESSARY TO BEND PIPE, ONLY COLD BENDS SHALL BE EMPLOYED. THE BENDS SHALL BE FREE FROM BUCKLING, FLATTENING, CRACKS OR OTHER EVIDENCE OF MECHANICAL DAMAGE AND ALL BENDS SHALL NOT HAVE A DIFFERENCE BETWEEN THE MAXIMUM AND MINIMUM DIAMETERS IN EXCESS OF 2.5 % OF THE NOMINAL DIAMETER. ALL BENDS SHALL MEET THE CRITERIA SET FORTH IN DOT PART 192.

8. BENDING (CONT'D)

SLACK AND LONGITUDINAL WELDS - ALL OVER-BENDS, SAGS AND SIDE-BENDS SHALL BE MADE TO PROVIDE AN ADEQUATE AMOUNT OF SLACK IN THE PIPELINE. ON PIPE HAVING A LONGITUDINAL WELD, THE LONGITUDINAL WELD MUST BE LOCATED AS NEAR AS PRACTICABLE TO THE NEUTRAL AXIS OF THE BEND.

BENDING MACHINE - EACH BEND SHALL BE MADE USING A COMPANY APPROVED BENDING MACHINE HAVING A FULL CIRCLE BENDING SHOE WITH A NEOPRENE OR URETHANE LINING TO PRODUCE A SMOOTH, SYMMETRICAL BEND, UNLESS SPECIFIED OTHERWISE BY THE COMPANY. ON PIPE CONTAINING A LONGITUDINAL WELD, THE LONGITUDINAL SEAM MUST BE AS NEAR AS PRACTICAL TO NEUTRAL AXIS OF THE BEND UNLESS THE BEND IS MADE WITH AN INTERNAL BENDING MANDREL OR THE PIPE IS 12 in. OR LESS IN OUTSIDE DIAMETER OR HAS A DIAMETER-TO-WALL THICKNESS RATIO LESS THAN 70. IF THE PIPE IS INTERNALLY COATED, THE BEARING SURFACES OF THE MANDREL SHALL BE CONSTRUCTED TO AVOID PERMANENTLY MARKING OR DAMAGING THE INTERNAL COATING. NO APPRECIABLE STRETCHING OR THINNING OF THE PIPE WALL THICKNESS SHALL BE PERMITTED.

BENDING LIMITATION - DEFLECTION SHALL BE LIMITED TO A MAXIMUM OF ONE AND ONE-HALF DEGREES PER PIPE DIAMETER MEASURED LONGITUDINALLY ALONG THE PIPE. A COMPANY ACCEPTED METHOD OF MEASUREMENT SHALL BE USED BY THE CONTRACTOR WHEN MARKING THE PIPE IN PREPARATION FOR MAKING FIELD BENDS. BENDING SHALL NOT BE ALLOWED IN A CIRCUMFERENTIAL WELD AND NOT CLOSER THAN 6 ft. TO AN OPEN END.

9. SWABBING AND CLOSING OPEN ENDS

SWABBING - EACH PIPE JOINT SHALL BE SWABBED AS NECESSARY TO REMOVE ALL DIRT AND FOREIGN MATTER FROM THE INSIDE OF THE PIPE BEFORE THE JOINTS ARE ALIGNED AND WELDED. THE SWABBING OPERATION SHALL NOT BE CARRIED ON MORE THAN FOUR JOINTS AHEAD OF THE FIRING LINE WELDERS OR ALIGNING AND WELDING OPERATIONS.

CLOSING OF PIPE ENDS - WHERE THE LINE IS WELDED IN LONG SECTIONS BY THE FIRING LINE METHOD, THE ENDS OF THE LONG SECTIONS SHALL BE CLOSED AND KEPT CLOSED IN A MANNER APPROVED BY THE COMPANY UNTIL THE LONG SECTIONS ARE FINALLY JOINED. DURING THE LAYING OPERATIONS, CLOSE ATTENTION SHALL BE GIVEN TO OPEN ENDS TO ENSURE A COMPLETELY OPEN AND CLEAN LINE FREE OF ANY OBSTRUCTIONS. ALL REASONABLE PRECAUTIONS SHALL BE TAKEN TO PREVENT WATER FROM ENTERING THE LINE.

PREVENTION OF FOREIGN MATTER IN THE PIPELINE - THE OPEN END OF THE LINE SHALL BE SECURELY CLOSED AT THE END OF EACH DAY'S WORK TO PREVENT ENTRANCE OF SMALL ANIMALS OR THE INTRODUCTION OF FOREIGN MATTER OF ANY NATURE AND SHALL NOT BE REOPENED UNTIL WORK IS RESUMED. ANY OBSTRUCTIONS REMAINING IN THE LINE AFTER THE COMPLETION THEREOF SHALL BE REMOVED.

10. POSITING OF LONGITUDINAL SEAM

IN INSTANCES WHERE PIPE OTHER THAN SEAMLESS IS FURNISHED BY THE COMPANY, THE LONGITUDINAL SEAMS OF SUCH PIPE SHALL BE STAGGERED BY NOT MORE THAN 45'. LONGITUDINAL WELD SEAMS SHALL HAVE A MINIMUM FOUR-INCH CIRCUMFERENTIAL OFFSET BETWEEN ABUTTING JOINTS. UNLESS OTHERWISE SPECIFIED, THE LONGITUDINAL SEAMS ON ADJACENT PIPE SHALL BE STAGGERED, PLACING ONE APPROXIMATELY IN THE 10 O'CLOCK POSITION AND THE OTHER APPROXIMATELY IN THE 2 O'CLOCK POSITION.

11. LOWERING-IN PIPE

OVER-BENDS, SIDE-BENDS AND SAG-BENDS - ALL OVER-BENDS SHALL BE MADE AND INSTALLED TO CLEAR THE HIGH POINT OF THE BOTTOM OF THE DITCH BY AT LEAST 12 in. AT THE POINT OF BEND. AT SIDE-BENDS, THE PIPE SHALL BE BENT AND LOWERED TO LAY AGAINST THE OUTSIDE WALL AT THE BOTTOM OF THE DITCH. ALL SAG-BENDS SHALL CONTINUOUSLY LIE ON FIRM GROUND AT THE BOTTOM OF THE DITCH.

PIPE SLINGS AND CRADLES - THE CONTRACTOR SHALL PROVIDE PADDED SLINGS FOR HANDLING COATED AND WRAPPED PIPE. THE USE OF BELTING REINFORCED WITH WIRE CABLE SHALL NOT BE PERMITTED. ANY METHOD OF LOWERING-IN WHICH PREVENTS DAMAGE TO THE COATING SHALL BE ACCEPTABLE; HOWEVER, THE USE OF CRADLES IS PREFERRED.

CONDITION OF DITCH - PRIOR TO LOWERING-IN THE CONTRACTOR SHALL PROVIDE, TO THE SATISFACTION OF THE COMPANY, A DITCH WHICH IS FREE FROM EXCESS DEBRIS, LARGE ROCKS AND ROOTS, WELDING RODS, SKIDS OR OTHER SUCH OBJECTS WHICH CAN CAUSE DAMAGE TO THE PIPE AND ITS PROTECTIVE COATING DURING LOWERING-IN OPERATIONS. THE CONTRACTOR SHALL PUMP WATER FROM THE DITCH, BELL HOLES OR OTHER TIE-IN EXCAVATIONS PRIOR TO LOWERING-IN.

ROCK DITCH PADDING - IN ALL CASES WHERE ROCKS 2 in. AND LARGER ARE ENCOUNTERED IN THE BOTTOM OF THE DITCH AND NO ADDITIONAL PIPE COATING PROTECTION IS PROVIDED, THE CONTRACTOR SHALL PROVIDE PADDING MATERIAL PLACED EVENLY AND CONTINUOUSLY TO A MINIMUM DEPTH OF 8 in. ALONG THE BOTTOM OF THE DITCH AS APPROVED BY THE COMPANY.

SUPPORTS - THE CONTRACTOR SHALL CONSTRUCT THE PIPELINE TO LIE ON THE BOTTOM OF THE PIPE TRENCH. ALL BENDS SHALL BE MADE TO FIT THE PIPE DITCH. WHERE PIPE CANNOT BE DIRECTLY SUPPORTED BY THE BOTTOM OF THE TRENCH, SUPPORT SHALL BE PROVIDED BY SANDBAGS OR OTHER COMPANY APPROVED MATERIALS. SANDBAGS SHALL BE PLACED AT POINTS TO PROVIDE STRESS-FREE SUPPORT FOR THE PIPELINE SUBSEQUENT TO BACKFILLING. SPACING INTERVALS FOR SANDBAG SUPPORTS SHALL BE 15 FT. OR LESS AS REQUIRED BY THE COMPANY. SUPPORTS COMPRISED OF MATERIALS OTHER THAN SANDBAGS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND AT SPACING INTERVALS NO GREATER THAN THE APPROPRIATE MAXIMUM INTERVAL RECOMMENDED BY THE MANUFACTURER. SUPPORT SHALL BE PLACED AT POINTS TO PROVIDE A STRESS-FREE INSTALLATION SUBSEQUENT TO BACKFILL. THE CONTRACTOR SHALL NOT USE ANY SUPPORT METHOD WITHOUT THE PRIOR APPROVAL OF THE COMPANY AND WITHOUT PROVIDING THE COMPANY WITH THE MANUFACTURER'S RECOMMENDED INSTALLATION DIRECTIONS FOR THE SPECIFIC METHOD BEING USED.

TIE-INS - SECTIONS OF THE PIPELINE EXCAVATED FOR TIE-INS SHALL BE SUPPORTED WITH SANDBAGS OR OTHER APPROVED MATERIALS AT INTERVALS INDICATED ABOVE. SUPPORTS SHALL BE PLACED IMMEDIATELY AFTER FINAL TIE-IN TO PROVIDE A STRESS-FREE INSTALLATION SUBSEQUENT TO THE BACKFILLING OPERATION.

12. BACKFILLING

AFTER LOWERING-IN HAS BEEN COMPLETED, BUT BEFORE BACKFILLING, THE DITCH SHALL BE PUMPED DRY IN UPLAND AREAS AND THE LINE SHALL BE INSPECTED TO ENSURE THAT NO SKIDS, BRUSH, STUMPS, TREES, BOULDERS OR DEBRIS ARE IN THE DITCH. NO SUCH MATERIALS OR DEBRIS ARE TO BE BACKFILLED INTO THE DITCH. AFTER THE PIPE HAS BEEN INSPECTED AND APPROVED BY THE COMPANY, AFTER ALL DAMAGE TO THE PROTECTIVE COATING HAS BEEN REPAIRED AND AFTER THE COATING ON THE PIPE HAS HAD SUFFICIENT TIME TO CURE, THEN THE CONTRACTOR SHALL BACKFILL THE DITCH SUFFICIENTLY TO PREVENT FLOATING. THE CONTRACTOR SHALL COMPLETE THE FILLING OF THE DITCH TO PRODUCE A TRIM BACKFILL. EXCAVATED MATERIAL SHALL BE PLACED IN THE DITCH. TOPSOIL, WHERE IT HAS BEEN SEGREGATED, SHALL BE BACKFILLED AS CLOSE AS POSSIBLE TO ITS ORIGINAL LOCATION.

ROCK, TWO INCHES IN DIAMETER AND LARGER, OR LIKE MATERIALS SHALL NOT BE BACKFILLED DIRECTLY ONTO THE PIPE. WHERE SUCH MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL HAUL, IF NECESSARY, SUFFICIENT EARTH OR SAND TO BE BACKFILLED AROUND AND OVER THE PIPE TO FORM A PROTECTIVE PADDING OR CUSHION TO A MINIMUM OF EIGHT INCHES OR, AS OTHERWISE SPECIFIED IN THE SCOPE OF WORK, IN DEPTH BETWEEN THE PIPE AND ANY GRAVEL OR SMALL BROKEN ROCK TO BE BACKFILLED. LARGE ROCK OR BOULDERS IN EXCESS OF 24 in. IN DIAMETER, WIDTH OR LENGTH, SHALL NOT BE BACKFILLED INTO THE DITCH. SUCH ROCK SHALL BE DISPOSED OF PROPERLY.

13. TRENCH BREAKER

THE CONTRACTOR SHALL INSTALL EROSION BREAKERS IN THE DITCH OVER, UNDER AND AROUND THE PIPE TO PROVIDE FULL PROTECTION AGAINST BACKFILL WASHING AT VARIOUS POINTS ALONG THE PIPELINE. BREAKER INSTALLATIONS AND SPACING SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS AS WELL AS COMPANY, LOCAL, STATE, AND FEDERAL REQUIREMENTS.

- BREAKER MATERIALS SHALL INCLUDE, BUT ARE NOT BE LIMITED TO, DECOMPOSABLE BAGS, SAND AND ANY OTHER MATERIALS REQUIRED TO FACILITATE THE PROPER PLACEMENT OF THE BREAKER MATERIAL IN THE DITCH.
- BREAKER INSTALLATIONS MAY BE COMPRISED OF EITHER A MULTIPLE SANDBAG CONFIGURATION OR BY OTHER APPROVED METHODS. ALL BREAKER INSTALLATIONS SHALL MEET WITH THE APPROVAL OF THE COMPANY.
- BREAKER SIZE IS DEPENDENT ON THE EXTENT AND CONDITION OF THE DITCH IN DEPTH, WIDTH, SLOPE AND GRADE. AT A MINIMUM, BREAKERS SHALL EXTEND THE WIDTH AND DEPTH OF THE DITCH.
- BREAKERS, SHALL BE SPACED ALONG THE DITCH IN ACCORDANCE WITH THE COMPANY'S ENVIRONMENTAL STANDARDS.

14. DIRT PADDING

THE CONTRACTOR SHALL INSTALL ROCK-FREE DIRT PADDING IN AREAS DESIGNATED BY THE COMPANY. TOPSOIL SHALL NOT BE USED FOR PADDING THE DITCH. DIRT PADDING SHALL BE INSTALLED IN THE BOTTOM OF THE DITCH TO A MINIMUM DEPTH OF 8 in., PRIOR TO LOWERING-IN THE PIPELINE, IF OTHER ACCEPTABLE SUPPORT FOR PROTECTING THE BOTTOM OF THE PIPE IS NOT UTILIZED. A MINIMUM OF 8 in. OF DIRT PADDING SHALL BE INSTALLED AS COVER ON TOP OF THE LINE AS PROTECTION PRIOR TO BACKFILLING. ACCEPTABLE ROCK-FREE PADDING MATERIAL MAY BE OBTAINED DIRECTLY FROM THE SPOIL, OR BY USING A PADDING MACHINE WITH MATERIAL TAKEN DIRECTLY FROM THE SPOIL OR ROCK-FREE PADDING MATERIAL CAN BE HAULED IN BY THE CONTRACTOR.

15. CLEAN-UP

THE CONTRACTOR SHALL KEEP THE RIGHT-OF-WAY CLEAR OF LITTER, SKIDS, DEFECTIVE MATERIALS, AND ALL OTHER CONSTRUCTION DEBRIS IMMEDIATELY BEHIND ITS OPERATIONS, TO THE SATISFACTION OF THE COMPANY. UPON COMPLETION OF THE BACKFILL, THE CONTRACTOR WILL CLEAN THE RIGHT-OF-WAY IN A NEAT AND ACCEPTABLE CONDITION. SURPLUS MATERIALS SHALL BE ASSEMBLED AND DELIVERED BY CONTRACTOR TO A LOCATION DESIGNATED BY THE COMPANY. FENCES SHALL BE RECONSTRUCTED TO THE ORIGINAL LINE AND GATES INSTALLED AS INDICATED BY THE COMPANY. THE CONTRACTOR SHALL FURNISH GATES, FENCING AND POSTS.

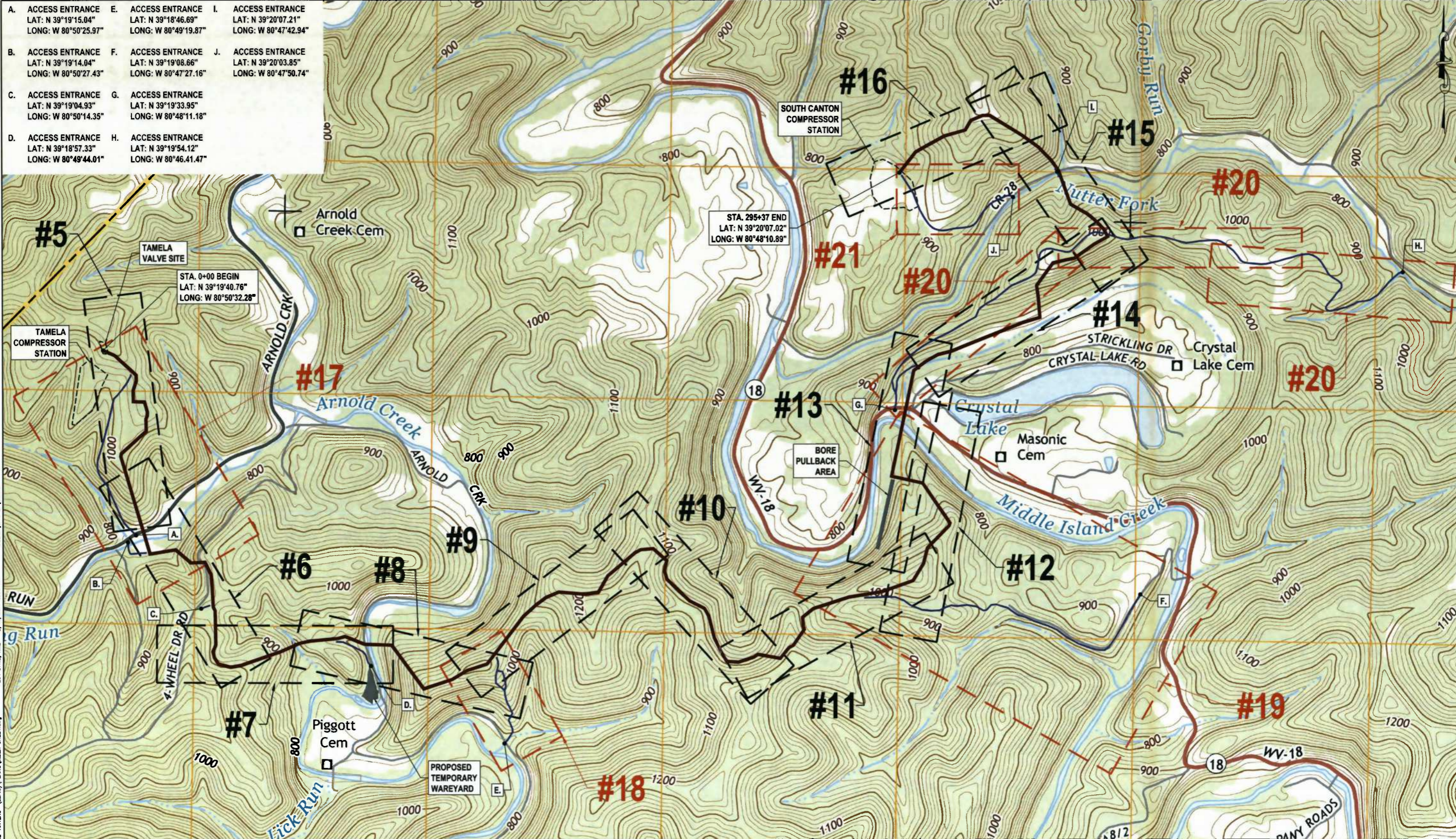
THE RIGHT-OF-WAY SHALL BE DISKED, LIMED, SEEDED AND FERTILIZED DURING THE CLEAN-UP OPERATION. THE CONTRACTOR SHALL FURNISH THE LIME, SEED AND FERTILIZER. SEEDING, FERTILIZING AND MULCHING MUST BE DONE WITHIN 6 DAYS OF FINAL CLEAN UP OR IN ACCORDANCE WITH COMPANY ENVIRONMENTAL REQUIREMENTS.

PIPELINE MARKERS SHALL BE INSTALLED AT POINTS DESIGNATED BY THE COMPANY DURING CLEAN-UP OPERATIONS. THE COMPANY SHALL FURNISH LINE AND AERIAL MARKERS.

LAYOUT TAB: SPECS CAD FILE: R:\050-6136-S\CANTON\PIPELINE-INTRO-3\Drawings\PLANS\GENERAL NOTES_SHEETS.dwg USER: jared.s.jenkins PLOT DATE/TIME: 12/13/2016 9:03 AM

 Know what's at stake Call 811 BEFORE YOU DIG	 ISSUED FOR PERMITTING DATE: 12/06/2016 AFE # A04766	SUMMARY OF MATERIALS (3D)	SUMMARY OF MATERIALS (3D)	GENERAL INFORMATION	 SOUTH CANTON PIPELINE GENERAL CONSTRUCTION SPECS PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE DODDRIDGE COUNTY, WEST VIRGINIA SHEET 03 OF 39 SHT. NAME: 050-6136\S.CANTON\SPECS REV. 1
		NO. DESCRIPTION QTY	NO. DESCRIPTION QTY	1. THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.	

- A. ACCESS ENTRANCE
LAT: N 39°19'15.04"
LONG: W 80°50'25.97"
- B. ACCESS ENTRANCE
LAT: N 39°19'14.04"
LONG: W 80°50'27.43"
- C. ACCESS ENTRANCE
LAT: N 39°19'04.93"
LONG: W 80°50'14.35"
- D. ACCESS ENTRANCE
LAT: N 39°18'57.33"
LONG: W 80°49'44.01"
- E. ACCESS ENTRANCE
LAT: N 39°18'46.69"
LONG: W 80°49'19.87"
- F. ACCESS ENTRANCE
LAT: N 39°19'08.66"
LONG: W 80°47'27.16"
- G. ACCESS ENTRANCE
LAT: N 39°19'33.95"
LONG: W 80°48'11.18"
- H. ACCESS ENTRANCE
LAT: N 39°19'54.12"
LONG: W 80°46.41.47"
- I. ACCESS ENTRANCE
LAT: N 39°20'07.21"
LONG: W 80°47'42.94"
- J. ACCESS ENTRANCE
LAT: N 39°20'03.85"
LONG: W 80°47'50.74"



LAYOUT FILE: INDEX
 CAD FILE: R:\050-6136-S_CANTON_PIPELINE-ANTERO-Survey\PLANS\INDEX SHEET.dwg
 USER: Jerald A. Jenkins
 PLOT DATE/TIME: 12/13/2016 9:05 AM

THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 600 1200
HORIZ. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

REVISION			
NO.	DESCRIPTION	DATE	BY
1	REVISED PER COMMENTS FROM LANGAN	12/13/16	JUJ

- GENERAL INFORMATION**
- MAPPING SOURCE: WEST UNION, WV USGS 7.5 MINUTE QUADRANGLES DATED 2014.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.

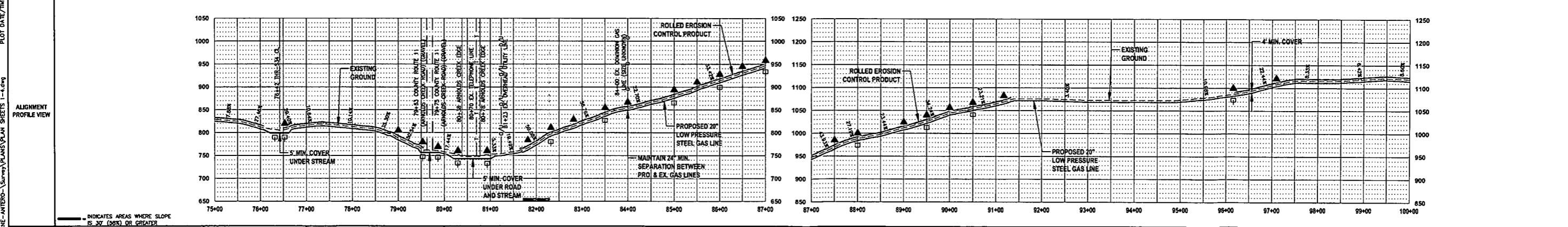
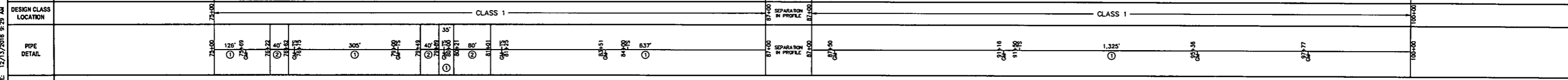
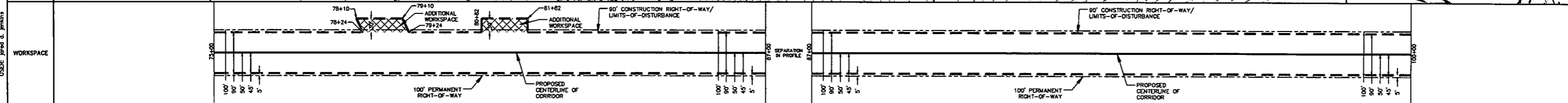
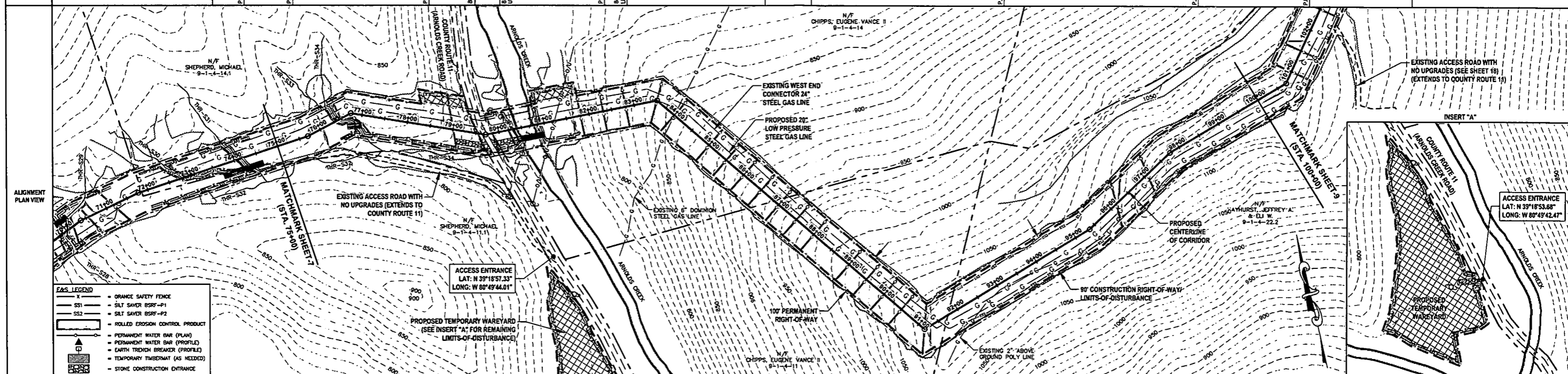
Antero
Midstream Partners LP

SOUTH CANTON PIPELINE INDEX SHEET

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
DRAWN BY: JAJ
CHECKED BY: JAJ
SHEET 04 OF 39
SHT. NAME: 050-6136\S_CANTON\INDEX REV. 1

OWNERSHIP, PARCEL NO. & LENGTH (FT) OF PIPE	75+00	SHEPHERD, MICHAEL 9-1-4-14.1 HORIZ. DIST. = 450'± SLOPE DIST. = 472'±	78+50	COUNTY ROUTE 11 (ARNOLDS CREEK ROAD) HORIZ. DIST. = 35'± SLOPE DIST. = 35'±	78+50	CHIPPS, EUGENE VANCE II 9-1-4-14 HORIZ. DIST. = 702'± SLOPE DIST. = 742'±	81+75	CHIPPS, EUGENE VANCE II 9-1-4-11 HORIZ. DIST. = 13'± SLOPE DIST. = 14'±	81+75	CHIPPS, EUGENE VANCE II 9-1-4-11 HORIZ. DIST. = 476'± SLOPE DIST. = 497'±	81+75	HAYHURST, JEFFREY A. & ELJ W. 9-1-4-22.2 HORIZ. DIST. = 824'± SLOPE DIST. = 828'±	100+00
STATIONING & P.I. ANGLES	75+00	P.I.: 75+00 ANGLE: 10° LT	78+50	P.I.: 78+51 ANGLE: 20° LT	81+75	P.I.: 81+51 ANGLE: 92° RT	81+75	P.I.: 81+18 ANGLE: 72° LT	81+75	P.I.: 85+58 ANGLE: 13° LT	81+75	P.I.: 97+17 ANGLE: 13° RT	100+00



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 100 200
HORIZ. SCALE IN FEET
0 100 200
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)		NO.	DESCRIPTION	QTY
1	20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE			2,428 LF
2	20" STEEL API 5L PSL-2, X-60, 0.500" WALL, ARO COATED PIPE			150 LF
RECP	ROLLED EROSION CONTROL PRODUCT			148,716 SF
SS1	SILT SAVER BSRF-P1			1,605 LF
SS2	SILT SAVER BSRF-P2			2,307 LF
OSF	ORANGE SAFETY FENCE			2,263 LF
TB	EARTH TRENCH BREAKERS			15
WB	PERMANENT WATERBARS			25
GM	GAS LINE MARKERS			10
TS	TEST STATIONS			6

SUMMARY OF MATERIALS (3D)		NO.	DESCRIPTION	QTY
1	20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE			2,428 LF
2	20" STEEL API 5L PSL-2, X-60, 0.500" WALL, ARO COATED PIPE			150 LF
RECP	ROLLED EROSION CONTROL PRODUCT			148,716 SF
SS1	SILT SAVER BSRF-P1			1,605 LF
SS2	SILT SAVER BSRF-P2			2,307 LF
OSF	ORANGE SAFETY FENCE			2,263 LF
TB	EARTH TRENCH BREAKERS			15
WB	PERMANENT WATERBARS			25
GM	GAS LINE MARKERS			10
TS	TEST STATIONS			6

GENERAL INFORMATION	
1.	PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
2.	COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 83 (GEOID12B), U.S. SURVEY FOOT
3.	ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
4.	CENTERLINE STATIONING PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
5.	FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
6.	THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
7.	ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
8.	ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
9.	THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36") FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
10.	FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

SOUTH CANTON PIPELINE
STA. 75+00 TO STA. 100+00

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDORIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JLD (TSS)
CHECKED BY: JLD (TSS)
CREATED: JLD (TSS)

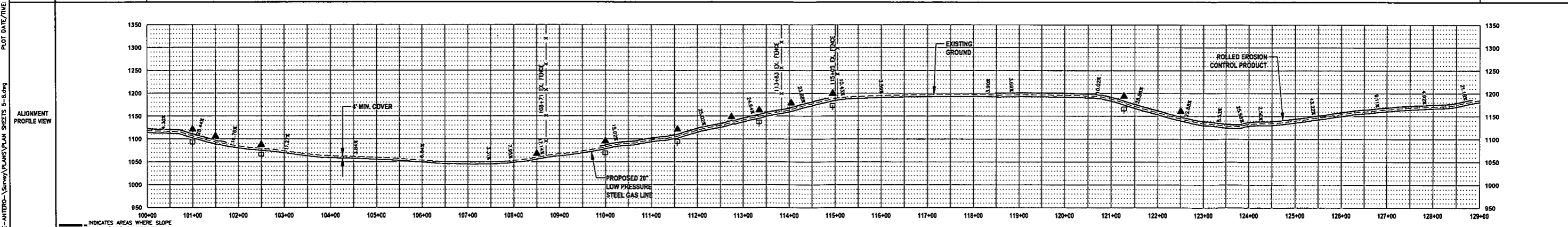
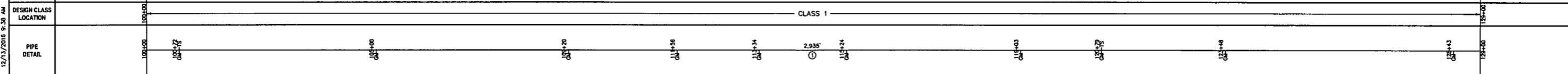
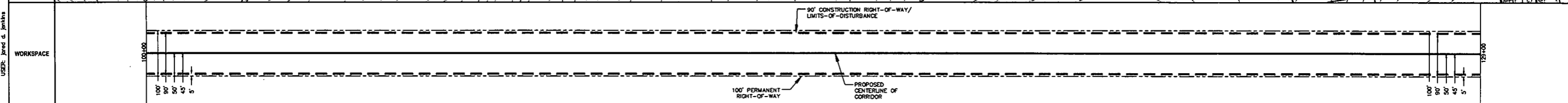
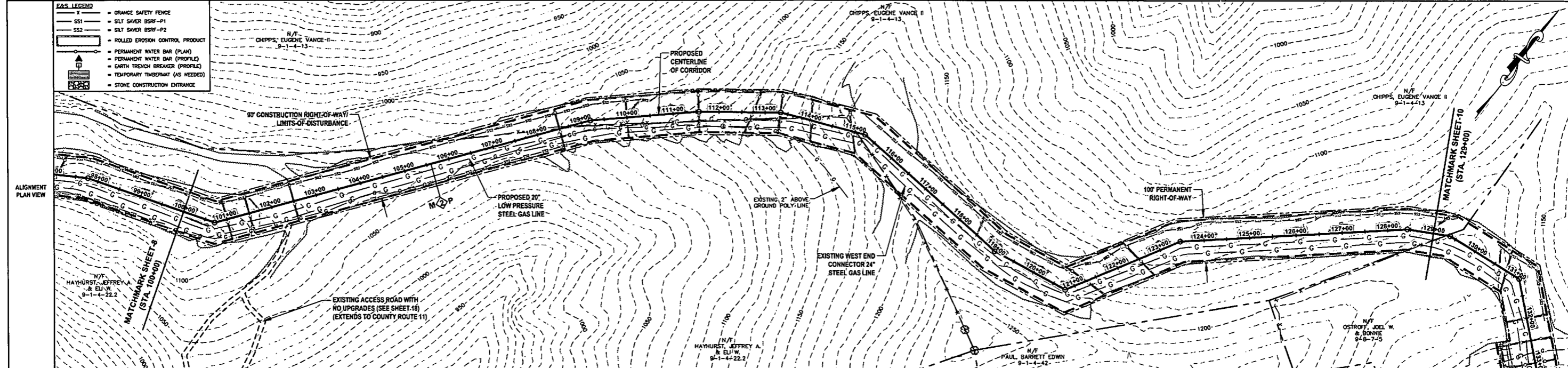
SHEET 08 OF 39

SHT. NAME: 050-6136\S.CANTON\PLAN4

REV. 1

USER: jared.d.jenkins
 PLOT DATE/TIME: 12/13/2016 8:29 AM
 LAYOUT FILE: \\050-6136\S.CANTON PIPELINE-ANTERO\SURVEY\PLANS\PLAN SHEETS\1-4.dwg

OWNERSHIP, PARCEL NO. & LENGTH (FT) OF PIPE	100+00	108+58	113+24	119+00	129+00
HAYHURST, JEFFREY A. & ELI W. 9-1-4-22.2 HORIZ. DIST. = 656'± SLOPE DIST. = 663'±	CHIPPIS, EUGENE VANCE II 9-1-4-13 HORIZ. DIST. = 518'± SLOPE DIST. = 529'±	HAYHURST, JEFFREY A. & ELI W. 9-1-4-22.2 HORIZ. DIST. = 130'± SLOPE DIST. = 135'±	CHIPPIS, EUGENE VANCE II 9-1-4-13 HORIZ. DIST. = 1,395'± SLOPE DIST. = 1,408'±		
STATIONING & P.I. ANGLES	P.I.: 100+77 ANGLE: 57° LT	P.I.: 108+20 ANGLE: 11° RT	P.I.: 111+58 ANGLE: 05° RT	P.I.: 113+34 ANGLE: 14° RT	P.I.: 119+00 ANGLE: 28° RT



Know what's at stake
Call 811
BEFORE YOU DIG

HORIZ. SCALE IN FEET
0 100 200

VERT. SCALE IN FEET
0 100 200

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)		QTY
20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE	2,935 LF	
ROLLED EROSION CONTROL PRODUCT	136,126 SF	
SILT SAVER BSRF-P2	2,917 LF	
EARTH TRENCH BREAKERS	7	
PERMANENT WATERBARS	12	
GAS LINE MARKERS	10	
TEST STATIONS	2	

SUMMARY OF MATERIALS (3D)		QTY
DESCRIPTION		

REVISION		DATE	BY
1	REVISED PER COMMENTS FROM LANGAN	12/13/16	JOJ

- GENERAL INFORMATION**
- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig
PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 83 (GEOID12B), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - CENTERLINE STATIONING PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
 - ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
 - ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

SOUTH CANTON PIPELINE
STA. 100+00 TO STA. 129+00

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JOJ (100)
CHECKED BY: JHT (100)

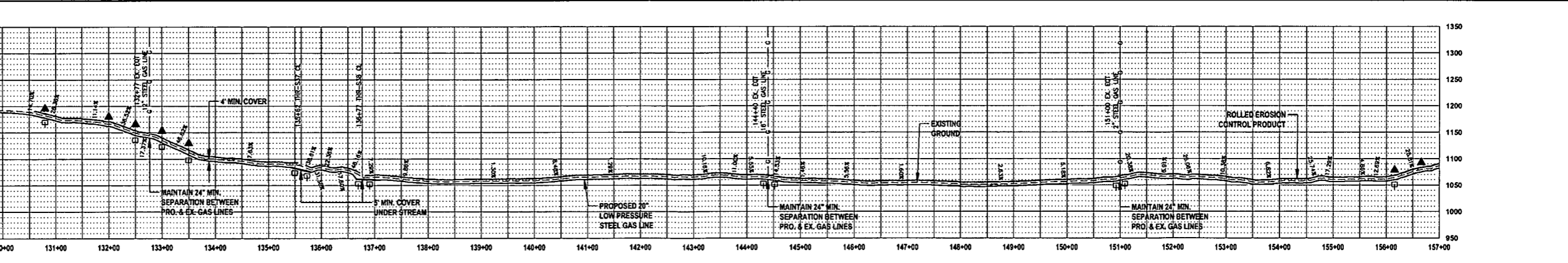
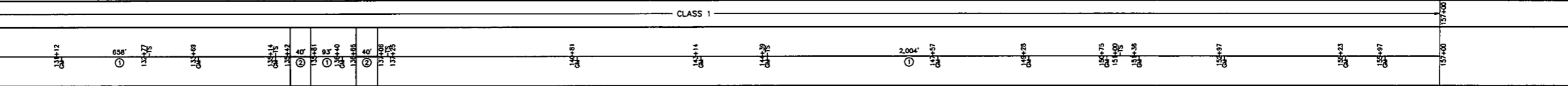
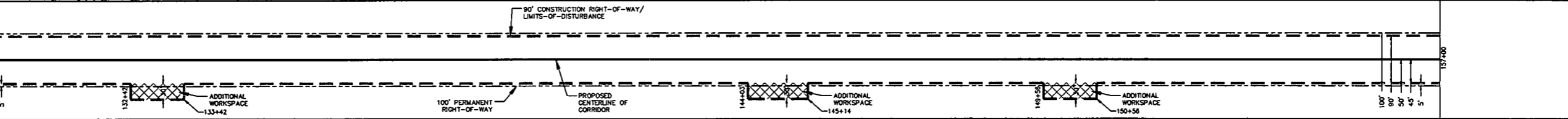
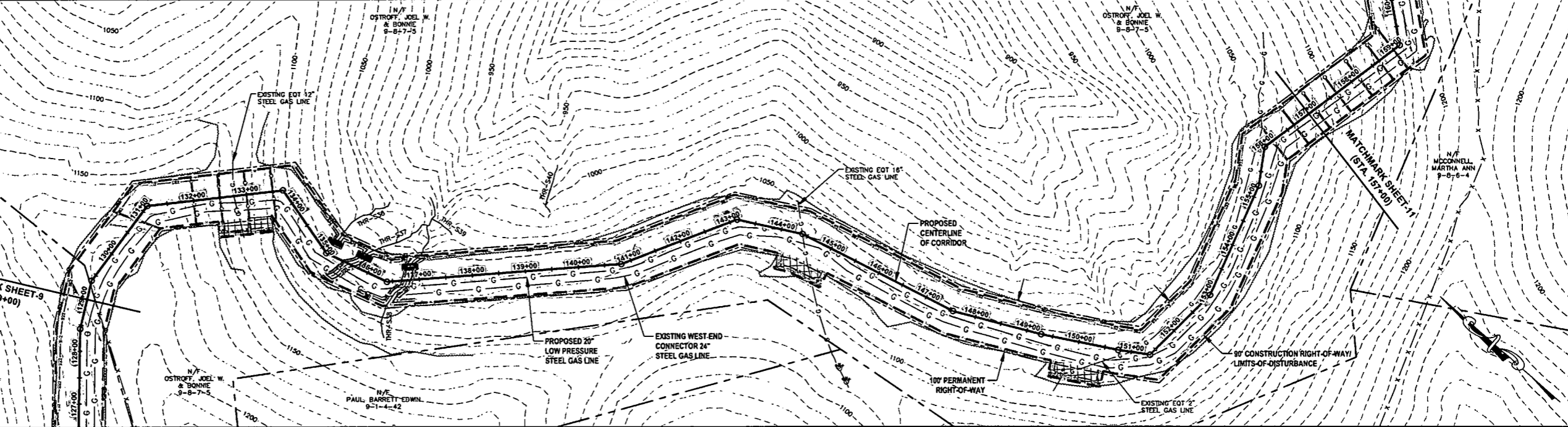
SHEET 09 OF 39

SHT. NAME: 050-6136\S.CANTON\PLANS REV. 1

LAYOUT FILE: PLANS CAD FILE: R:\050-6136\S.CANTON PIPELINE-ANTERO-SouthCanton\PLANS\PLAN SHEETS 5-8.dwg PLOT DATE/TIME: 12/13/2016 9:38 AM USER: jared.d.johns

OWNERSHIP, PARCEL NO. & LENGTH (FT) OF PIPE	CHIPPS, EUGENE VANCE II 9-1-4-13 HORIZ. DIST. = 28'± SLOPE DIST. = 28'±	OSTROFF, JOEL W. & BONNIE 9-8-7-5 HORIZ. DIST. = 2,772'± SLOPE DIST. = 2,807'±	157+00
STATIONING & P.I. ANGLES	P.I.: 129+38 ANGLE: 37° RT P.I.: 131+12 ANGLE: 47° RT 132+77 EX. EXT 12" STEEL GAS LINE P.I.: 133+69 ANGLE: 87° RT P.I.: 139+14 ANGLE: 30° LT P.I.: 139+40 ANGLE: 30° LT P.I.: 140+81 ANGLE: 17° LT P.I.: 143+14 ANGLE: 34° RT P.I.: 144+39 ANGLE: 15° RT 144+40 EX. EXT 16" STEEL GAS LINE P.I.: 147+57 ANGLE: 13° LT P.I.: 149+29 ANGLE: 03° LT P.I.: 150+75 ANGLE: 03° LT 150+80 EX. EXT 24" STEEL GAS LINE P.I.: 151+36 ANGLE: 53° LT P.I.: 152+97 ANGLE: 21° LT P.I.: 155+33 ANGLE: 15° LT P.I.: 155+97 ANGLE: 44° RT		157+00

- EAS LEGEND**
- ORANGE SAFETY FENCE
 - SILT SAVER BSRF-P1
 - SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - PERMANENT WATER BAR (PLAIN)
 - PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - TEMPORARY TIMBERMAT (AS NEEDED)
 - STONE CONSTRUCTION ENTRANCE



USER: Jared d. Jenkins
 PLOT DATE/TIME: 12/13/2016 9:41 AM
 LAYOUT FILE: PLANS
 CAD FILE: R:\050-6138-S_CANTON PIPELINE-ANTERO-Survey\PLANS\PLAN SHEETS 5--8.dwg

Know what's at stake
Call 811
BEFORE YOU DIG

ISSUED FOR PERMITTING
DATE: 12/06/2016
AFE # A04766

0 100 200
HORIZ. SCALE IN FEET
0 100 200
VERT. SCALE IN FEET

IFP
ISSUED FOR PERMITTING
DATE: 12/06/2016
AFE # A04766

SUMMARY OF MATERIALS (3D)		SUMMARY OF MATERIALS (3D)			
NO.	DESCRIPTION	QTY	NO.	DESCRIPTION	QTY
①	20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE	2,735 LF			
②	20" STEEL API 5L PSL-2, X-60, 0.500" WALL, ARO COATED PIPE	80 LF			
RECP	ROLLED EROSION CONTROL PRODUCT	244,840 SF			
SS1	SILT SAVER BSRF-P1	918 LF			
SS2	SILT SAVER BSRF-P2	2,420 LF			
OSF	ORANGE SAFETY FENCE	1,003 LF			
TB	EARTH TRENCH BREAKERS	13			
WB	PERMANENT WATERBARS	7			
GM	GAS LINE MARKERS	15			
TS	TEST STATIONS	5			

REVISION	
NO.	DESCRIPTION
1	REVISED PER COMMENTS FROM LANGAN

Antero
MidstreamPartners LP

SOUTH CANTON PIPELINE
STA. 129+00 TO STA. 157+00

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
DRAWN BY: JDT (110)
CHECKED: JDT (110)

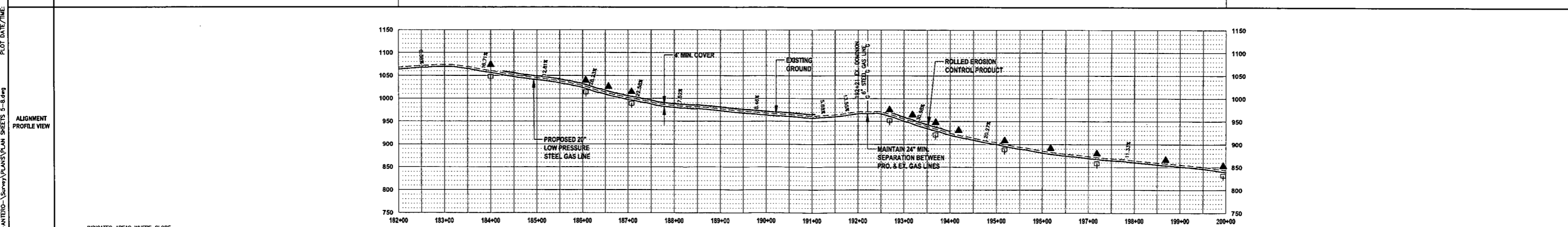
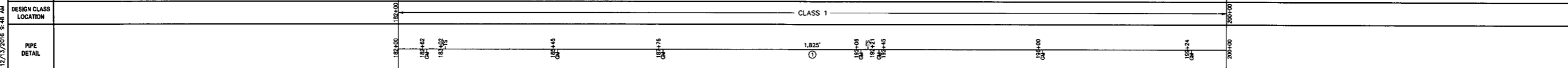
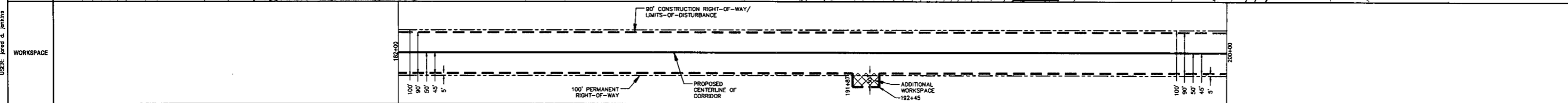
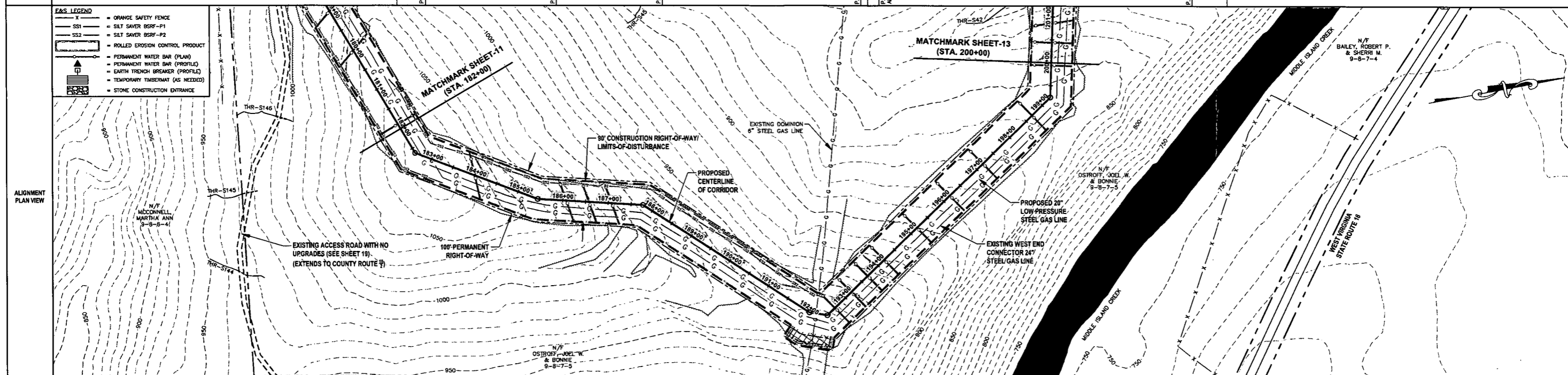
SHEET 10 OF 39
SHT. NAME: 050-6138\S.CANTON\PLAN6
REV. 1

- GENERAL INFORMATION**
- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig
PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12S), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
 - ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
 - ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36") FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

OWNERSHIP, PARCEL NO. & LENGTH (FT) OF PIPE

STATIONING & P.I. ANGLES

OSTROFF, JOEL W. & BONNIE
9-8-7-5
HORIZ. DIST. = 1,800'±
SLOPE DIST. = 1,825'±



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 100 200
HORIZ. SCALE IN FEET

0 100 200
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)	
20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE	1,825 LF
ROLLED EROSION CONTROL PRODUCT	73,582 SF
SS2 SILT SAVER BSRF-P2	1,321 LF
OSF ORANGE SAFETY FENCE	133 LF
TB EARTH TRENCH BREAKERS	8
WB PERMANENT WATERBARS	13
GM GAS LINE MARKERS	7
TS TEST STATIONS	2

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY
1	REVISED PER COMMENTS FROM LANGAN	12/13/16 DOJ

GENERAL INFORMATION

- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig
PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 83 (GEOID128), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
- ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
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- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
MidstreamPartners LP

SOUTH CANTON PIPELINE
STA. 182+00 TO STA. 200+00

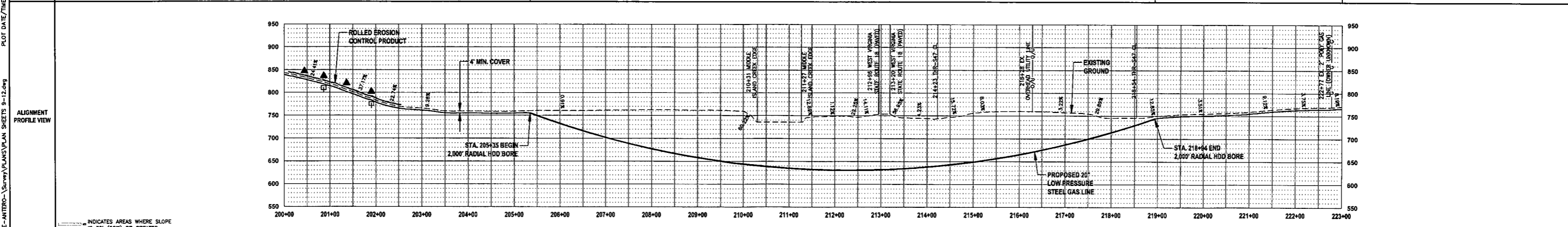
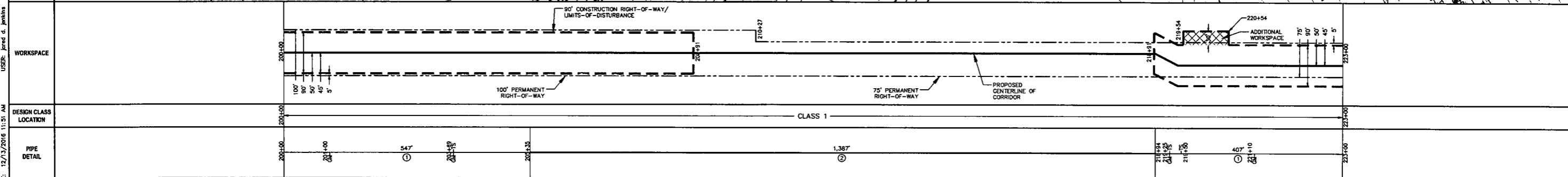
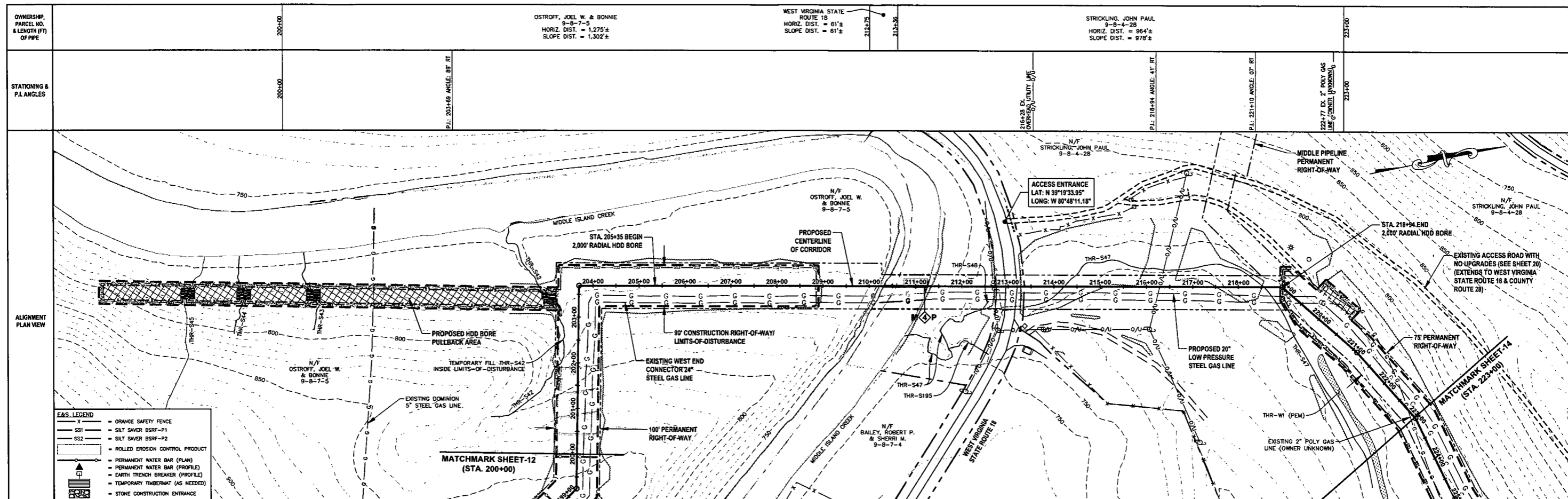
PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JST (JST)
CHECKED: JST (JST)

SHEET 12 OF 39

SHT. NAME: 050-6136\S.CANTON\PLAN8 REV.1

LAYOUT FILE: PLAN8.CAD FILE: R:\050-6136-S_CANTON_PIPELINE-ANTERO-SURVEY\PLANS\PLAN SHEETS\5-8.dwg PLOT DATE/TIME: 12/13/2016 9:48 AM USER: jared.d.jenkins



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 100 200
HORIZ. SCALE IN FEET
0 100 200
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)		SUMMARY OF MATERIALS (3D)	
NO.	DESCRIPTION	QTY	NO.
1	20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE	954 LF	
2	20" STEEL API 5L PSL-2, X-60, 0.500" WALL, ARO COATED PIPE	1,387 LF	
RECP	ROLLED EROSION CONTROL PRODUCT	21,715 SF	
SS1	SILT SAVER BSRF-P1	1,317 LF	
SS2	SILT SAVER BSRF-P2	2,171 LF	
OSF	ORANGE SAFETY FENCE	2,441 LF	
TB	EARTH TRENCH BREAKERS	2	
WB	PERMANENT WATERBARS	4	
GM	GAS LINE MARKERS	4	
TS	TEST STATIONS	3	
NO.	DESCRIPTION	QTY	NO.

SUMMARY OF MATERIALS (3D)		SUMMARY OF MATERIALS (3D)	
NO.	DESCRIPTION	QTY	NO.
1	REVISED PER COMMENTS FROM LANGAN		
REVISION			
NO.	DESCRIPTION	DATE	BY

GENERAL INFORMATION

- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig
PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 83 (GEOID12B), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
- ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
- ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
MidstreamPartners LP

SOUTH CANTON PIPELINE
STA. 200+00 TO STA. 223+00

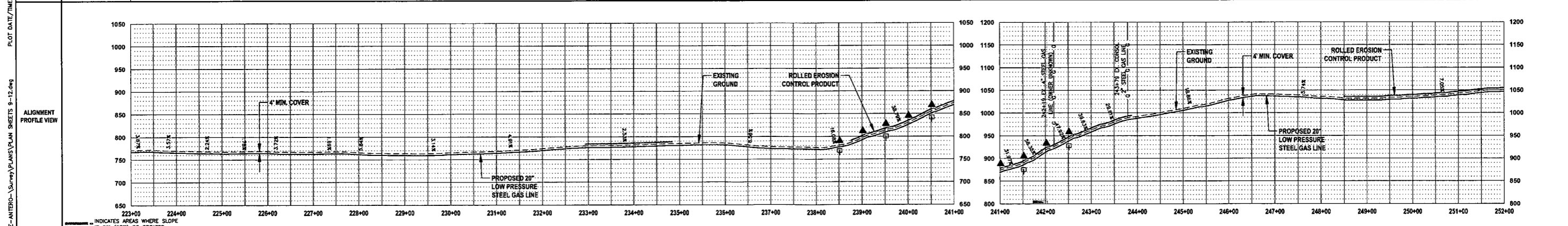
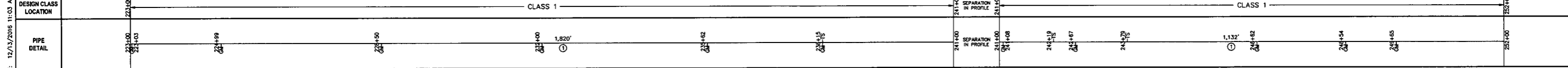
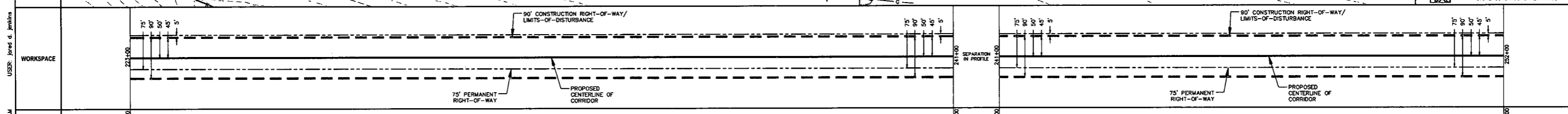
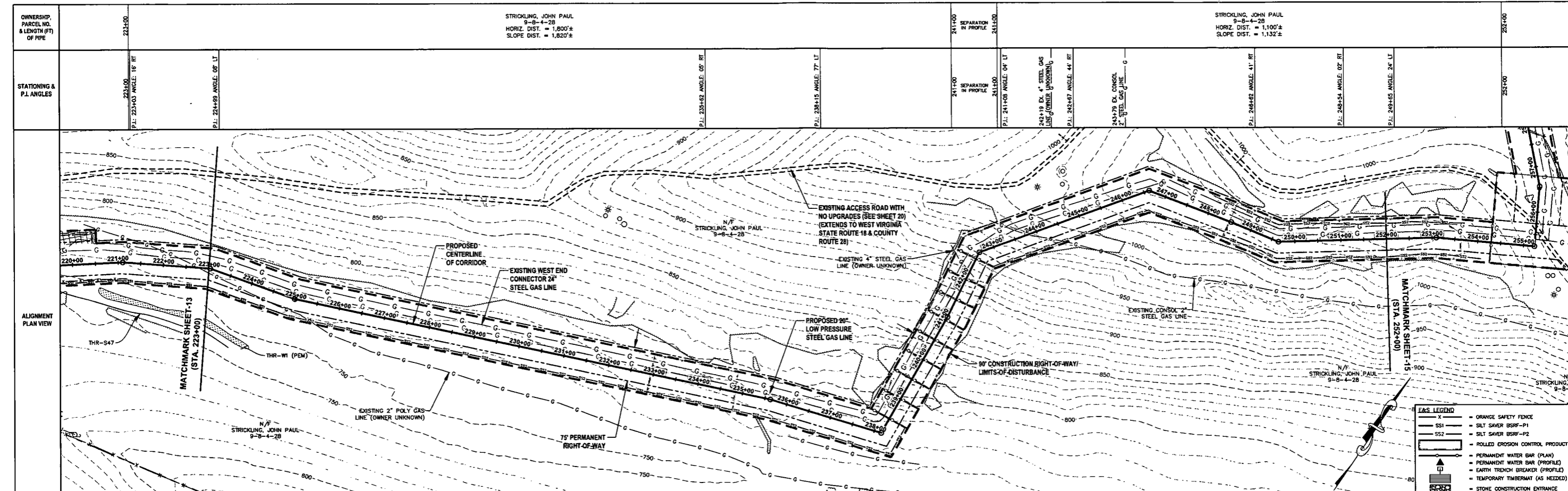
PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JLD (TSD)
CHECKED: JLD (TSD)

SHEET 13 OF 39

SHT. NAME: 050-6136\S.CANTON\PLAN9 REV. 1

LAYOUT THE PLANS CAD FILE: R:\050-6136-S_CANTON PIPELINE-ANTERO-Survey\PLANS\PLAN SHEETS 9-12.dwg PLOT DATE/TIME: 12/13/2016 11:51 AM USER: jared d. jenkins



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 100 200
HORIZ. SCALE IN FEET
0 100 200
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)	
① 20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE	2,952 LF
RECP ROLLED EROSION CONTROL PRODUCT	94,687 SF
SS1 SILT SAVER BSRF-P1	168 LF
SS2 SILT SAVER BSRF-P2	2,726 LF
TB EARTH TRENCH BREAKERS	5 NO.
WB PERMANENT WATERBARS	9
GM GAS LINE MARKERS	11
TS TEST STATIONS	3
NO.	DESCRIPTION

SUMMARY OF MATERIALS (3D)	
DESCRIPTION	QTY
REVISION	DATE BY
1 REVISED PER COMMENTS FROM LANGAN	12/13/16 JDU
NO.	DESCRIPTION

- GENERAL INFORMATION**
- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig
PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
 - COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
 - CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
 - FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
 - THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
 - ALL EXISTING FENCES AND ROADS DISTURBED DURING CONSTRUCTION TO BE REPLACED BY CONTRACTOR POST-CONSTRUCTION.
 - ALL SHEET BANDS EXCLUDING ALIGNMENT PLAN VIEW REFERENCE THE ALIGNMENT PROFILE VIEW.
 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

SOUTH CANTON PIPELINE
STA. 223+00 TO STA. 252+00

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

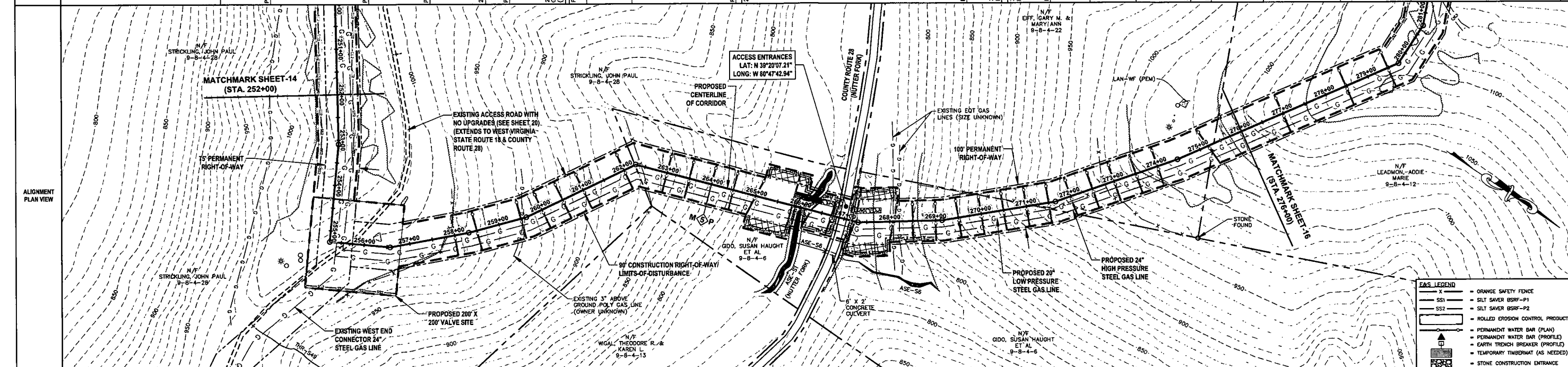
DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JDU (TDP)
CHECKED BY: JSM (TDP)

SHEET 14 OF 39

SHT. NAME: 050-6136\S.CANTON\PLAN10 REV. 1

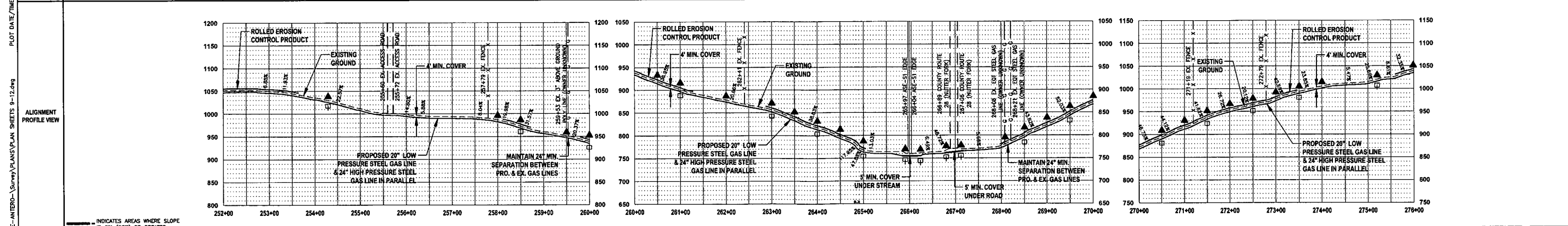
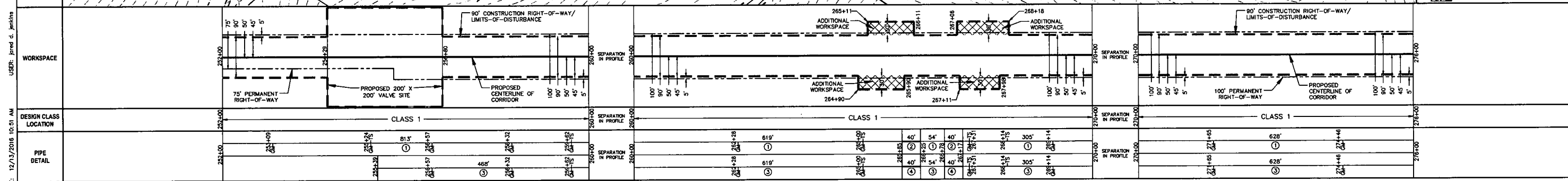
USER: Jared A. Jankins
 PLOT DATE/TIME: 12/13/2016 11:03 AM
 LAYOUT FILE: PLANO
 CAD FILE: R:\050-6136-S_CANTON_PIPELINE-ANTERO-Survey\PLANS\PLAN SHEETS 9-12.dwg

OWNERSHIP, PARCEL NO. & LENGTH (FT) OF PIPE	252+00	253+00	254+00	255+00	256+00	257+00	258+00	259+00	260+00	261+00	262+00	263+00	264+00	265+00	266+00	267+00	268+00	269+00	270+00	271+00	272+00	273+00	274+00	275+00	276+00
STATIONING & P.I. ANGLES		P.I.: 253+09 ANGLE: 0° RT	P.I.: 254+24 ANGLE: 89° LT	P.I.: 255+57 ANGLE: 16° LT	257+79 EX. FENCE X P.I.: 258+32 ANGLE: 05° LT	258+33 EX. FENCE X P.I.: 259+32 ANGLE: 05° LT	259+33 EX. FENCE X P.I.: 259+42 ANGLE: 11° LT	SEPARATION IN PROFILE	260+00	261+00	262+00	263+00	264+00	265+00	266+00	267+00	268+00	269+00	270+00	271+00	272+00	273+00	274+00	275+00	276+00
				STRICKLING, JOHN PAUL 9-8-4-28 HORIZ. DIST. = 800'± SLOPE DIST. = 813'±					SEPARATION IN PROFILE	STRICKLING, JOHN PAUL 9-8-4-28 HORIZ. DIST. = 225'± SLOPE DIST. = 237'±								SEPARATION IN PROFILE							



LEGEND

- X = ORANGE SAFETY FENCE
- SS1 = SILT SAVER BSRF-P1
- SS2 = SILT SAVER BSRF-P2
- = ROLLED EROSION CONTROL PRODUCT
- = PERMANENT WATER BAR (PLAN)
- = PERMANENT WATER BAR (PROFILE)
- = EARTH TRENCH BREAKER (PROFILE)
- = TEMPORARY TIMBERMAT (AS NEEDED)
- = STONE CONSTRUCTION ENTRANCE



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

0 100 200
HORIZ. SCALE IN FEET

0 100 200
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)		SUMMARY OF MATERIALS (3D)	
①	20" STEEL API 5L PSL-2, X-60, 0.375" WALL, FBE COATED PIPE	2,419 LF	GM
②	20" STEEL API 5L PSL-2, X-60, 0.500" WALL, ARO COATED PIPE	80 LF	TS
③	24" STEEL API 5L PSL-2, X-60, 0.500" WALL, FBE COATED PIPE	2,074 LF	
④	24" STEEL API 5L PSL-2, X-65, 0.500" WALL, ARO COATED PIPE	80 LF	
RECP	ROLLED EROSION CONTROL PRODUCT	105,498 SF	
SS1	SILT SAVER BSRF-P1	658 LF	
SS2	SILT SAVER BSRF-P2	1,002 LF	
OSF	ORANGE SAFETY FENCE	1,003 LF	
TB	EARTH TRENCH BREAKERS	35	
WB	PERMANENT WATERBARS	32	
NO.	DESCRIPTION	QTY	

SUMMARY OF MATERIALS (3D)		SUMMARY OF MATERIALS (3D)	
①	GAZ LINE MARKERS	20	
②	TEST STATIONS	9	
REVISION			
1	REVISED PER COMMENTS FROM LANGAN	12/13/16	DL
NO.	DESCRIPTION	DATE	BY

GENERAL INFORMATION

- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig
PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
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- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING WERE OBTAINED FROM PARTIAL FIELD SURVEY AND RESEARCH 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.
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- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

SOUTH CANTON PIPELINE
STA. 252+00 TO STA. 276+00

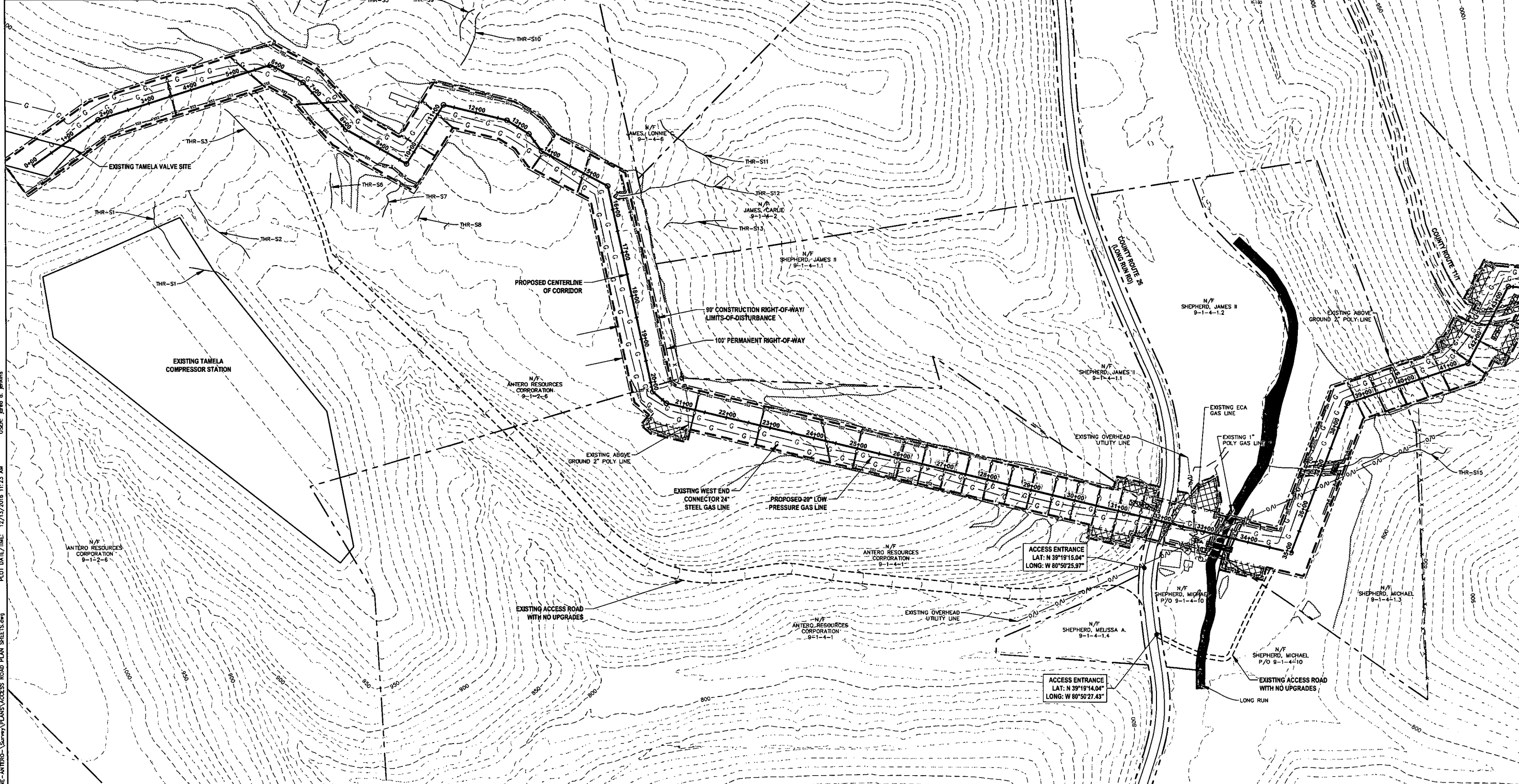
PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JLU (TIG)
CHECKED: JLU (TIG)

SHEET 15 OF 39
SHT. NAME: 050-6136\5.CANTON\PLAN11
REV. 1

USER: jared d. jenkins
 PLOT DATE/TIME: 12/13/2016 10:51 AM
 LAYOUT FILE: PLAN11
 CAB FILE: R:\050-6136\5.CANTON PIPELINE-ANTERO-SURVEY\PLANS\PLAN SHEETS 9-12.dwg

- EAS LEGEND**
- ORANGE SAFETY FENCE
 - S11 - SILT SAVER BSRF-P1
 - S22 - SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - PERMANENT WATER BAR (PLAN)
 - PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - TEMPORARY TIMBERMAT (AS NEEDED)
 - STONE CONSTRUCTION ENTRANCE



LAYOUT FILE: AR1
 CAD FILE: R:\050-6136-S_CANTON_PIPELINE-ANTERO-Survey\PLANS\ACCESS ROAD PLAN SHEETS.dwg
 USER: Irand G. Jenkins
 PLOT DATE/TIME: 12/13/2016 11:23 AM

THRASHER

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

IFP

ISSUED FOR PERMITTING
 DATE: 12/06/2016
 AFE # A04766

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 83 (GEOID12B), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, THE THRASHER GROUP.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
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- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
 MidstreamPartners LP

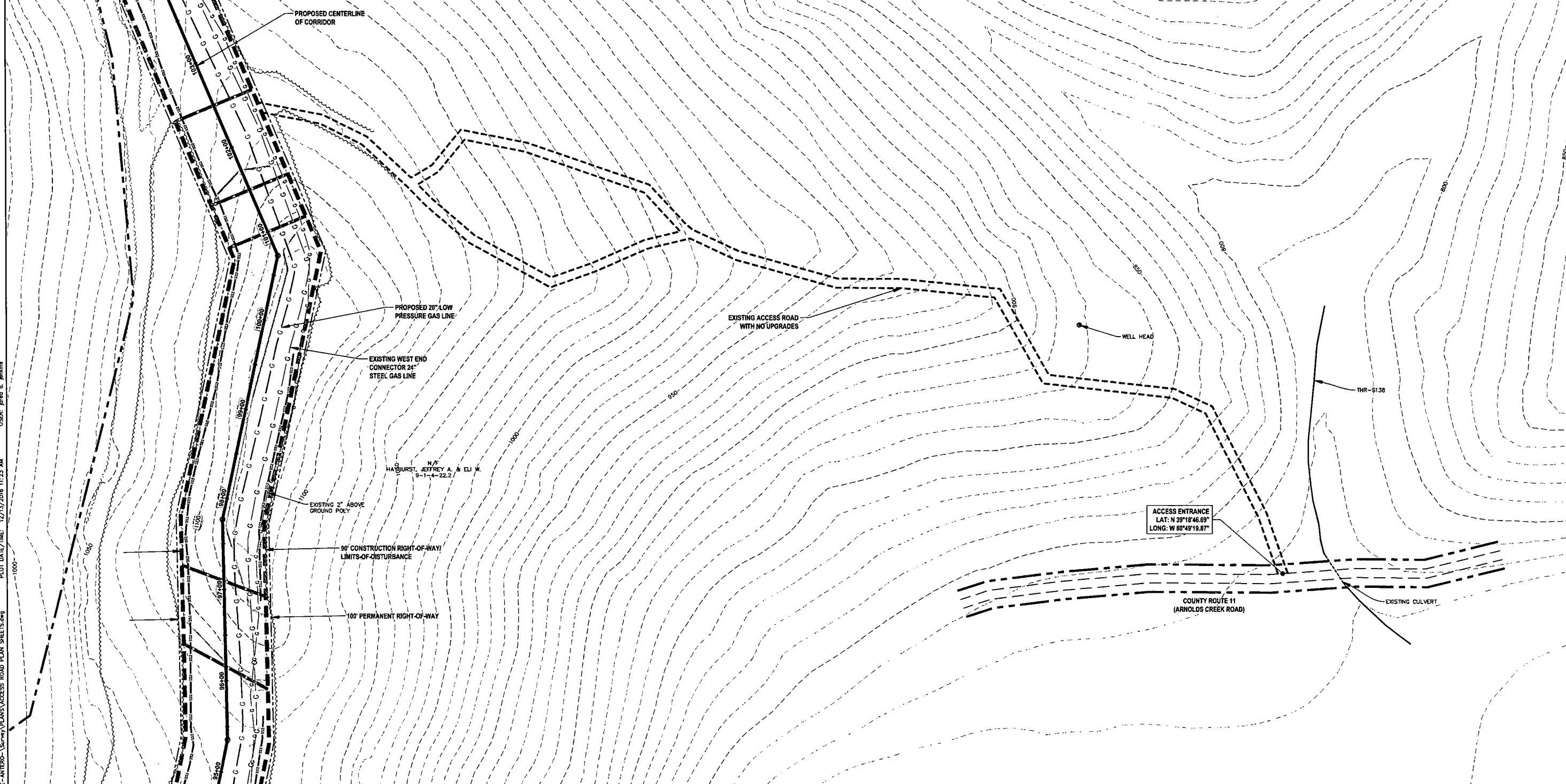
**SOUTH CANTON PIPELINE
 ACCESS ROAD PLAN SHEET**

PROPOSED 20" LOW PRESSURE STEEL GAS LINE
 & 24" HIGH PRESSURE STEEL GAS LINE
 DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
 SCALE: AS SHOWN
 DRAWN BY: JRL (TTO)
 CHECKED: JRL (TTO)

SHEET 17 OF 39
 SHT. NAME: 050-6136\S.CANTON\AR1
 REV. 1

E&S LEGEND	
[Symbol]	ORANGE SAFETY FENCE
[Symbol]	SILT SAVER (BSRF-P1)
[Symbol]	SILT SAVER (BSRF-P2)
[Symbol]	ROLLED EROSION CONTROL PRODUCT
[Symbol]	PERMANENT WATER BAR (PLAN)
[Symbol]	PERMANENT WATER BAR (PROFILE)
[Symbol]	EARTH TRENCH BREAKER (PROFILE)
[Symbol]	TEMPORARY TIMBERMAT (AS NEEDED)
[Symbol]	STONE CONSTRUCTION ENTRANCE



LAYOUT TAB: A02
 CAD FILE: R:\050-6136-S_CANTON PIPELINE-ANTERO-SURVEY PLANS\ACCESS ROAD PLAN SHEETS.dwg
 USR: Jerald G. Jenkins
 PLOT DATE/TIME: 12/13/2016 11:23 AM

THRASHER

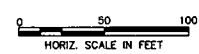


IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766



SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (200128), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
- FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, THE THRASHER GROUP.
- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
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- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
MidstreamPartners LP

SOUTH CANTON PIPELINE ACCESS ROAD PLAN SHEET

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE DODDRIDGE COUNTY, WEST VIRGINIA

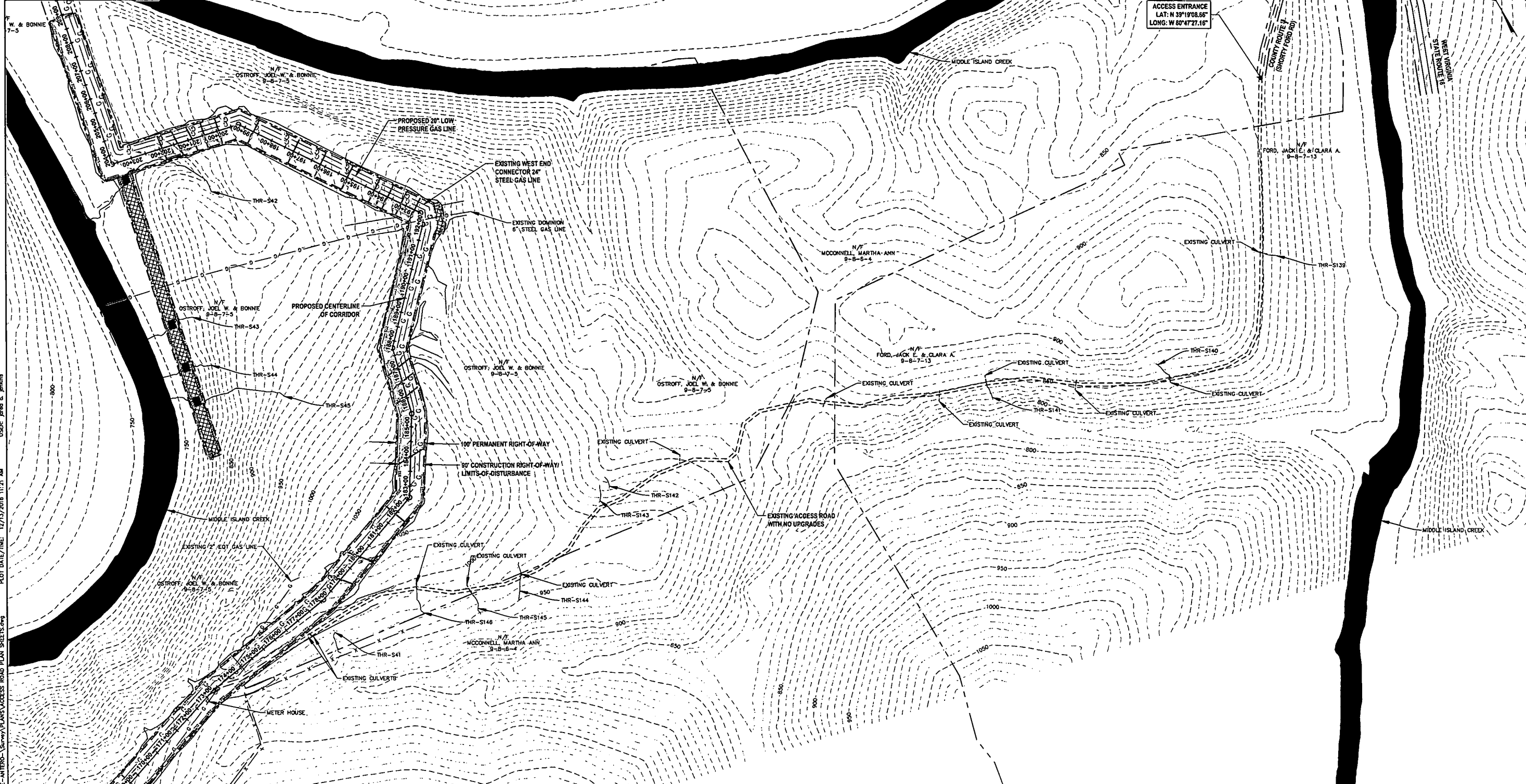
DATE: 12/13/2016 AFE No: A04766
 SCALE: AS SHOWN
 DRAWN BY: JGI (TJD)
 CHECKED: JGI (TJD)

SHEET 18 OF 39

SHT. NAME: 050-6136\S_CANTON_AR2 REV. 1

EAS LEGEND

— X —	ORANGE SAFETY FENCE
SS1	SILT SAVER BS9F-P1
SS2	SILT SAVER BS9F-P2
— [] —	ROLLED EROSION CONTROL PRODUCT
— [] —	PERMANENT WATER BAR (PLAN)
— [] —	PERMANENT WATER BAR (PROFILE)
— [] —	EARTH TRENCH BREAKER (PROFILE)
— [] —	TEMPORARY TIMBERMAT (AS NEEDED)
— [] —	STONE CONSTRUCTION ENTRANCE



LAYOUT PLS. A33
 CSD FILE: R:\050-6136\S\CANTON PIPELINE-ANTERO\SURVEY\PLANS\ACCESS ROAD PLAN SHEETS.dwg
 USER: Jared G. Jambura
 PLOT DATE/TIME: 12/13/2016 11:21 AM

THRASHER

Know what's at stake
Call 811
 BEFORE YOU DIG

DATE: 12/06/2016
 AFE # A04766

IFP
 ISSUED FOR PERMITTING

DATE: 12/06/2016
 AFE # A04766

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 83 (GEOID12B), U.S. SURVEY FOOT
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- CENTERLINE STATION DEPICTED PERTAINS TO THE CENTER OF THE PERMITTED CORRIDOR. IT IS NOT A DIRECT REPRESENTATION OF WHERE THE PIPELINE WILL BE INSTALLED. INSTALLATION WITHIN THE PERMITTED CORRIDOR WILL BE COORDINATED IN THE FIELD BY ANTERO CONSTRUCTION REPRESENTATIVE.
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- THE BOUNDARY MONUMENTS FOUND AND PROPERTY LINES SHOWN ON THIS DRAWING 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.
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- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
 Midstream Partners LP

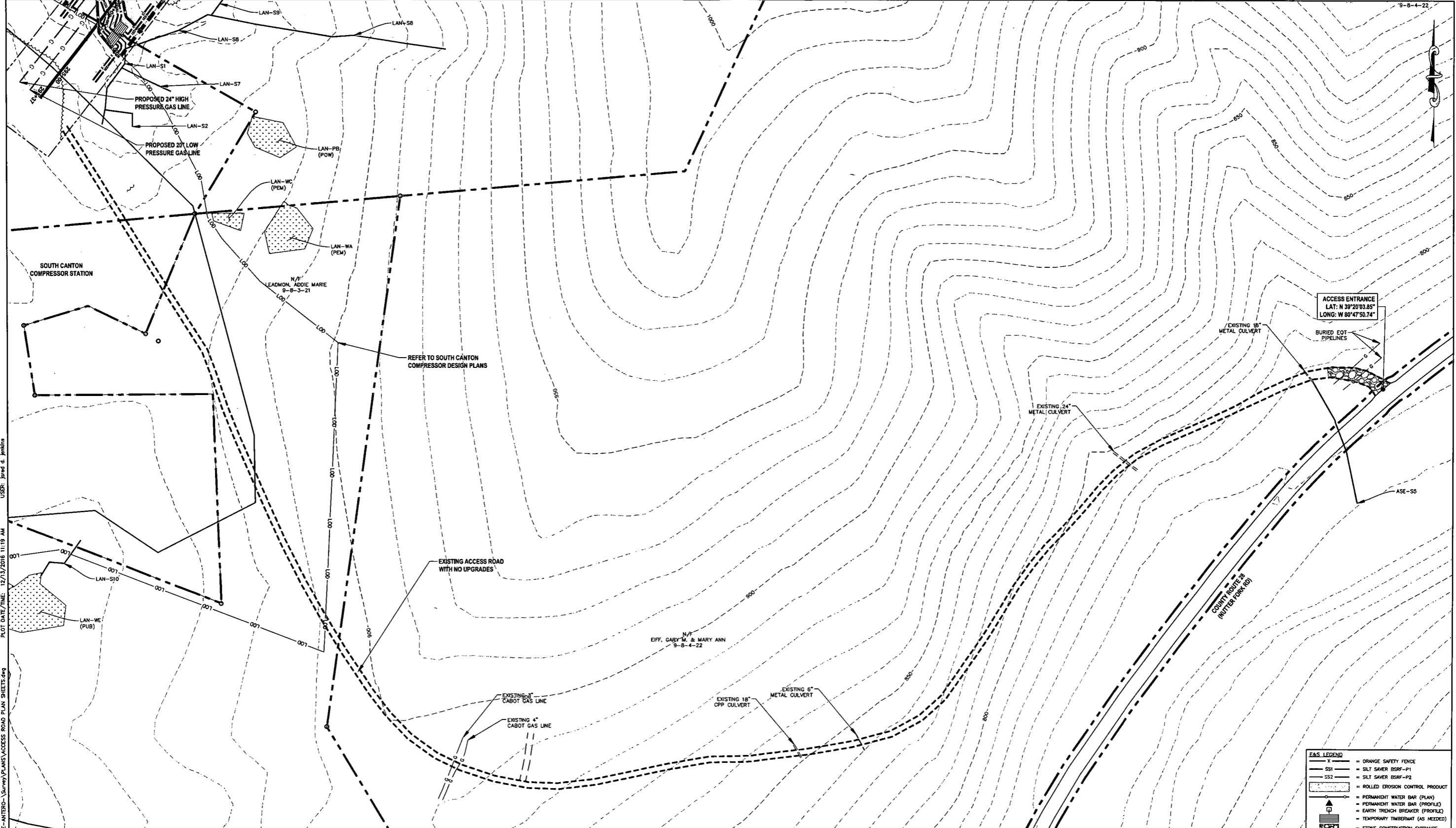
SOUTH CANTON PIPELINE ACCESS ROAD PLAN SHEET

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
 DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
 SCALE: AS SHOWN
 DRAWN BY: JGJ (TIT)
 CHECKED BY: JST (TIT)

SHEET 19 OF 39

SHT. NAME: 050-6136\S\CANTON\AR3 REV.1



LAYOUT FILE: AFE_050-6136-S_CANTON_PIPELINE-ANTERO-SURVEY-PLANS-ACCESS-ROAD-PLAN-SHEETS.dwg
 PLOT DATE/TIME: 12/13/2016 11:19 AM
 USER: Jerald S. Jenkins

E&S LEGEND

	ORANGE SAFETY FENCE
	SILT SAVER (BSRF-P1)
	SILT SAVER (BSRF-P2)
	ROLLED EROSION CONTROL PRODUCT
	PERMANENT WATER BAR (PLAN)
	PERMANENT WATER BAR (PROFILE)
	EARTH TRENCH BREAKER (PROFILE)
	TEMPORARY TIMBERMAT (AS HEADED)
	STONE CONSTRUCTION ENTRANCE

THRASHER

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

HORIZ. SCALE IN FEET
 0 50 100

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

NO.	DESCRIPTION	QTY

NO.	DESCRIPTION	QTY

NO.	DESCRIPTION	DATE	BY
1	REVISED PER COMMENTS FROM LANGAN	12/13/16	JGJ

- GENERAL INFORMATION**
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
 - ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
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 - THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"), FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 - FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

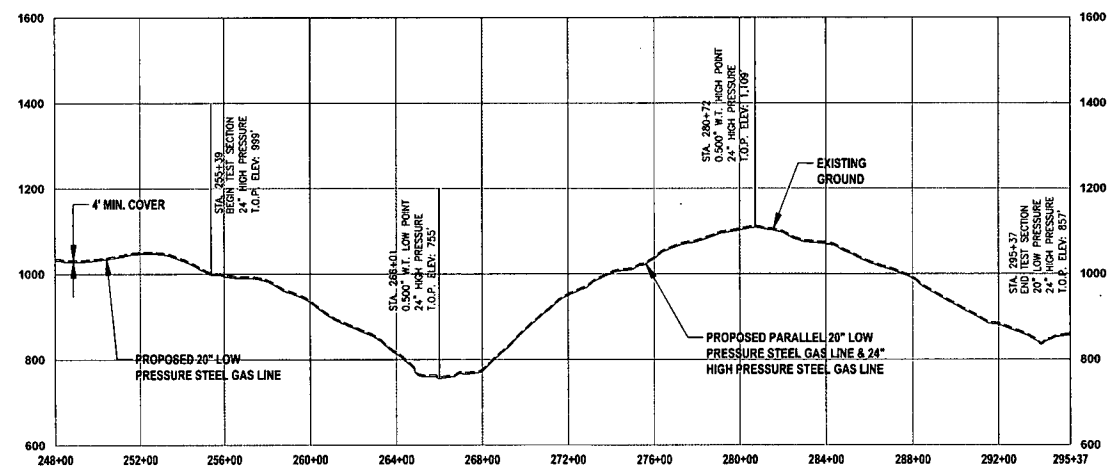
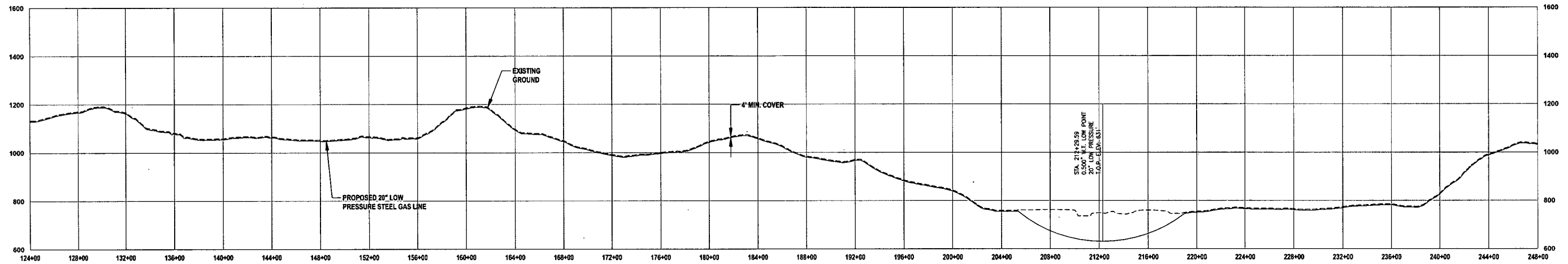
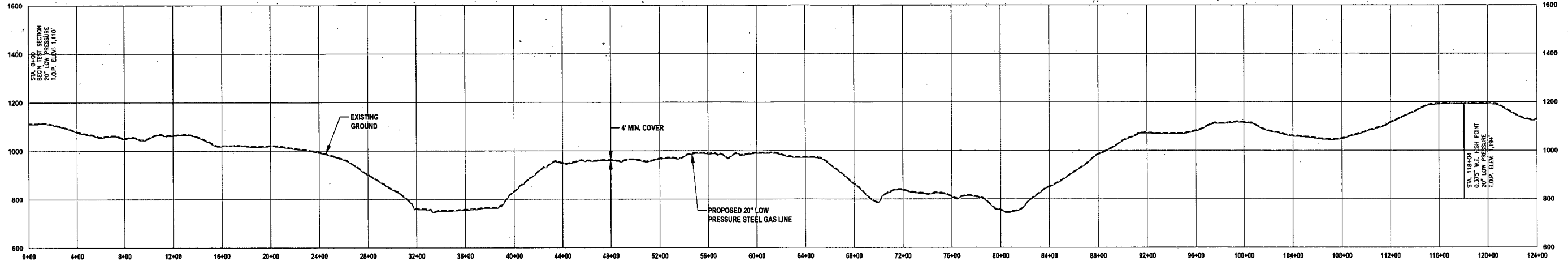
Antero
 Midstream Partners LP

SOUTH CANTON PIPELINE ACCESS ROAD PLAN SHEET

PROPOSED 20" LOW PRESSURE STEEL GAS LINE & 24" HIGH PRESSURE STEEL GAS LINE
 DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016 AFE No: A04766
 SCALE: AS SHOWN
 DRAWN BY: JGJ (TJG)
 CHECKED BY: JGJ (TJG)
 SHEET 21 OF 39
 SHT. NAME: 050-6136\S.CANTON\AR5 REV. 1

LAYOUT: AFE_HTP CAD FILE: R:\050-6136-S_CANTON PIPELINE-ANTERO-SURVEY\PLANS\HYDROSTATIC PROFILE SHEET.dwg USER: jerrid.d.jenkins PLOT DATE/TIME: 12/13/2016 11:28 AM



HYDROSTATIC TEST (20" LOW PRESSURE)		
	Station	Elevation (ft msl)
Start Point (Tameia Valve Site)	0+00	1110
Low Point (0.500 wt X-60)	212+29.59	631
High Point (0.375 wt X-60)	118+04	1194
End Point (South Canton CS)	295+37	857
Differential (0.375 wt X-60)		563
Static Head Pressure @ 631' (0.375 wt X-60) PSI		243.9479

HYDROSTATIC TEST (24" HIGH PRESSURE)		
	Station	Elevation (ft msl)
Start Point	255+39	999
Low Point (0.500 wt X-65)	266+01	755
High Point (0.500 wt X-65)	280+72	1109
End Point (South Canton CS)	295+37	857
Differential (0.500 wt X-65)		354
Static Head Pressure @ 755' (0.500 wt X-65) PSI		153.3882

THRASHER

Know what's at stake
Call 811
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0 400 800
HORIZ. SCALE IN FEET

0 200 400
VERT. SCALE IN FEET

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

GENERAL INFORMATION		
1.	PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig; PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig	
2.	REFER TO ANTERO MIDSTREAM PRESSURE TESTING PROCEDURE.	
3.	COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT	
4.	ALL STATIONING SHOWN IS HORIZONTAL STATIONING.	
5.	THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.	

Antero
Midstream Partners LP

**SOUTH CANTON PIPELINE
HYDROSTATIC TEST PROFILE**

PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016 AFE No.: A04766

SCALE: AS SHOWN

DRAWN BY: JJJ (TJD)

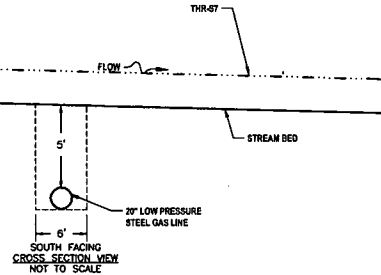
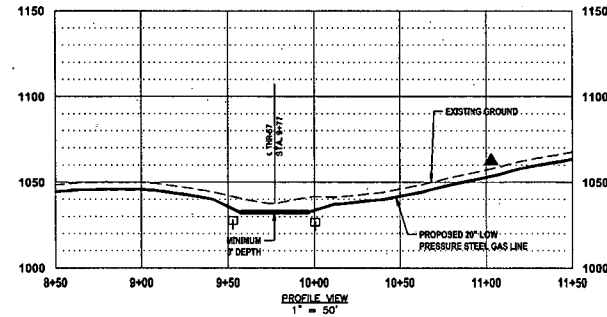
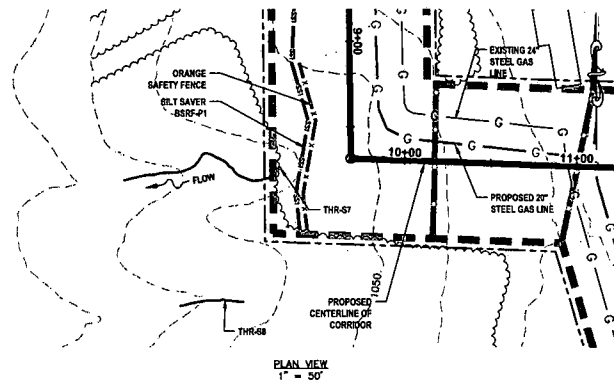
CHECKED BY: JJJ (TJD)

SHEET 22 OF 39

SHT. NAME: 050-6136\S_CANTON\HTP

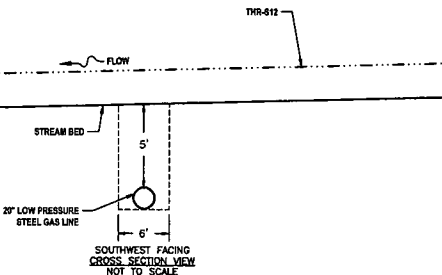
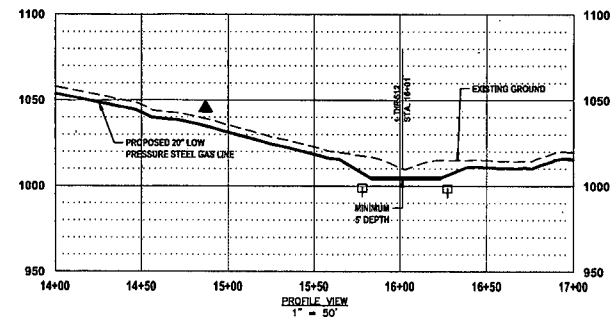
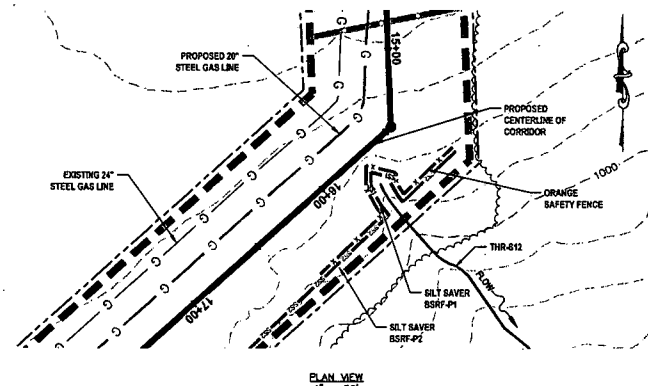
REV. 1

**STREAM CROSSING 1
THR-S7**



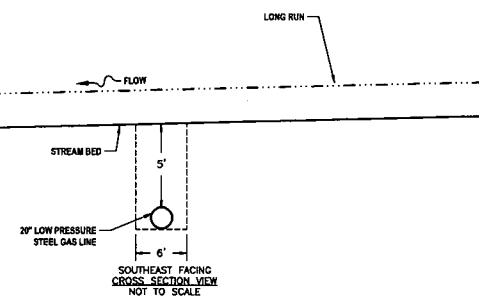
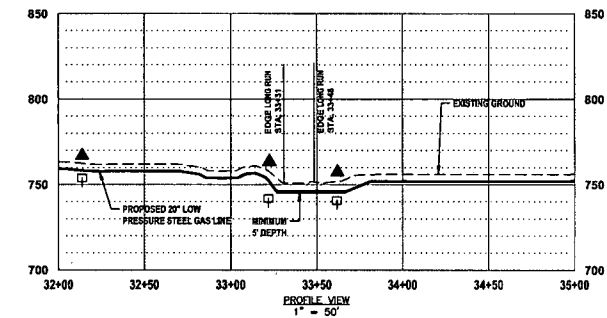
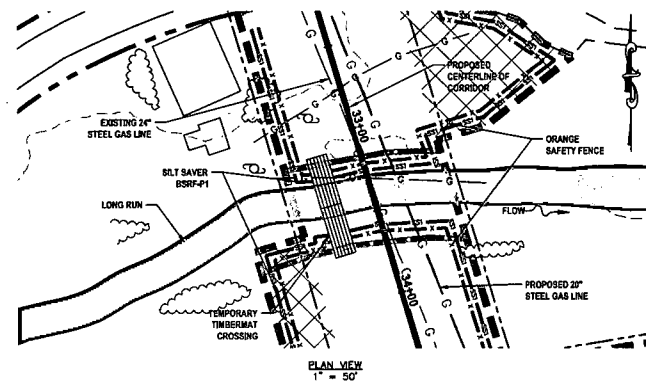
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 1.5'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRF-P1
 - SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 2
THR-S12**



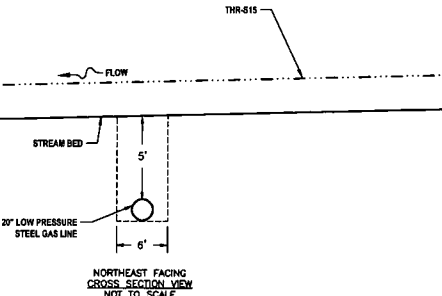
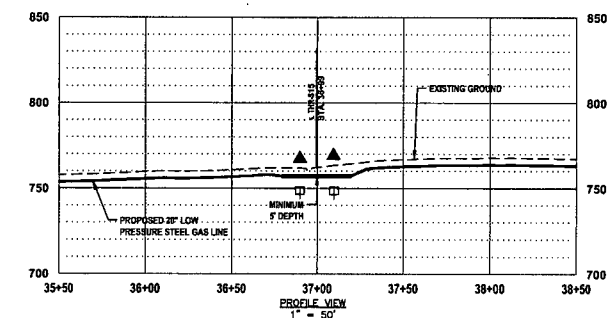
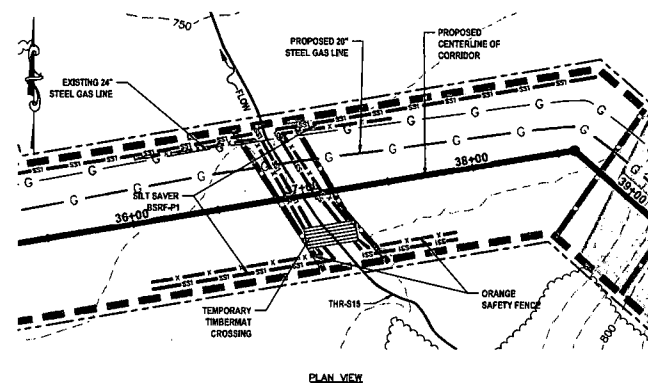
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRF-P1
 - SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 3
LONG RUN**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: PERENNIAL
STREAM TOP OF BANK WIDTH: 22.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRF-P1
 - SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 4
THR-S15**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: INTERMITTENT
STREAM TOP OF BANK WIDTH: 4.3'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRF-P1
 - SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

LAYOUT FILE: SWACT; CAD FILE: R:\050-6136-S_CANTON PIPELINE-ANTERO-SURVEY\PLANS\STREAM AND WETLAND CROSSING SHEETS.dwg USER: jared.d.welton PLOT DATE/TIME: 12/13/2016 11:35 AM

THRASHER

Know what's at stake?
Call 811
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IFP

ISSUED FOR PERMITTING
DATE: 12/06/2016
AFE # A04766

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig; PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
- FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

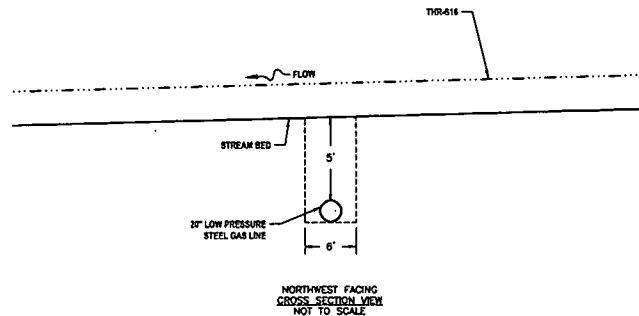
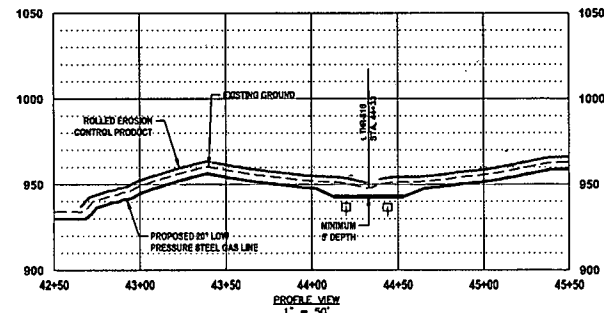
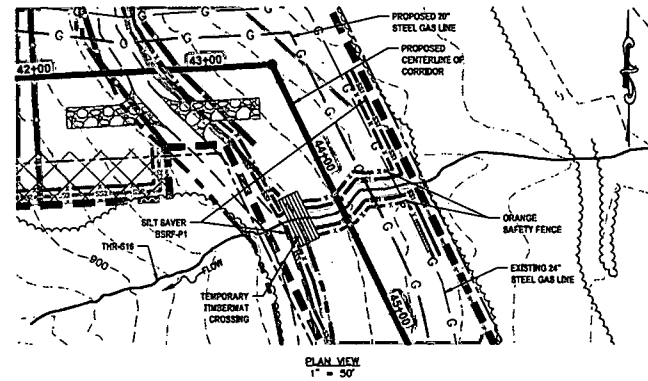
Antero
Midstream Partners LP

**SOUTH CANTON PIPELINE
STREAM & WETLAND CROSSINGS**

PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

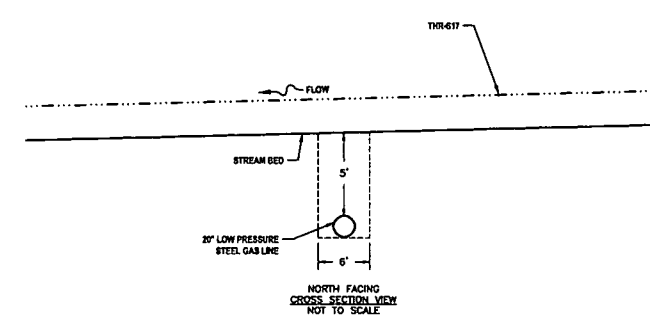
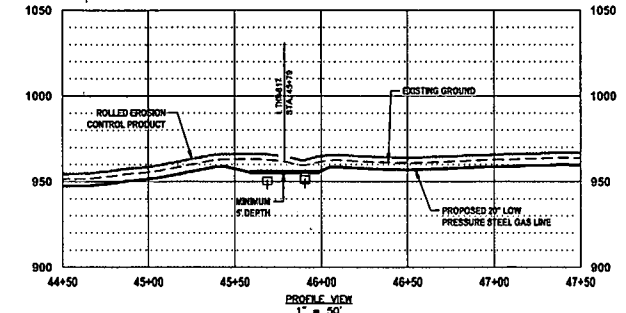
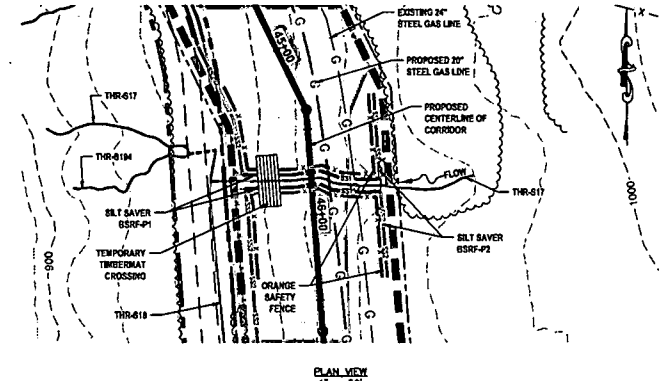
DATE: 12/13/2016 AFE No: A04766
SCALE: AS SHOWN
DRAWN BY: JAW (TTC)
CHECKED: JAW (TTC)
SHEET 23 OF 39
SHT. NAME: 050-6136\S.CANTON\S\WC1 REV. 1

**STREAM CROSSING 5
THR-S16**



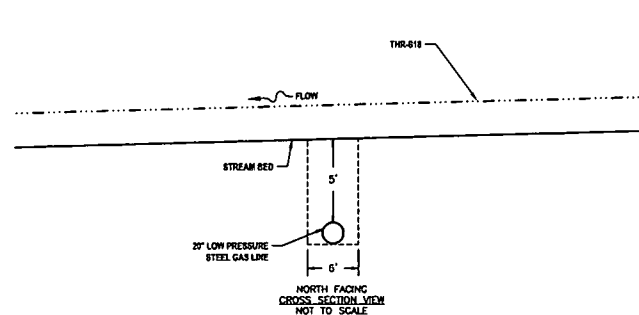
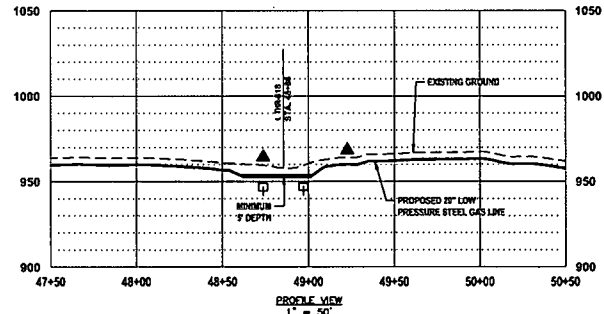
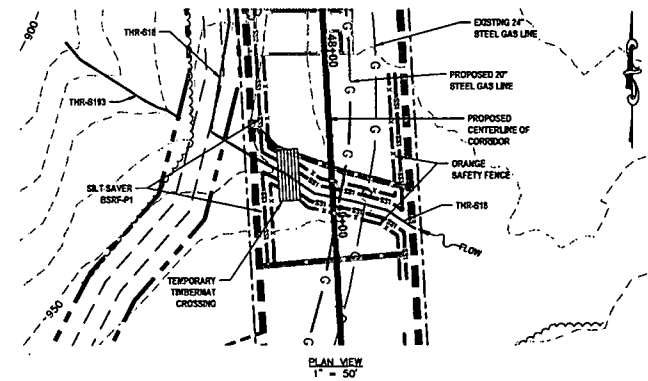
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 1.3'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SILT SAVER BSRF-P1
 - SS2 SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/GRAVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 6
THR-S17**



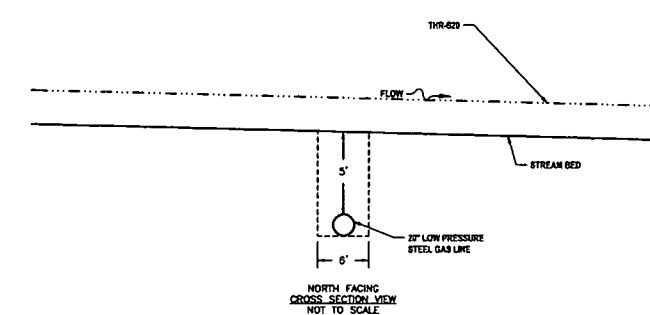
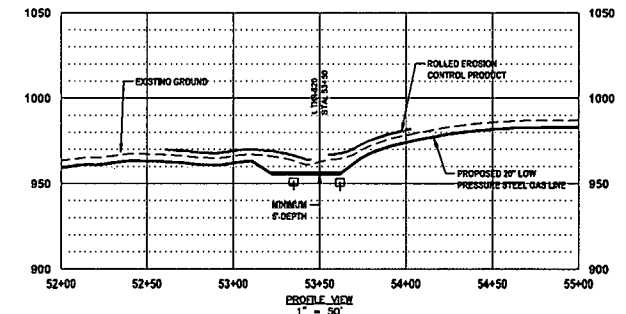
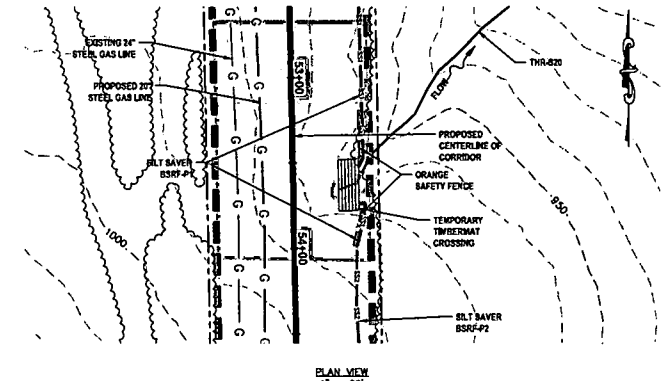
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 0.3'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SILT SAVER BSRF-P1
 - SS2 SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/GRAVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 7
THR-S18**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.3'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SILT SAVER BSRF-P1
 - SS2 SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/GRAVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 8
THR-S20**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 1.3'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SILT SAVER BSRF-P1
 - SS2 SILT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/GRAVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 E OF PROPOSED CORRIDOR WITH STATIONING

LAYOUT P.L.S. SAME; CAD FILE: R:\050-6136-S_CANTON_PIPELINE-INTERIOR\3d\plan\STREAM AND WETLAND CROSSING SHEETS.dwg; PLOT DATE/TIME: 12/13/2016 8:46 AM; USER: Jared d. Jamboree

THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

GENERAL INFORMATION		
1.	PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig; PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig	
2.	COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT	
3.	FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.	
4.	ALL STATIONING SHOWN IS HORIZONTAL STATIONING.	
5.	THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.	
6.	FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.	

Antero
Midstream Partners LP

**SOUTH CANTON PIPELINE
STREAM & WETLAND CROSSINGS**

PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016 (REV. No.) 481763

SCALE: AS SHOWN

DRAWN BY: JAJ (1110)

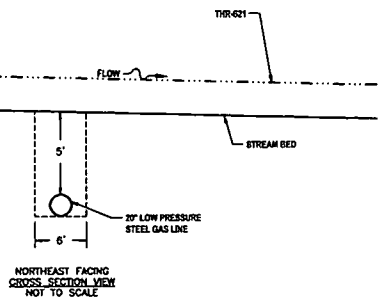
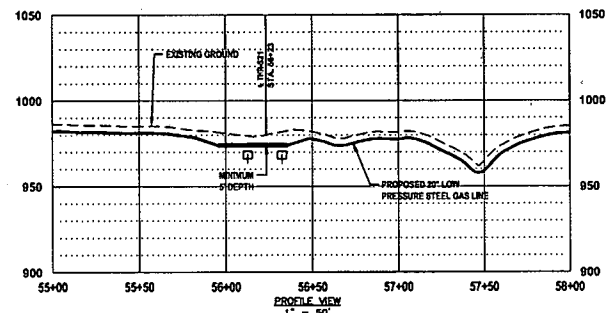
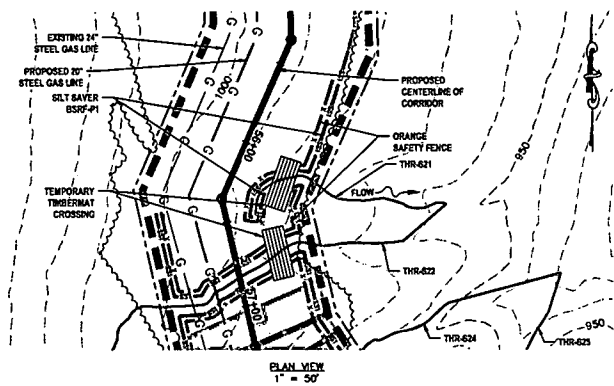
CHECKED BY: JAJ (1110)

SHEET 24 OF 39

SHT. NAME: 050-6136\S_CANTON\SWC2

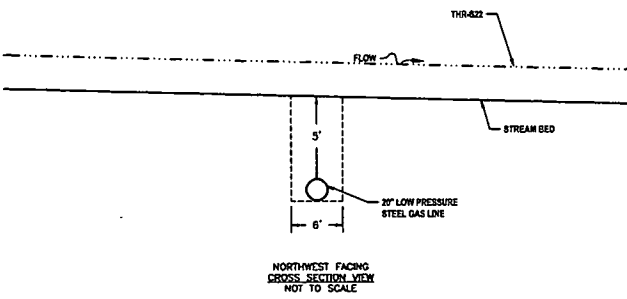
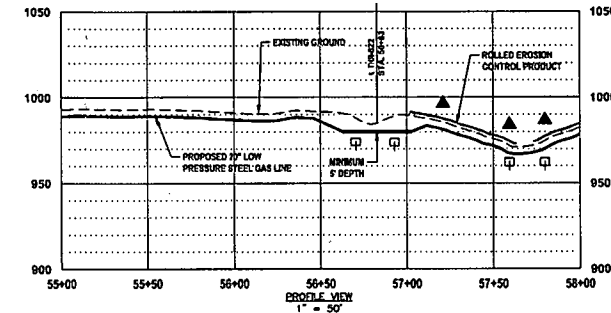
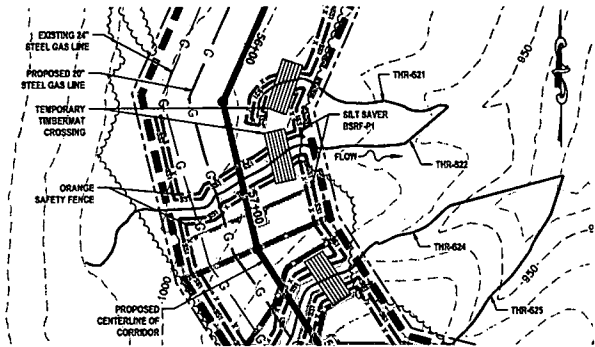
REV. 1

**STREAM CROSSING 9
THR-S21**



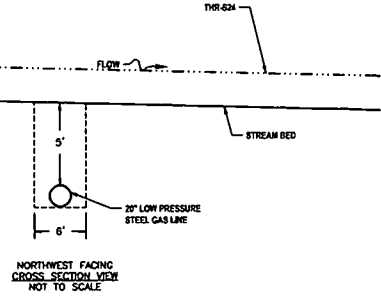
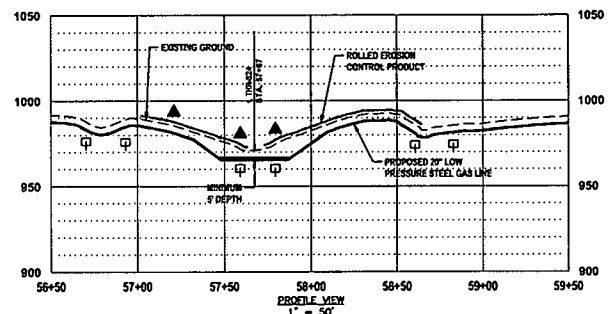
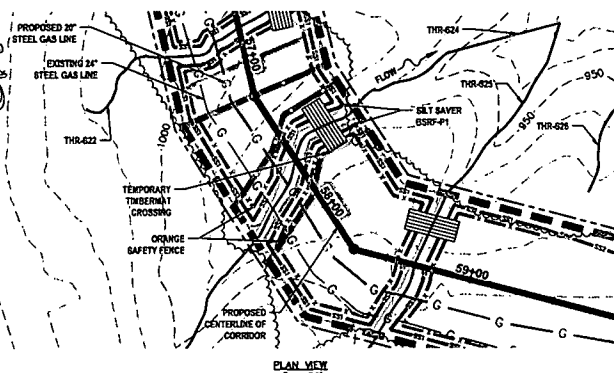
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 1.1'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SALT SAVER BSRF-P1
 - SS2 SALT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEWAY ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 10
THR-S22**



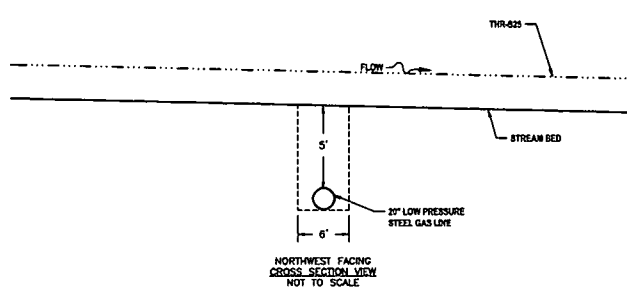
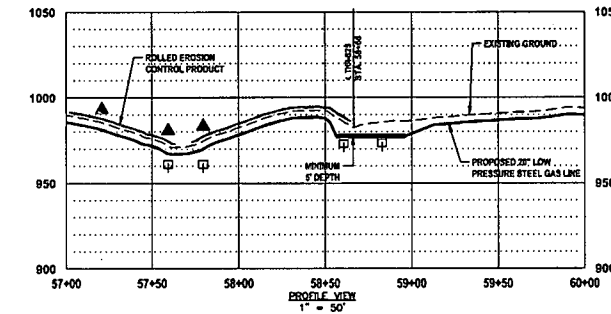
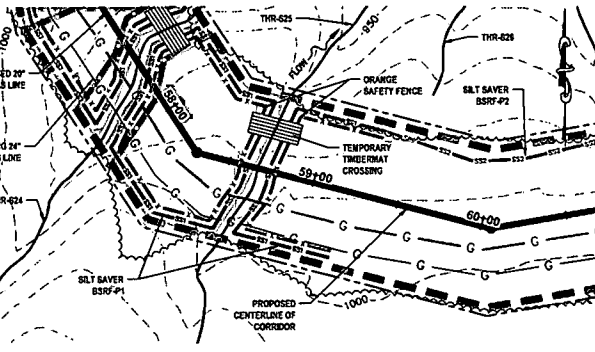
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SALT SAVER BSRF-P1
 - SS2 SALT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEWAY ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 11
THR-S24**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: INTERMITTENT
STREAM TOP OF BANK WIDTH: 3.1'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SALT SAVER BSRF-P1
 - SS2 SALT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEWAY ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 12
THR-S25**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.6'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - X ORANGE SAFETY FENCE
 - SS1 SALT SAVER BSRF-P1
 - SS2 SALT SAVER BSRF-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEWAY ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING

LAYOUT FILE: S:\WORK\134-S_CANTON_PIPELINE-ANTERO\SURVEY\PLAN\STREAM AND WETLAND CROSSING SHEETS.dwg USER: Jared d. Jenkins PLOT DATE/TIME: 12/13/2016 8:50 AM



IFP
ISSUED FOR PERMITTING
DATE: 12/06/2016
AFE # A04766

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

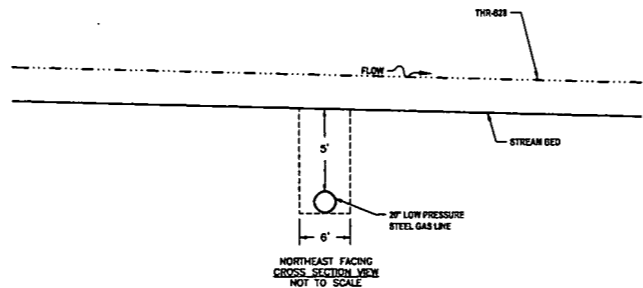
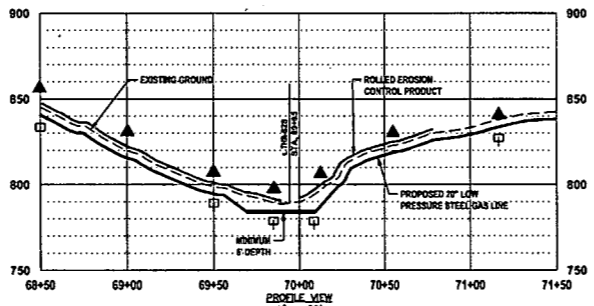
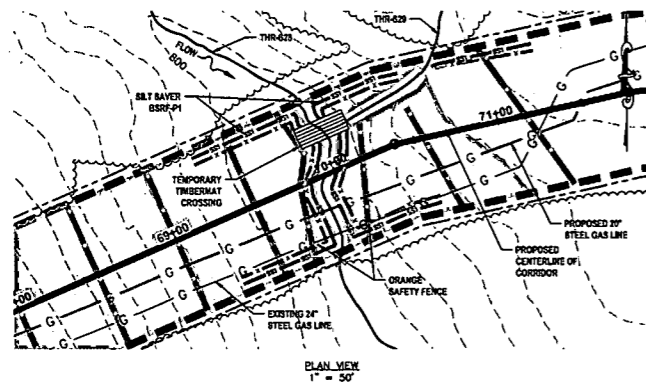
SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

GENERAL INFORMATION		
1.	PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig; PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig	
2.	COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT	
3.	FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.	
4.	ALL STATIONING SHOWN IS HORIZONTAL STATIONING.	
5.	THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.	
6.	FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.	

Antero
Midstream Partners LP
**SOUTH CANTON PIPELINE
STREAM & WETLAND CROSSINGS**
PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

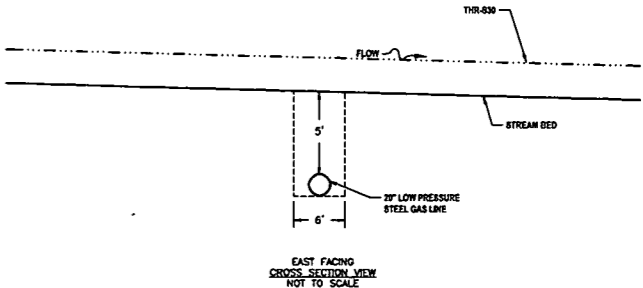
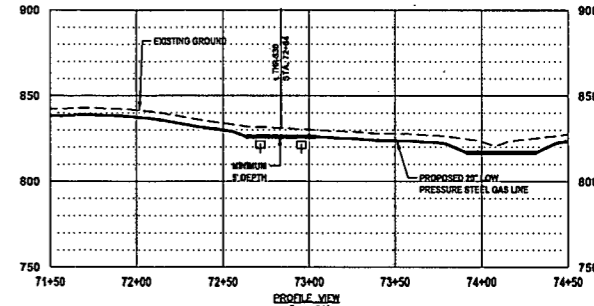
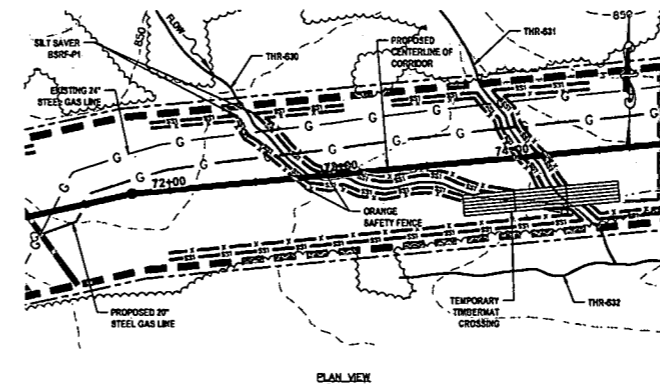
DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JDU (TTO)
CHECKED: JDU (TTO)
SHEET 25 OF 39
SHT. NAME: 050-6136\S.CANTON\5&WC3 REV. 1

**STREAM CROSSING 13
THR-S28**



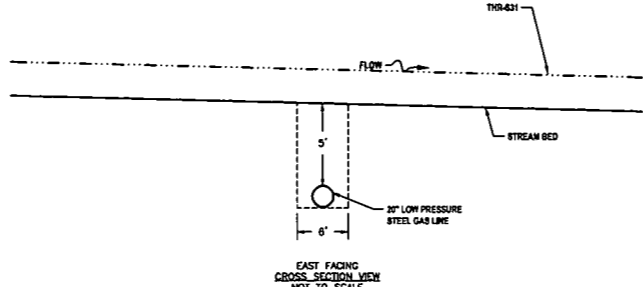
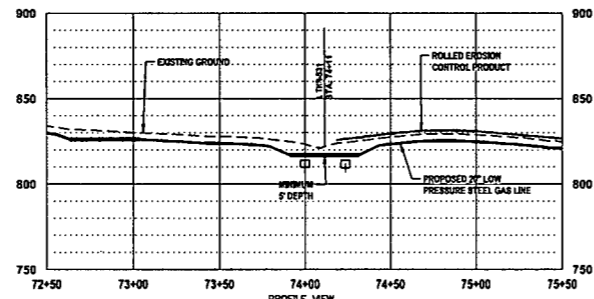
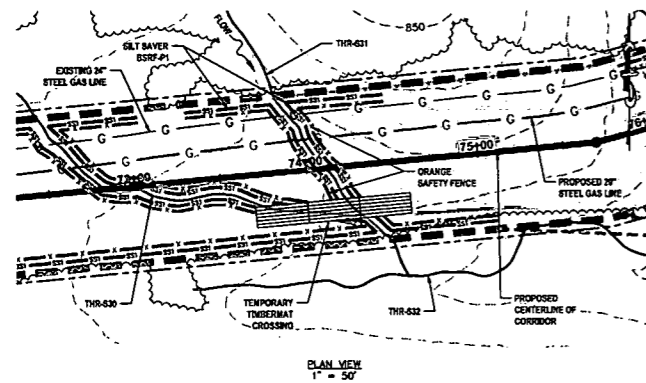
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: INTERMITTENT
STREAM TOP OF BANK WIDTH: 1.3'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELMARKED STREAM
 - DELMARKED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 71+00 ± OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 14
THR-S30**



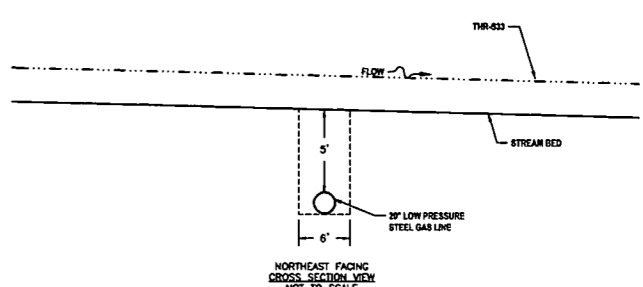
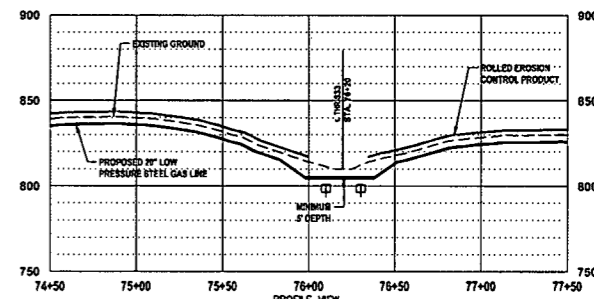
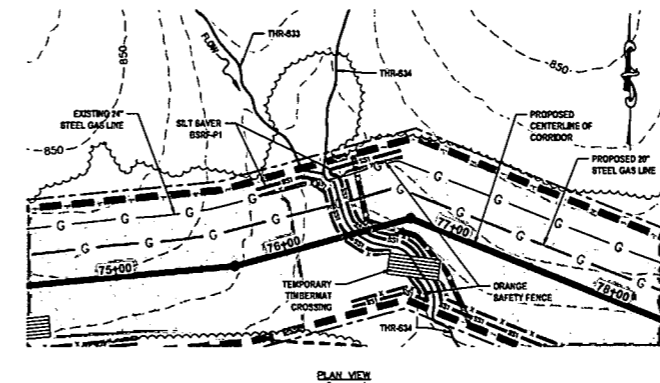
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.2'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELMARKED STREAM
 - DELMARKED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 71+00 ± OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 15
THR-S31**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 3.4'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELMARKED STREAM
 - DELMARKED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 71+00 ± OF PROPOSED CORRIDOR WITH STATIONING

**STREAM CROSSING 16
THR-S33**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 3.4'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELMARKED STREAM
 - DELMARKED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 71+00 ± OF PROPOSED CORRIDOR WITH STATIONING

LAYOUT FILE: C:\WORK\050-6136\S\CANTON PIPELINE-ANTERO-STREAM AND WETLAND CROSSING SHEETS.dwg
CADD FILE: 050-6136\S\CANTON PIPELINE-ANTERO-STREAM AND WETLAND CROSSING SHEETS.dwg
USER: jared.g.jenkins
PLOT DATE/TIME: 12/13/2016 8:52 AM



IFP
ISSUED FOR PERMITTING
DATE: 12/06/2016
AFE # A04766

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

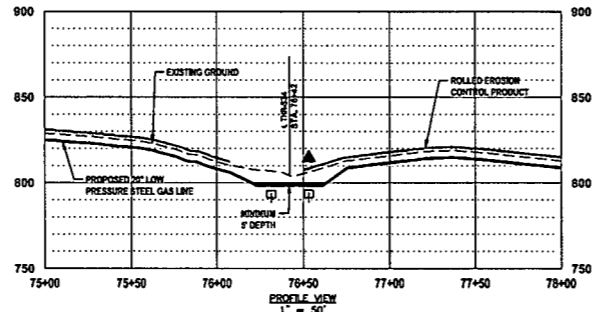
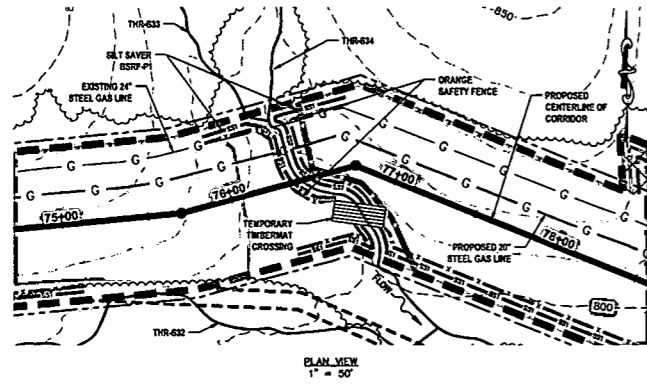
SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

GENERAL INFORMATION		
1.	PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig; PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig	
2.	COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT	
3.	FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.	
4.	ALL STATIONING SHOWN IS HORIZONTAL STATIONING.	
5.	THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.	
6.	FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.	

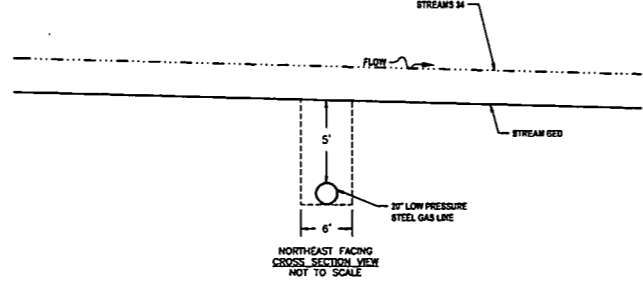
Antero
Midstream Partners LP
**SOUTH CANTON PIPELINE
STREAM & WETLAND CROSSINGS**
PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/13/2016
DRAWN BY: JGI (TTS)
CHECKED BY: JGI (TTS)
SHEET 26 OF 39
SHT. NAME: 050-6136\S\CANTON\S\WC4 | REV. 1

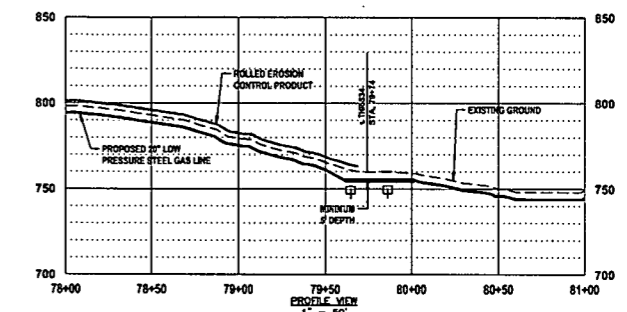
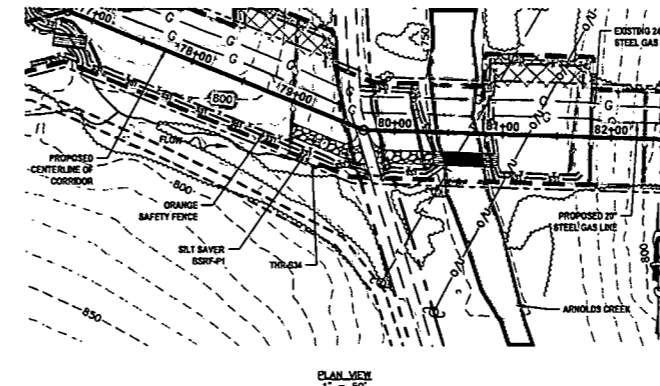
**STREAM CROSSING 17
THR-S34**



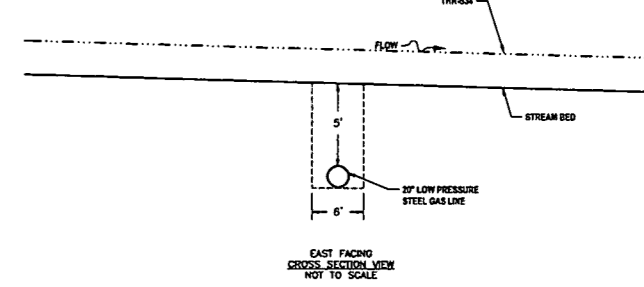
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 3.6'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRAGEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 § OF PROPOSED CORRIDOR WITH STATIONING



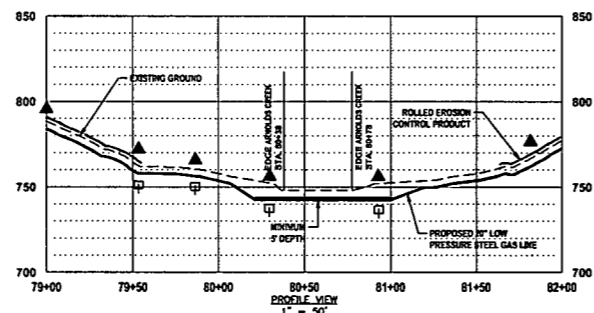
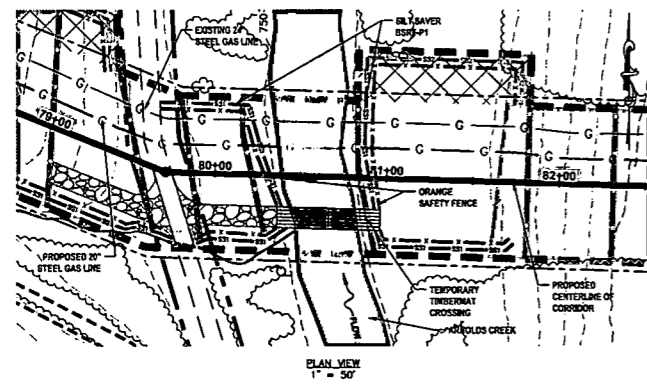
**STREAM CROSSING 18
THR-S34**



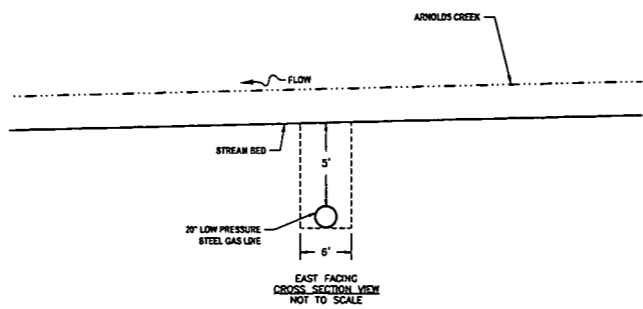
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 3.6'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRAGEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 § OF PROPOSED CORRIDOR WITH STATIONING



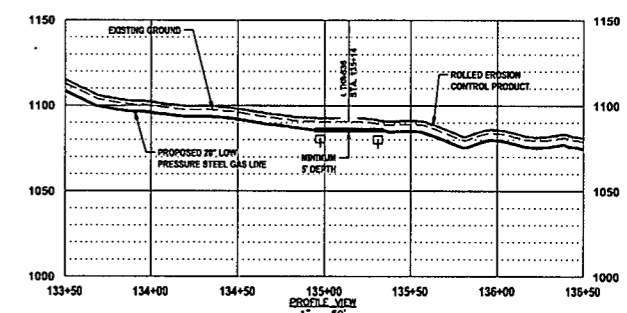
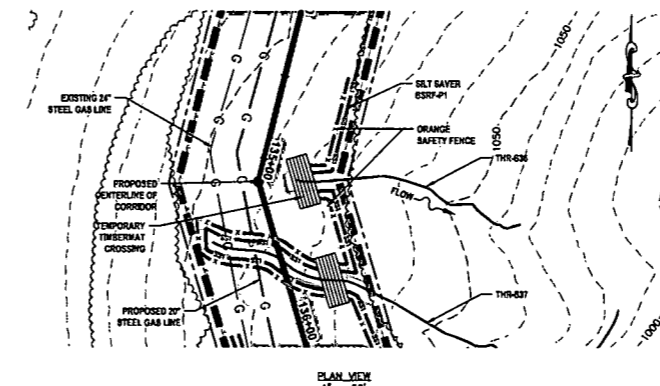
**STREAM CROSSING 19
ARNOLDS CREEK**



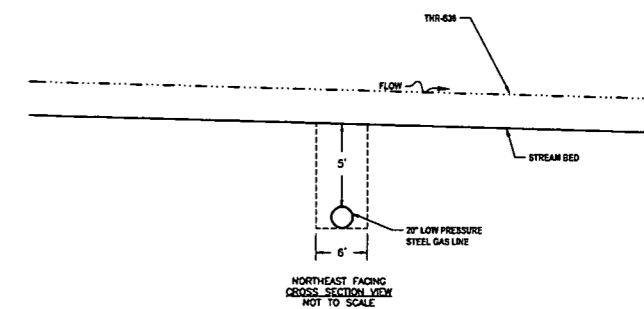
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: PERENNIAL
STREAM TOP OF BANK WIDTH: 48.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRAGEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 § OF PROPOSED CORRIDOR WITH STATIONING



**STREAM CROSSING 20
THR-S36**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 1.5'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SILT SAVER BSRP-P1
 - SILT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELINEATED STREAM
 - DELINEATED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRAGEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 § OF PROPOSED CORRIDOR WITH STATIONING



IFP
ISSUED FOR PERMITTING
DATE: 12/06/2016
AFE # A04766

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)		
NO.	DESCRIPTION	QTY

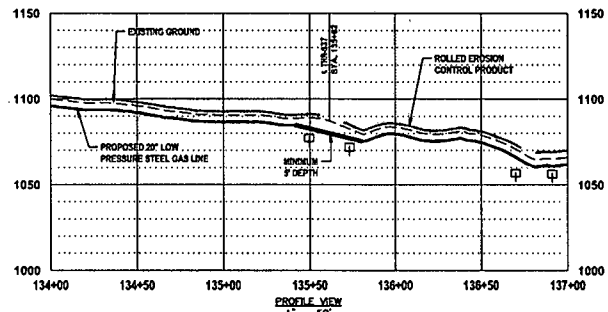
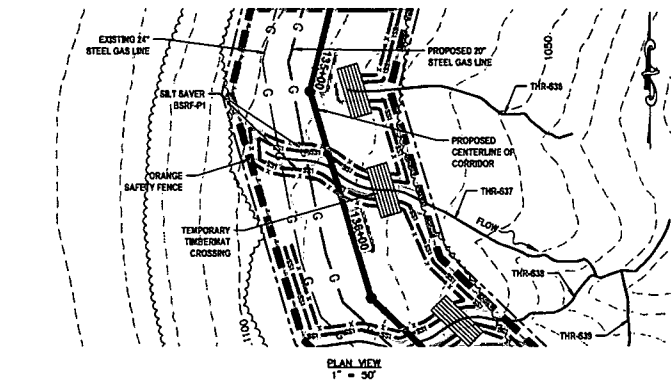
GENERAL INFORMATION		
1.	PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig; PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig	
2.	COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY: HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT	
3.	FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.	
4.	ALL STATIONING SHOWN IS HORIZONTAL STATIONING.	
5.	THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" X 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.	
6.	FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.	

Antero
Midstream Partners LP
**SOUTH CANTON PIPELINE
STREAM & WETLAND CROSSINGS**
PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

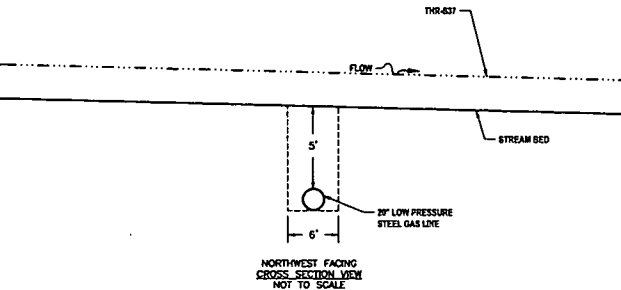
DATE: 12/13/2016
DRAWN BY: AS (P) (10)
CHECKED BY: JSB (T) (10)
SHEET 27 OF 39
SHT. NAME: 050-6136\S.CANTON\S&WCS REV.1

USER: Jerald G. Janda
 PLOT DATE/TIME: 12/13/2016 8:55 AM
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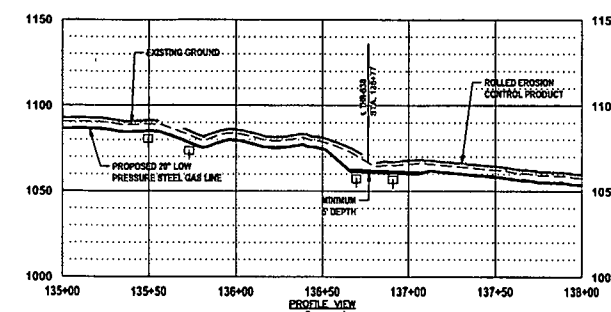
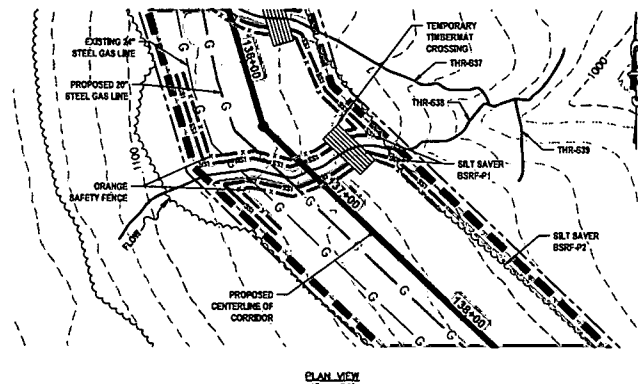
**STREAM CROSSING 21
THR-S37**



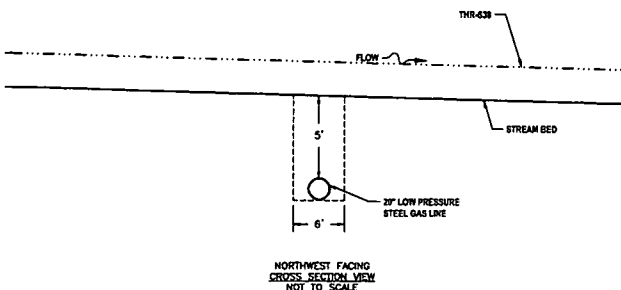
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 0.2'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SALT SAVER BSRP-P1
 - SALT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELIMITED STREAM
 - DELIMITED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING



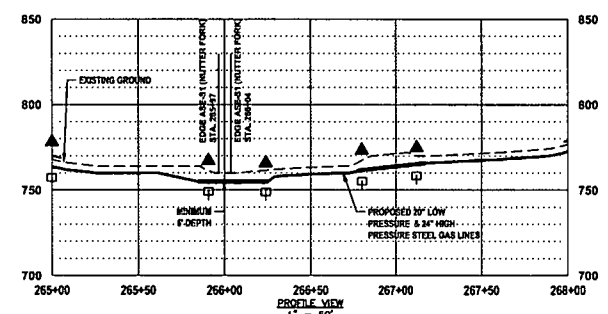
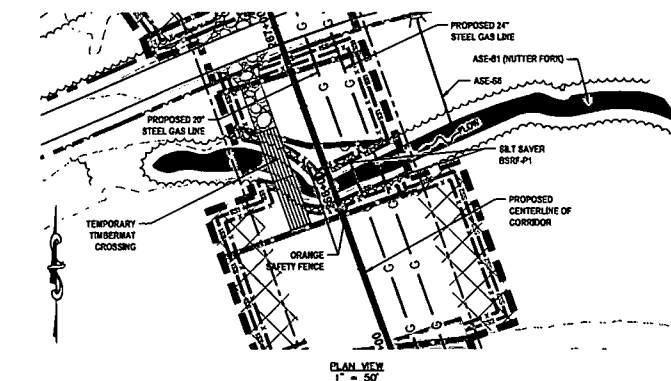
**STREAM CROSSING 22
THR-S38**



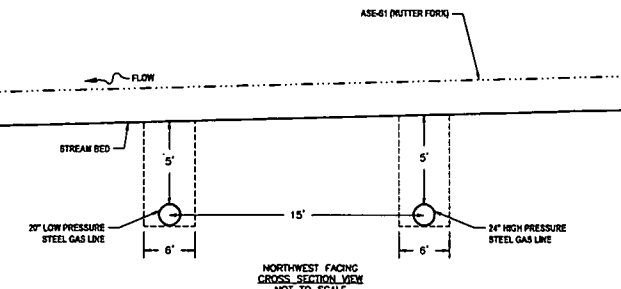
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.3'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SALT SAVER BSRP-P1
 - SALT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELIMITED STREAM
 - DELIMITED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING



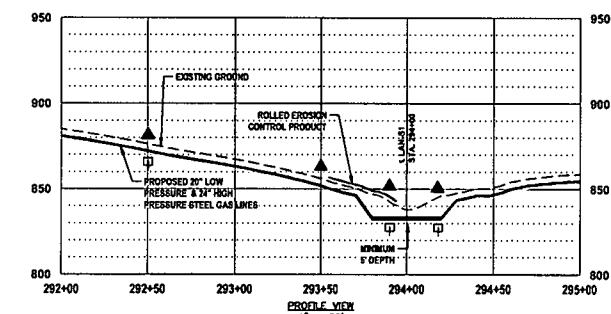
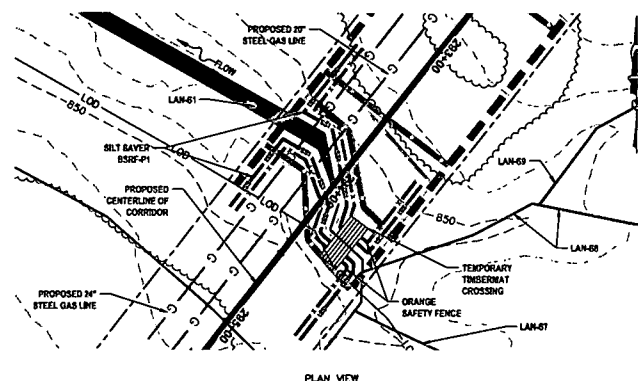
**STREAM CROSSING 23
ASE-S1 (NUTTER FORK)**



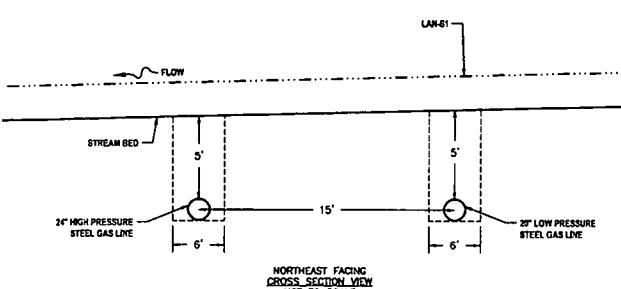
- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: PERENNIAL
STREAM TOP OF BANK WIDTH: 7.0'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SALT SAVER BSRP-P1
 - SALT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELIMITED STREAM
 - DELIMITED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING



**STREAM CROSSING 24
LAN-S1**



- NOTES:**
- ORANGE SAFETY FENCE TO BE INSTALLED AT THE EDGE OF THE PROPOSED LIMITS OF CONSTRUCTION TO PREVENT ACCESS INTO STREAM OR WETLAND.
 - CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: INTERMITTENT
STREAM TOP OF BANK WIDTH: 10.1'
PROPOSED METHOD OF CONSTRUCTION: OPEN CUT
- PERMANENT WATER BAR (PROFILE)
 - EARTH TRENCH BREAKER (PROFILE)
 - PERMANENT WATER BAR (PLAN)
 - ORANGE SAFETY FENCE
 - SALT SAVER BSRP-P1
 - SALT SAVER BSRP-P2
 - ROLLED EROSION CONTROL PRODUCT
 - DELIMITED STREAM
 - DELIMITED WETLAND
 - EDGE OF ACCESS ROAD
 - EDGE OF DIRT/DRIVEL ROAD
 - CONSTRUCTION RIGHT-OF-WAY/LIMITS OF DISTURBANCE
 - 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING



THRASHER

Know what's at stake
Call 811
BEFORE YOU DIG

IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

GENERAL INFORMATION

- PROPOSED HIGH PRESSURE GAS LINE MAOP = 1,440 psig; PROPOSED LOW PRESSURE GAS LINE MAOP = 1,440 psig
- COORDINATE SYSTEM USED FOR MAPPING AND TOPOGRAPHY:
HORIZONTAL - NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE, U.S. SURVEY FOOT
VERTICAL - NAVD 88 (GEOID12B), U.S. SURVEY FOOT
- FIELD DELINEATION PERFORMED AND PROVIDED BY: ALLSTAR ECOLOGY, LANGAN, AND THE THRASHER GROUP.
- ALL STATIONING SHOWN IS HORIZONTAL STATIONING.
- THIS SHEET IS INTENDED TO BE PLOTTED ON ARCH D (24" x 36"). FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
- FOR LEGEND/ABBREVIATION INFORMATION, REFER TO THE GENERAL NOTES SHEET.

Antero
Midstream Partners LP

**SOUTH CANTON PIPELINE
STREAM & WETLAND CROSSINGS**

PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

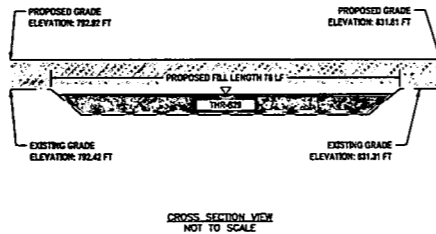
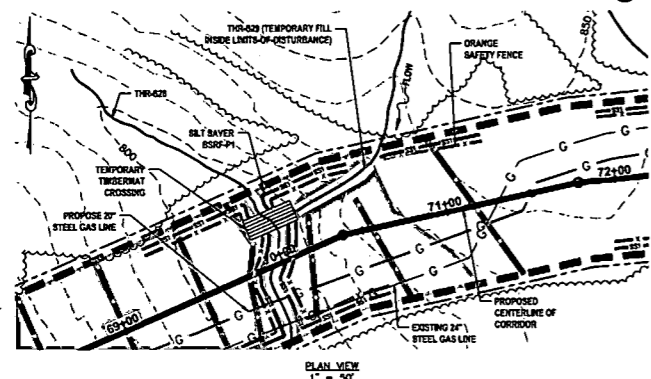
DATE: 12/13/2016
SCALE: AS SHOWN
DRAWN BY: JLD (TTC)
CHECKED BY: JLD (TTC)

SHEET 28 OF 39

SHT. NAME: 050-6136/S.CANTON/S&WC6 REV. 1

LAYOUT FILE: SANCOR CAD FILE: R:\050-6136-S_CANTON PIPELINE-ANTERO-Southway\PLANS\STREAM AND WETLAND CROSSING SHEETS.dwg USER: jared.d.jenkins PLOT DATE/TIME: 12/13/2016 8:50 AM

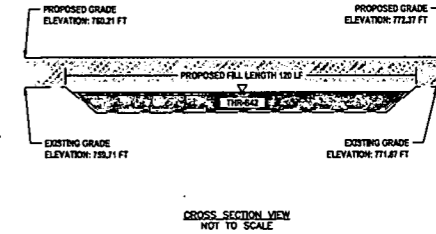
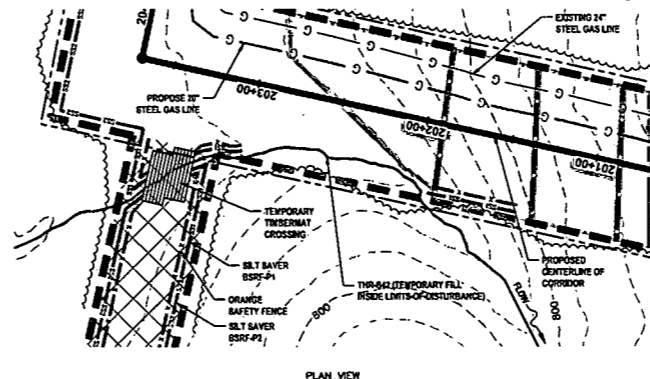
**TEMPORARY FILL IMPACT
@ THR-S29**



- NOTES:**
- CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 2.5'

- ▲ PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- PERMANENT WATER BAR (PLAN)
- X ORANGE SAFETY FENCE
- SS1 SILT SAVER (SS1-#1)
- SS2 SILT SAVER (SS2-#2)
- ▭ ROLLED EROSION CONTROL PRODUCT
- ▭ DELINEATED STREAM
- ▭ DELINEATED WETLAND
- EDGE OF ACCESS ROAD
- EDGE OF DIRT/GRAVEL ROAD
- CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
- 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING

**TEMPORARY FILL IMPACT
@ THR-S42**



- NOTES:**
- CONTRACTOR TO MAINTAIN 5' DEPTH AT STREAM CROSSING.
 - ANY SLOPES GREATER THAN 30% SHALL HAVE ROLLED EROSION CONTROL MATTING INSTALLED DURING FINAL RESTORATION.
- STREAM CLASSIFICATION: EPHEMERAL
STREAM TOP OF BANK WIDTH: 5.5'

- ▲ PERMANENT WATER BAR (PROFILE)
- EARTH TRENCH BREAKER (PROFILE)
- PERMANENT WATER BAR (PLAN)
- X ORANGE SAFETY FENCE
- SS1 SILT SAVER (SS1-#1)
- SS2 SILT SAVER (SS2-#2)
- ▭ ROLLED EROSION CONTROL PRODUCT
- ▭ DELINEATED STREAM
- ▭ DELINEATED WETLAND
- EDGE OF ACCESS ROAD
- EDGE OF DIRT/GRAVEL ROAD
- CONSTRUCTION RIGHT-OF-WAY/ LIMITS OF DISTURBANCE
- 21+00 5' OF PROPOSED CORRIDOR WITH STATIONING

LAYOUT FILE: S:\SW7 CAD FILE: P:\050-6136-S_CANTON PIPELINE-ANTERO-Southy\PLANS\STREAM AND WETLAND CROSSING SHEETS.dwg USDR: Jerald A. Jenkins PLOT DATE/TIME: 12/13/2016 11:32 AM

THRASHER

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Call 811
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IFP

ISSUED FOR PERMITTING

DATE: 12/06/2016

AFE # A04766

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

SUMMARY OF MATERIALS (3D)

NO.	DESCRIPTION	QTY

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Antero
MidstreamPartners LP

**SOUTH CANTON PIPELINE
STREAM & WETLAND CROSSINGS**

PROPOSED 20" LOW PRESSURE STEEL GAS LINE
& 24" HIGH PRESSURE STEEL GAS LINE
DODDRIDGE COUNTY, WEST VIRGINIA

DATE: 12/03/2016
SCALE: AS SHOWN
DRAWN BY: JLN (116)
CHECKED: JLN (116)

SHEET 29 OF 39

SHT. NAME: 050-6136\S.CANTON\S&WC7 REV. 1