

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



Dear Sir or Ma'am,

December 16, 2019

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

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

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

Respectfully yours,

A handwritten signature in cursive script, appearing to read "George Eidel".

George Eidel, CFM, OEM Director/Floodplain Manager

7018 3090 0001 0402 5475

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 fees as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.75
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70
Sent To	Jeffery J. Ford
Street and Apt. No., or PO Box No.	15 Meadow Lane
City, State, ZIP+4®	Bridgeport, WV 26330 19-562

WEST UNION, WV
DEC 16 2019
Postmark Here

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

7018 3090 0001 0402 5468

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 fees as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.75
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70
Sent To	John Russel Clowser
Street and Apt. No., or PO Box No.	P.O. Box 98
City, State, ZIP+4®	Last Creek, WV 26385 19-562

WEST UNION, WV
DEC 16 2019
Postmark Here

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

7018 3090 0001 0402 5499

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 fees as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.75
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70
Sent To	Brett Cox
Street and Apt. No., or PO Box No.	7611 Haigker Rd.
City, State, ZIP+4®	Monroe, LA 28110 19-562

WEST UNION, WV
DEC 16 2019
Postmark Here

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

7915 2040 1000 060E 9107

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 fees as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.75
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70
Sent To	John R. Clowser
Street and Apt. No., or PO Box No.	3735 Big Isaac Rd.
City, State, ZIP+4®	Salem, WV 26426 19-562

WEST UNION, WV
DEC 16 2019
Postmark Here

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

7545 2040 1000 060E 9107

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 fees as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.75
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70
Sent To	Earl Richards
Street and Apt. No., or PO Box No.	544 Independence Rd.
City, State, ZIP+4®	Salem, WV 26426 19-562

WEST UNION, WV
DEC 16 2019
Postmark Here

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



Doddridge County Floodplain Permits

(Week of December 16, 2019)

Please take notice that on the (13th) of (December), 2019, (Mountain Valley Pipeline LLC.) filed an application for a Floodplain Permit (#19-562) to develop land located at or about (Big Isaac Rd @ Meathouse Fork); Coordinates: 39.201156, -80.553387. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (January 27, 2020) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is for the Mountain Valley Pipeline, Ground Bed Rectifier and Mainline Valve


GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Jeffery J. Ford
15 Meadow Lane
Bridgeport, WV 26330



9590 9402 4783 8344 2626 05

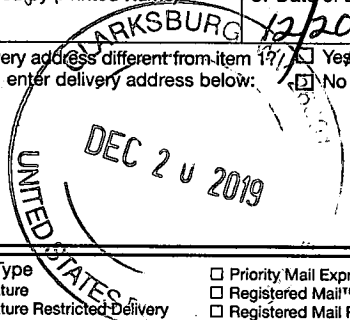
2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent Addressee
[Signature]

B. Received by (Printed Name) C. Date of Delivery
 MARKSBURG 12/20/19

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) | |

PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Earl Richards
544 Independence Road
Salem, WV 26426



9590 9402 4783 8344 2625 82

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent Addressee
[Signature]

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

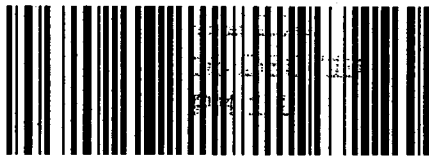
3. Service Type
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> 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) | |

PS Form 3811, July 2015 PSN 7530-02-000-9053

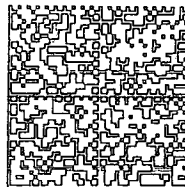
Domestic Return Receipt

CERTIFIED MAIL®

Doddridge County Office of Emergency Management
George Eidel, Floodplain Manager
105 Court Street, Suite 3
West Union, WV 26456



7018 3090 0001 0402 5468



HASLER

\$006.70⁰⁰

12/16/2019 ZIP 26456
012E14643162

US POSTAGE

ANK

John Russel Clowser
P.O. Box 98
Lost Creek, WV 26385

*12-18
23
1-2*

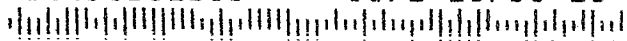
NIXIE 250 FE 1 0012/25/19

RETURN TO SENDER
ATTEMPTED - NOT KNOWN
UNABLE TO FORWARD

ANK

BC: 26456201205 *0571-10790-15-45

~~26385-10-26385~~



12/16/2019 12:16:25 PM

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT
OF RETURN ADDRESS, FOLD ENVELOPE
AND CERTIFY TO POST OFFICE

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 Russel Clowser
P.O. Box 98
Lost Creek, WV 26385



9590 9402 4783 8344 2625 99

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

12-18-19

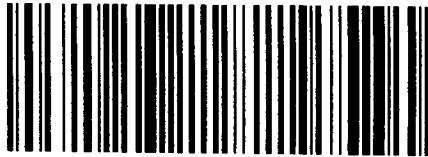
D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type

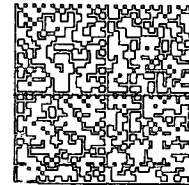
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered 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) | |

CERTIFIED MAIL®

**Doddridge County Office of Emergency Management
George Eidel, Floodplain Manager
105 Court Street, Suite 3
West Union, WV 26456**



7018 3090 0001 0402 5482



HASLER

\$006.70⁰

12/16/2019 ZIP 26456
012E14643162

US POSTAGE

**John R. Clowser
3735 Big Issac Road
Salem, WV 26426**

12/18

NIXIE 250 DE 1 0001/13/20

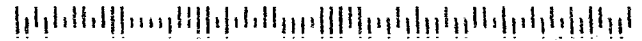
RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD

.. 9323000096943988

UNC

BC: 26456201205 *0871-11208-16-45

264264557505



PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FORWARDING LABEL, AND POSTAGE

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

**John R. Clowser
3735 Big Issac Road
Salem, WV 26426**



9590 9402 4783 8344 2626 12

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- Agent
- Addressee

B. Received by (Printed Name)

C. Date of Delivery

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

3. Service Type

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

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



Dear Sir or Ma'am,

December 16, 2019

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

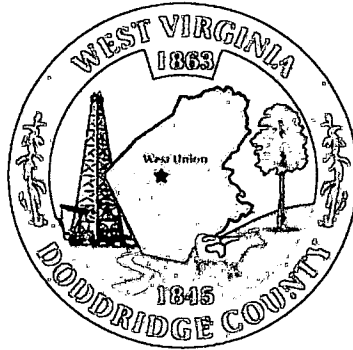
No action is required of you. This letter is simply to inform you of the proposed development.

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

Respectfully yours,

A handwritten signature in black ink, appearing to read "George Eidel".

George Eidel, CFM, OEM Director/Floodplain Manager



Doddridge County Floodplain Permits

(Week of December 16, 2019)

Please take notice that on the (13th) of (December), 2019, (Mountain Valley Pipeline LLC.) filed an application for a Floodplain Permit (#19-562) to develop land located at or about (Big Isaac Rd @ Meathouse Fork); Coordinates: 39.201156, -80.553387. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (January 27, 2020) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is for the Mountain Valley Pipeline, Ground Bed

Rectifier and Mainline Valve

A handwritten signature in black ink, appearing to read 'George C. Eidel', is written over the printed name.

GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager



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 #: 19-562

Date Approved: February 26, 2020

Expires: February 26, 2021

Issued to: Mountain Valley Pipelie

POC: Matt Hoover

Company Address: 2200 Energy Drive, 2nd Floor Canonsburg, PA. 15317

Project Address: Big Isaac Rd at Meathouse Fork Rd

Firm: 54017C0260C

Lat/Long: 39.201156N, -80.553387W

Purpose of development: Pipeline Equipment Instalation

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

Date: February 26, 2020

For additional information regarding this permit, please contact
Doddridge County Floodplain Manager at 304.873.1343, or via email at
doddridgecountyfpm@gmail.com
101 Church Street Suite 102; West Union, WV 26456

The Doddridge Independent

The Doddridge Independent PUBLISHER'S CERTIFICATE

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

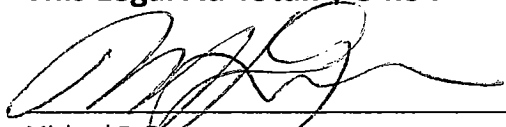
Please take notice that on the (5th) of (April), 2021, (Mountain Valley Pipeline) filed an application for a Floodplain Permit (#21-594) to develop land located at or about (Big Isaac Rd. at Meathouse Fork Rd.); Coordinates: 39.201154, -80.553387. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 298 Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to

was published in The Doddridge Independent 2 times commencing on Friday, April 2, 2021 and Ending on Friday, April 9, 2021 at the request of:

George Eidel, Doddridge County Floodplain Manager & Doddridge County Commission

Given under my hand this Thursday, April 15, 2021


The publisher's fee for said publication is:
\$ 31.05 1st Run/\$ 23.29 Subsequent Runs
This Legal Ad Total: \$ 54.34



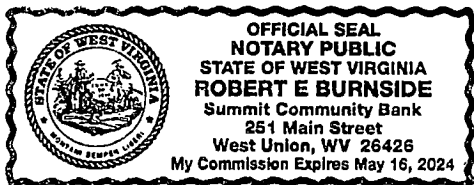
Michael D. Zorn
Publisher of The Doddridge Independent

Subscribed to and sworn to before me on

this date: 4 / 15 / 21



Notary Public in and for Doddridge County
My Commission expires on
The 16 day of MAY 2021



AP News • Legal Ads

Floodplain Notice • Legal Notice

Please take notice that on the (5th) of (April), 2021, (Mountain Valley Pipeline) filed an application for a Floodplain Permit (#21-594) to develop land located at or about (Big Isaac Rd. at Meathouse Fork Rd.); Coordinates: 39.201154, -80.553387. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 298 Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (May 10, 2021) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is for the renewal of the Mountain Valley Pipeline.

C2 4/2 -4/9

STATE of WEST VIRGINIA;
COUNTY OF DODDRIDGE, TO WIT:

I, Tamela B. Beamer, Editor of THE HER-
ALD RECORD, a certified weekly newspaper
published regularly in Doddridge County, West
Virginia, DO Hereby Certify Upon Oath that the
accompanying Legal Notice entitled:

Doddridge County Floodplain Permits
(Week of April 12, 2021)

Please take notice that on the (5th) of (April), 2021, (Mountain Valley Pipeline) filed an application for a Floodplain Permit (#21-594) to develop land located at or about (Big Isaac Rd. at Meathouse Fork Rd.); Coordinates : 39.201154, -80.553387. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (May 10, 2021) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is for the renewal of the Mountain Valley Pipeline

4/14x2XB

Doddridge County Floodplain Permit

21-594

Mountain Valley Pipeline

was published in said paper for 2
successive weeks beginning with the issue of
4/14, 2021 and ending with the issue of 4/21,
2021 that contains 201 word space at .115
cents per word and amounts to the sum of \$ 23.11
FOR THE FIRST PUBLICATION.

SECOND PUBLICATION IS 75% OF THE
FIRST PUBLICATION and each other publica-
tion thereafter \$ 17.33 for the TOTAL OF:
\$ 40.44.

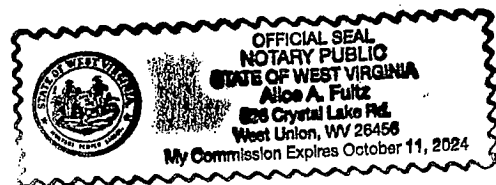
Editor,

Tamela B. Beamer

SWORN TO AND SUBSCRIBED BE-
FORE ME THIS THE 21st day of
April, 2021.

NOTARY PUBLIC

Alice A. Fultz



FLOODPLAIN PERMIT #19-562

Mountain Valley Pipeline, Big Isacc @ Meathouse Fork 39.201156, -80.553387

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	2/26/2020	
US ARMY CORP. ENGINEERS (USACE)		
US FISH & WILDLIFE SERVICES (USFWS)		
WV DEPT. NATURAL RESOURCES (WVDNR)	12/19/19	
WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)	12/13	
STATE HISTORIC & PRESERVATION OFFICE (SHPO)		
OFFICE of LAND & STREAM (OLS)		
DATE OF COMMISSION READING	1/7/2020	
DATE AVAILABLE TO BE GRANTED	1/27/2020	
PERMIT GRANTED		
COMPLETE		

7018 3090 0001 0402 5451

7018 3090 0001 0402 5468

7018 3090 0001 0402 5475

7018 3090 0001 0402 5482

7018 3090 0001 0402 5499

MVP, LLC
PO BOX 299
CANONSBURG, PA 15317

COPY

DODDRIDGE COUNTY COMMISSION
DODDRIDGE CITY OFF OF EM MGMT
C/O GEORGE EIDEL
SUITE 102
101 CHURCH ST.
WEST UNION, WV 26456

8581 0092

PAGE: 1



COPY

02/29/2020

PAYMENT SUMMARY

VENDOR NO: 1055847
VOUCHER NO: 0000004807

VOUCHER DATE: 02/24/20

REF. DOC.	REFERENCE NUMBER	REF. DATE	DOCUMENT AMOUNT	DISCOUNT/ADJ AMOUNT	NET AMOUNT
SELLER INVCE	CKRQST021920EY98 05874783 L.VANDREW - FLOODPLAIN UPDATE	02/19/20	1,620.00	0.00	1,620.00
TOTALS:			1,620.00	0.00	1,620.00

FP# 19-562

COPY

COPY

(Detach Here)

MVP, LLC
PO BOX 299
CANONSBURG, PA 15317

COPY

COPY

CHECK DATE
02/24/2020

CHECK NUMBER
0000004807

PAY...ONE THOUSAND SIX HUNDRED TWENTY DOLLARS 00 CENTS

TO THE ORDER OF:

DODDRIDGE COUNTY COMMISSION
DODDRIDGE CITY OFF OF EM MGMT
C/O GEORGE EIDEL
SUITE 102
101 CHURCH ST.
WEST UNION, WV 26456

COPY

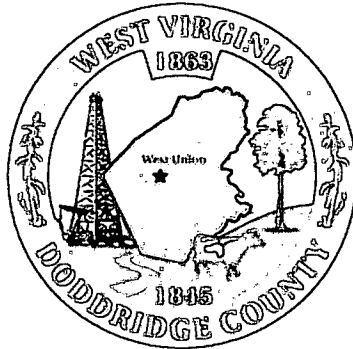
\$*****1,620.00

Janice M. Sumner

THE BANK OF NEW YORK MELLON
PITTSBURGH, PENNSYLVANIA

COPY

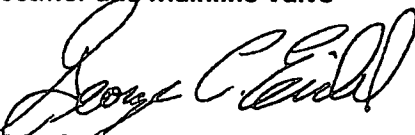
0000004807 043301601 90400640



Doddridge County Floodplain Permits

(Week of December 16, 2019)

Please take notice that on the **(13th) of (December), 2019, (Mountain Valley Pipeline LLC.)** filed an application for a Floodplain Permit **(#19-562)** to develop land located at or about **(Big Isaac Rd @ Meathouse Fork); Coordinates: 39.201156, -80.553387**. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by **(January 27, 2020)** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. **This project is for the Mountain Valley Pipeline, Ground Bed Rectifier and Mainline Valve**



GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager



February 18, 2020

Mr. George Eidel
Doddridge County Floodplain Coordinator
Doddridge County Office of Emergency Management
101 Church Street, Suite 102
West Union, WV 26456-2095

**Re: Mountain Valley Pipeline Project
Renew Doddridge County Floodplain Permit**

Dear Mr. Eidel:

Mountain Valley is respectfully requesting renewal of the previously approved Doddridge County Floodplain Permit. As we discussed, no permanent above ground structures are located in the floodplain. All work, including installation of the pipeline will be temporary. In addition to the pipeline installation, timbermats and pipe will be temporary staged within the floodplain. This work was included in the original application. Included with the is letter is the permit fee of \$1,620. This total was based on the total value of construction in the floodplain of approximately \$224,000.

If you have questions or need additional information, please do not hesitate to contact me at (724) 873-3009 or via email at mhoover@equitransmidstream.com.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Hoover".

Matthew S. Hoover
Mountain Valley Pipeline, LLC - Sr. Environmental Coordinator

CC: Project File

FP # 19-562



Engineers and Environmental Consultants

7012 MacCorkle Avenue, SE, Charleston, WV 25304 - (304) 342-1400 • FAX (304) 343-9031; www.potesta.com

November 19, 2019

Mr. George Eidel
Doddridge County Floodplain Coordinator
Doddridge County Commission
118 East Court Street
West Union, West Virginia 26456

DEC 13 19 2:34 PM

RE: Floodplain Permit Application
Mountain Valley Pipeline, LLC (MVP)
Doddridge County, West Virginia
POTESTA Project No. 0101-16-0259-008C

Dear Mr. Eidel:

Potesta & Associates, Inc. (POTESTA) is pleased to submit this cover letter with the associated Floodplain Development Permit Application for the proposed Mountain Valley Pipeline (MVP) Project. MVP spans from northwestern West Virginia to southern Virginia, with approximately 196 miles in West Virginia and 5 miles being located within Doddridge County.

One floodplain crossing is located in Doddridge County with approximately 250 linear feet of pipeline construction at Station 1837+00. Temporary aboveground construction within floodplain limits include additional temporary work space (ATWS) utilized for stream crossing support, access roads including stone construction entrances, timber mats, and various erosion and sediment control devices (compost filter sock (CFS), silt fence, super silt fence, and erosion matting). Permanent aboveground structures associated with crossings within the floodplain limits will be one service pole associated with the ground bed rectifier systems and mainline valve sites at linear Station 1837+00. It should be noted that the mainline valve site will be placed at the current ground elevation without increasing the current grade. Additionally, construction of permanent roads, temporary roads, or maintenance of existing roads will occur within the floodplain limits. The one crossing is located within the FEMA Flood Zone AE, which is the regulatory floodplain associated with the Base Flood (1 percent annual chance flood event), commonly referred to as the 100-year floodplain, and indicates that the limits of the floodplain are determined by detailed methods.

Included within this letter are the following documents: the permit application, directions to the sites, relative construction drawings, and details of temporary or permanent structures within the floodplain limits.

POTESTA & ASSOCIATES, INC.

Charleston, West Virginia • Morgantown, West Virginia • Winchester, Virginia

Mr. George Eidel
November 19, 2019
Page 2

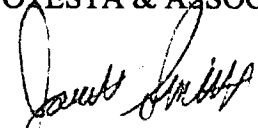
Below is an expanded list of each crossing and its associated temporary and permanent construction activities.

Page Number	Mile Post	Stationing	Temporary Impacts	Permanent Impacts
2.52	34.8	1837+00 to 1839+50	Timber Mat, Stone Construction Entrance, SSF, ATWS	Ground Bed Rectifier, Access Road, Mainline Valve Site

If you have any questions, please feel free to contact me at (304) 342-1400 or jmsmith@potesta.com or Matt Hoover (MVP) at (724) 873-3009 or mhoover@equitransmidstream.com.

Sincerely,

POTESTA & ASSOCIATES, INC.


Jarrett M. Smith, P.E.
Senior Engineer

JMS:JWB/clr

Enclosures

c: Mr. Matt Hoover – MVP (via email)





Permit# 19-562
Project Name: Mountain Valley Pipeline
 Mountain Valley
Permittees Name: Pipeline, LLC

Doddridge County, WV

DEC 13 19 2:04 PM

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

Robert J. [Signature]

DATE 12-9-2019

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Applicant Information:

Please provide all pertinent data.

Applicant Information		
Responsible Company Name: Mountain Valley Pipeline, LLC		
Corporate Mailing Address: 2200 Energy Drive, 2nd Floor		
City: Canonsburg	State: PA	Zip: 15317
Corporate Point of Contact (POC): Matt Hoover		
Corporate POC Title: Senior Environmental Coordinator		
Corporate POC Primary Phone: (724) 873-3009		
Corporate POC Primary Email: mh Hoover@equitransmidstream.com		
Corporate FEIN: 25-0754685	Corporate DUNS: N/A	
Corporate Website: N/A		
Local Mailing Address: N/A		
City: N/A	State: N/A	Zip: N/A
Local Project Manager (PM): Same as Point of Contact		
Local PM Primary Phone: Same as Point of Contact		
Local PM Secondary Phone: Same as Point of Contact		
Local PM Primary Email: Same as Point of Contact		
Person Filing Application: Jordan Beard		
Applicant Title: Engineer		
Applicant Primary Phone: (304) 342-1400		
Applicant Secondary Phone: N/A		
Applicant Primary Email: jwbeard@potesta.com		

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: ___ of ___

Site/Property Information:		
Legal Description: Please See Attached		
Physical Address/911 Address:		
Decimal Latitude/Longitude: 39.201285, -80.553387		
DMS Latitude/Longitude:		
District:	Map:	Parcel:
Land Book Description:		
Deed Book Reference:		
Tax Map Reference:		
Existing Buildings/Use of Property:		

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

Doddridge County Commercial/Industrial Floodplain Development Permit Application

Mountain Valley provided a non-public list of affected landowners to FERC. FERC requires this information be filed as privileged to protect the privacy of the landowners. To be consistent with FERC requirements, the landowner information has been omitted from this appendix.

Property Owner Data:

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

Property Designation: ____ of ____ See attached for property owners/adjacent landowners.

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

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

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

**DODDRIDGE COUNTY FLOODPLAIN
LANDOWNER INFORMATION
MOUNTAIN VALLEY PIPELINE**

Owner	Address	Legal Description	Mile Post	District	Map	Parcel	Deed Book/Page
Landowners							
Jeffery J Ford	15 Meadow Lane Bridgeport, WV 26330	Meathouse 90.74 AC	34.8	04	11	36	281/665
Adjacent Landowners							
Jeffery J Ford	15 Meadow Lane Bridgeport, WV 26330	BIG Isaac 1 AC	34.8	04	11	31	281/665
Jeffery J Ford	15 Meadow Lane Bridgeport, WV 26330	BIG Isaac 30 AC	34.8	04	11	35	WB41/619
Earl Richards (Life)	544 Independence Road Salem, WV 26426	5.36 AC Meathouse	34.8	04	11	37.7	258/200
Earl Richards (Life)	544 Independence Road Salem, WV 26426	2 AC Meathouse	34.8	04	11	37.6	258/194
John R Clowser	3735 Big Issac Road Salem, WV 26426	1.51 AC Meathouse	34.8	04	11	37.4	305/436
John Russel Clowser	PO Box 98 Lost Creek, WV 26385	77 PO Two Lots Meathouse	34.8	04	11	37.2	296/700
Brett Cox	3611 Haigker Road Monroe, NC, 28110	Meathouse 30.18 AC	34.8	04	11	37.5	316/583

Mountain Valley provided a non-public list of affected landowners to FERC. FERC requires that this information be filed as privileged to protect the privacy of the landowners. To be consistent with these FERC requirements, the landowner information has been omitted from this application.

**Doddridge County Commercial/Industrial
Floodplain Development Permit Application**

Contractor Data:

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

Property Designation: ____ of ____

Contractor/Sub-Contractor (C/SC) Information:		
C/SC Company Name: N/A		
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):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

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

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

Site Plan

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

A SITE PLAN MUST CONTAIN THE FOLLOWING INFORMATION:

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

Applicant

Please read print name, sign and date below:

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

Applicant Signature: _____

Robert J. Coyle

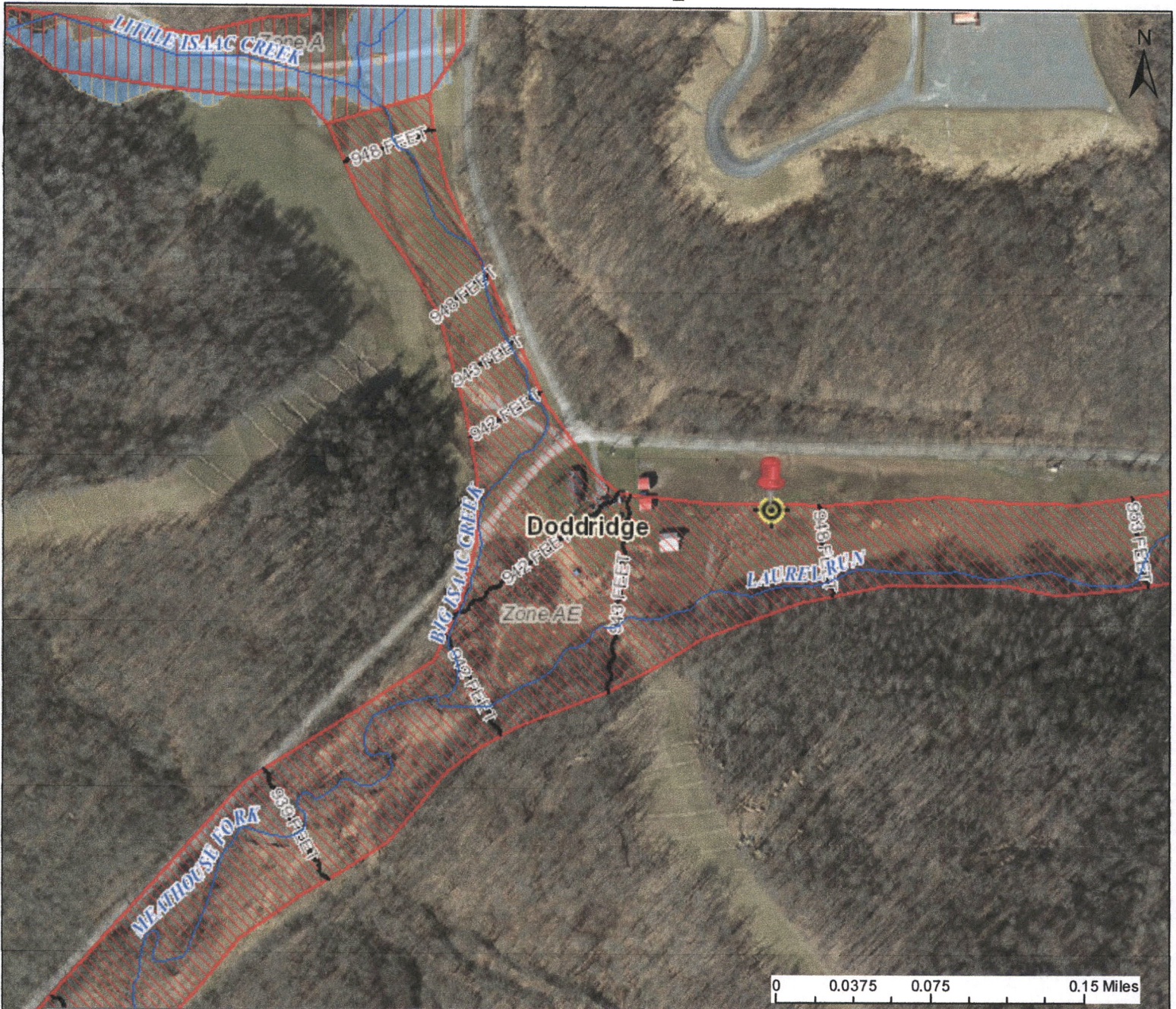
Date: _____

12-9-2019

Applicant Printed Name: _____

Robert J Coyle

WV Flood Map



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

H I G H R I S K		1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	Flood Info Location <i>Map created on 12/16/2019</i>
		Regulatory Floodway in AE Zone	
		1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)	
		1-Percent-Annual-Chance High Risk Advisory	
Download the Full Legend for all flood tool symbols https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf			
Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (https://www.mapwv.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.			User Notes
Flood Hazard Area		Location is WITHIN the FEMA 100-year floodplain.	
Flood Zone		AE	
Stream		Laurel Run	
Watershed (HUC8)		Little Musringum-Middle Island (5030201)	
Flood Height		Refer to FIS report for BFE	
Water Depth			
Elevation		About 946 ft (Source: SAMS 2003)	
Community & ID		Doddridge County (ID: 540024)	
FEMA Map & Date		54017C0260C; Effective Date: 10/4/2011	
Location (lat, long)		(39.201156, -80.553387)	
Parcel ID		09-04-0011-0036-0000	
E-911 Address		multiple addresses	



118 E Ct St, West Union, WV 26456 to 39.201285, -80.553387

Drive 18.3 miles, 32 min



Google

Imagery ©2017 Google, Map data ©2017 Google 2 mi

118 E Ct St

West Union, WV 26456

Take Railroad St to WV-18 S

- ↑ 1. Head northeast on Cross St toward Court St 1 min (0.2 mi)
 - ↘ 2. Turn right onto Railroad St 52 ft
 - ↙ 3. Turn left toward WV-18 S 0.2 mi
- 279 ft

Take US-50 E, Co Rte 15 and Big Isaac to Meathouse Fork in Oak

31 min (18.1 mi)

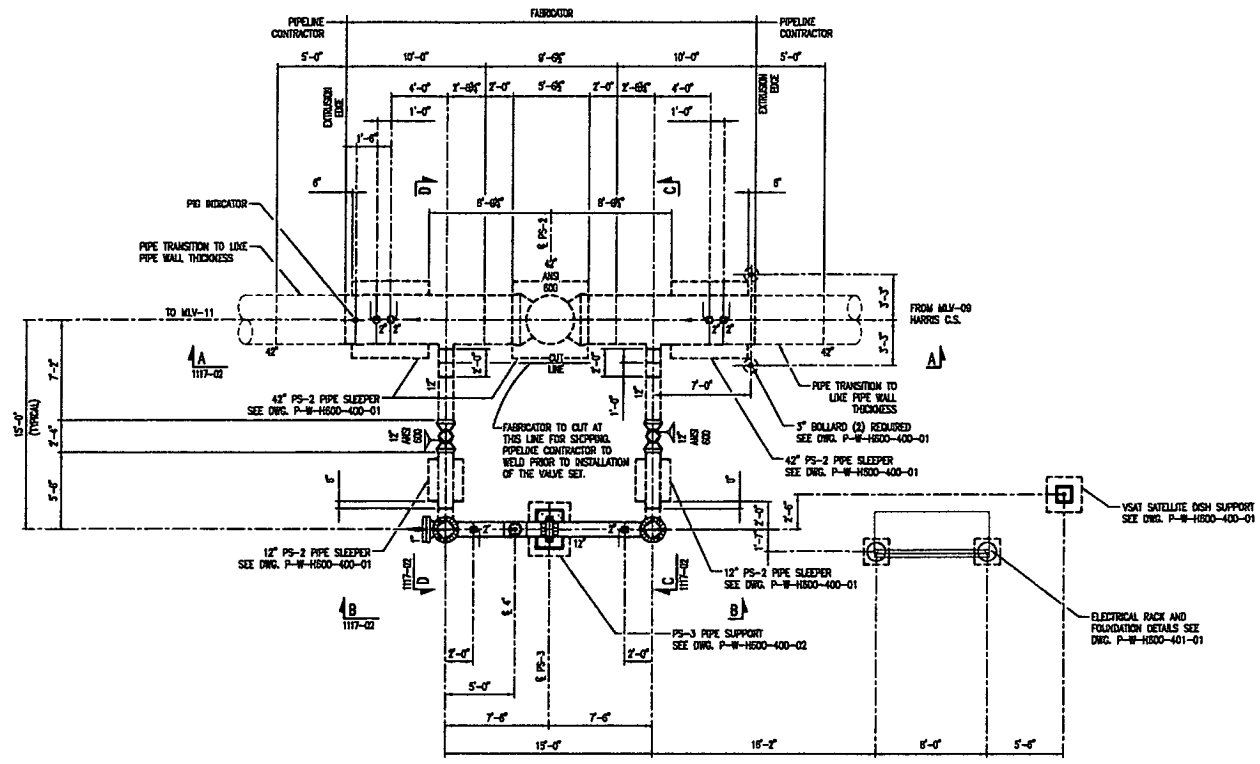
5/23/2017

118 E Ct St, West Union, WV 26456 to 39.201285, -80.553387 - Google Maps

- 4. Turn right onto WV-18 S 0.5 mi
- ↶ 5. Turn left onto US-50 E 5.6 mi
- 6. Turn right at Co Rte 50/35 0.1 mi
- ↑ 7. Continue onto Blacklick Rd 2.1 mi
- 8. Turn right onto Co Rte 15/Blacklick Rd/Sherwood-Greenbrier Rd
ⓘ Continue to follow Co Rte 15 6.3 mi
- 9. Turn right onto Big Isaac 3.4 mi
- ↑ 10. Big Isaac turns left and becomes Meathouse Fork
ⓘ Destination will be on the right 436 ft

39.201285, -80.553387

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.



PLAN

DESIGN & TEST DATA	
DESIGN PRESSURE	1480 PSIG AT 120°F (1.05 DESIGN FACTOR)
MAXIMUM HDOP STRESS LEVEL AT 1480 PSIG	50% IN STEEL, BASED ON 62,000 WT. X-70 PIPE
MAOP OF 1480 PSIG AT 120°F IS LIMITED BY	ANSI 600 COMPONENTS, 42\"/>

11/17/2016 10:58 AM 1117-01.dwg

DRAWING NUMBER	REFERENCE DRAWINGS	DRAWING TITLE	NO.	DATE	BY	CHK	APPV	REV.	DATE	BY	CHK	APPV	REVISION		
													ISSUED FOR NO.	ISSUED FOR NO.	
P-W-H600-400-01	PS-3 PIPE SLEEPER AND FOUNDATION DETAILS	PS-3 AND PS-4 PIPE SUPPORT DETAILS	01	04/26/2016	JSM	JKS	RLM								
P-W-H600-400-02	PS-3 AND PS-4 PIPE SUPPORT DETAILS	ELECTRICAL EQUIP. RACK & FOUNDATION DETAILS													
P-W-H600-401-01	ELECTRICAL EQUIP. RACK & FOUNDATION DETAILS	MLV-10 VALVE SETTING - FLAT PLAN													
P-W-H600-1100-10	MLV-10 VALVE SETTING - FLAT PLAN	MLV-10 VALVE SETTING INSTALLATION - SECTIONS													
P-W-H600-1117-02	MLV-10 VALVE SETTING INSTALLATION - SECTIONS	MLV-10 VALVE SETTING INSTALLATION - PLAN													

TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

DRAFT

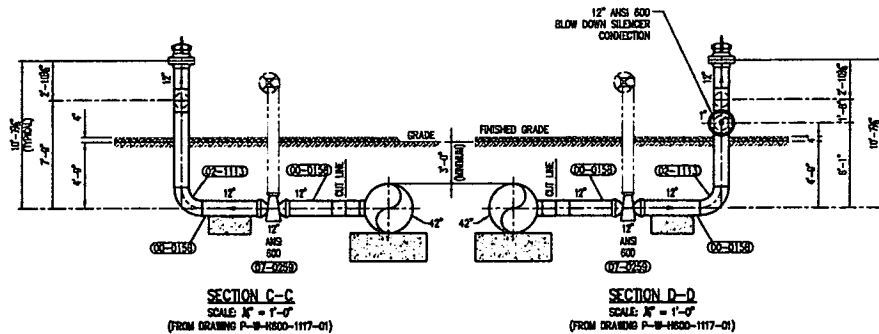
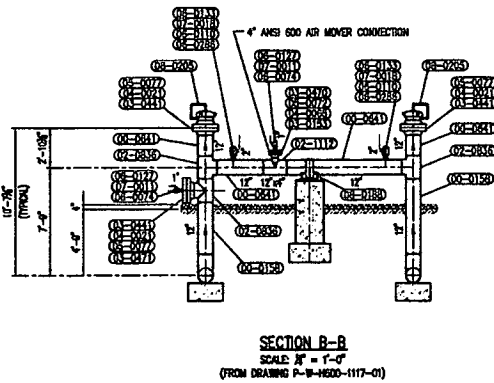
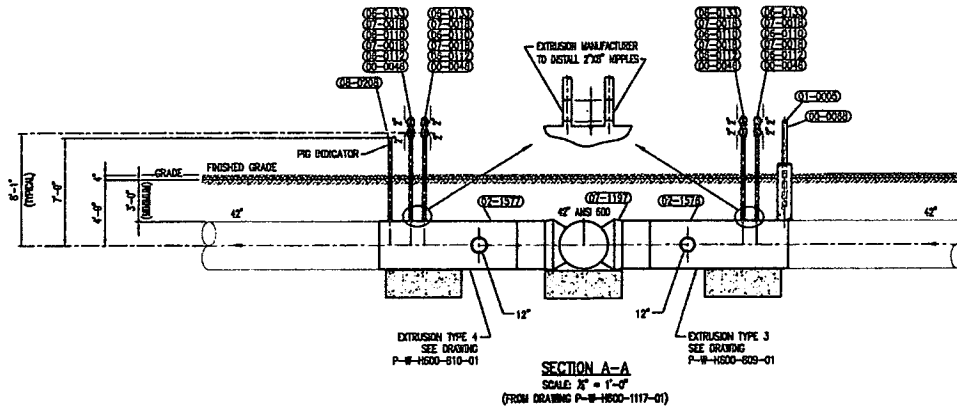
4/8/2016
DATE

NOTE ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

	DRAWING TITLE		H600	
	42\"/>		MLV-10 VALVE SETTING INSTALLATION PLAN	
PROJECT ID	FACILITY/STATE	CENTERTICATION	SERIES	DATE/REVISION
DRAWING SCALE: NONE	P W	H600	1117 01	P9

WEBSTER COUNTY, WV

File Path: C:\Users\jkm\OneDrive\Documents\Projects\1117-01.dwg



WEBSTER COUNTY, WV

REFERENCE DRAWING	DATE	REVISION	BY	CHK	APP'D	NO.	DATE	REVISION	BY	CHK	APP'D
P-W-H600-1117-01	04/29/2018	ISSUED FOR BID	AK	KDS	MLB						
P-W-H600-1117-01											
P-W-H600-600-01											
P-W-H600-610-01											

TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE CODES, RULES AND SPECIFICATIONS.

DRAFT

4/8/2018
DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley
PARKERSBURG, WV

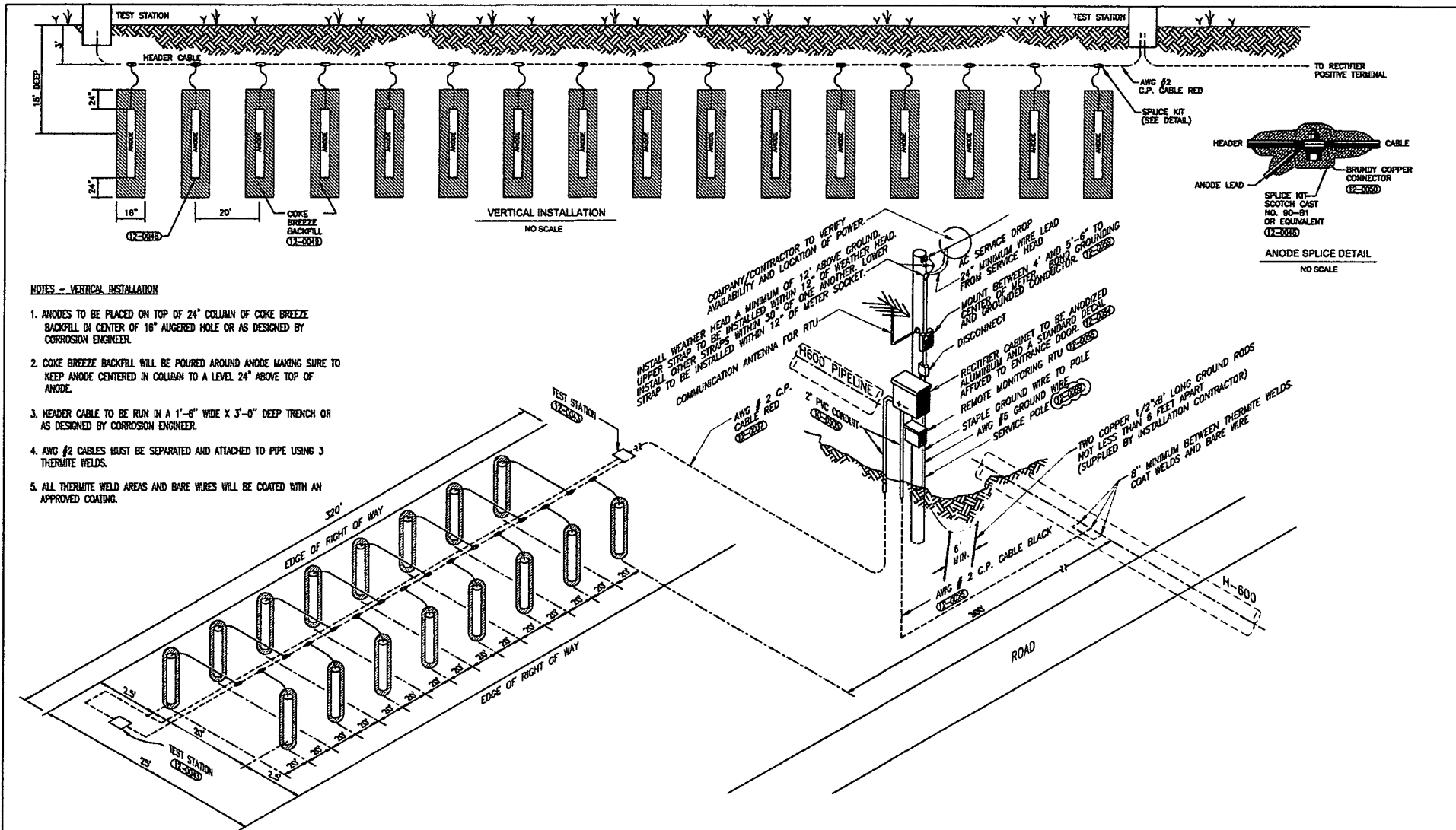
PROJECT ID: _____
DRAWING SCALE: NONE

DRAWING TITLE: H600 42" 1480 PSIG ANSI 600 MLV-10 VALVE SETTING INSTALLATION SECTIONS

FACILITY	STATUS	GENERATION	SHEET	REVISION
P	W	H600	1117	02

DATE: _____

P:\Projects\2018\42" MLV-10\42" MLV-10.dwg
 4/8/2018 10:45 AM
 1117-02



NOTES - VERTICAL INSTALLATION

1. ANODES TO BE PLACED ON TOP OF 24" COLUMN OF COKE BREEZE BACKFILL IN CENTER OF 16" AUGERED HOLE OR AS DESIGNED BY CORROSION ENGINEER.
2. COKE BREEZE BACKFILL WILL BE POURED AROUND ANODE MAKING SURE TO KEEP ANODE CENTERED IN COLUMN TO A LEVEL 24" ABOVE TOP OF ANODE.
3. HEADER CABLE TO BE RUN IN A 1'-6" WIDE X 3'-0" DEEP TRENCH OR AS DESIGNED BY CORROSION ENGINEER.
4. AWG #2 CABLES MUST BE SEPARATED AND ATTACHED TO PIPE USING 3 THERMITE WELDS.
5. ALL THERMITE WELD AREAS AND BARE WIRES WILL BE COATED WITH AN APPROVED COATING.

COMPANY/CONTRACTOR TO VERIFY AVAILABILITY AND LOCATION OF POWER.

INSTALL WEATHER HEAD A MINIMUM OF 12" ABOVE GROUND LEVEL. UPPER STRAP TO BE INSTALLED WITHIN 12" OF WEATHER HEAD. INSTALL OTHER STRAPS WITHIN 30" OF ONE ANOTHER. LOWER STRAP TO BE INSTALLED WITHIN 12" OF METER SOCKET.

COMMUNICATION ANTENNA FOR RTU

AWG #2 C.P. CABLE RED

2" PVC CONDUIT

6' HIGH

AWG #2 C.P. CABLE BLACK

AC SERVICE DROP

24" MINIMUM WIRE LEAD FROM SERVICE HEAD

MOUNT BETWEEN 4" AND 5'-6" TO CENTER OF METER BOX. GROUNDING AND BONDING CONDUCTOR.

DISCONNECT

RECTIFIER CABINET TO BE ANODIZED ALUMINUM AND A STANDARD DOOR AFFIXED TO ENTRANCE DOOR.

REMOTE MONITORING RTU

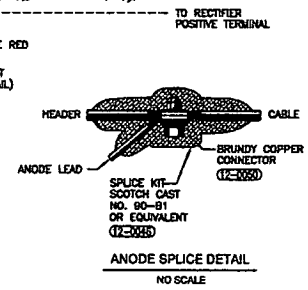
STAPLE GROUND WIRE TO POLE

AWG #6 GROUND WIRE

SERVICE POLE

TWO COPPER 1/2"x8" LONG GROUND RODS NOT LESS THAN 6 FEET APART (SUPPLIED BY INSTALLATION CONTRACTOR)

2" MINIMUM BETWEEN THERMITE WELDS AND BARE WIRE



REVISION	DATE	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
1	3/25/2018	PAUL LAYNE					PRELIMINARY			

TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

PAUL LAYNE
MECHANICAL DESIGN ENGINEER

DATE

ELECTRICAL DESIGN ENGINEER

DATE

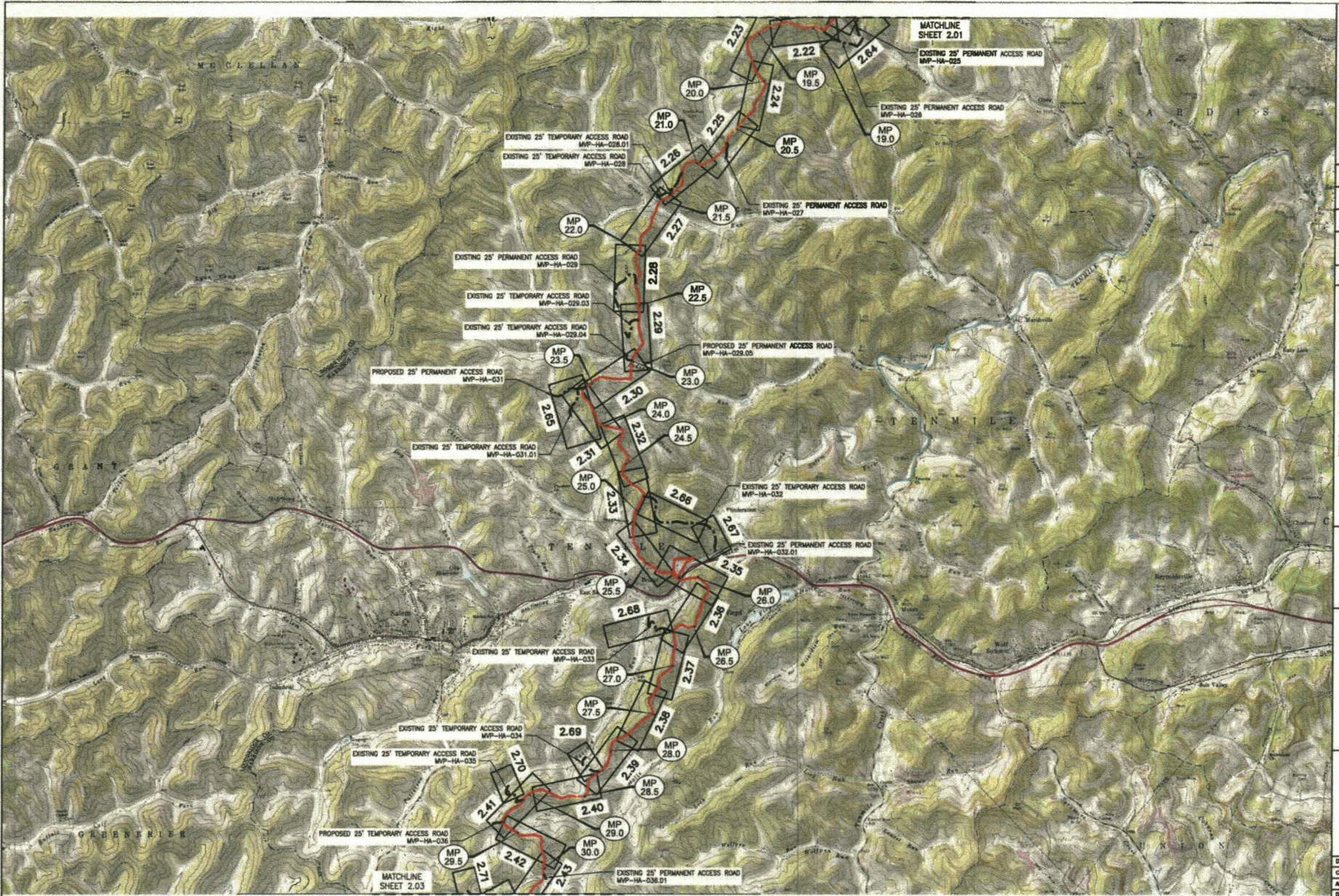
NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley

PROJECT NO: H600

DRAWING TITLE: 42" 1480 PSIG ANSI 600 RECTIFIER AND CONVENTIONAL GROUNDBED INSTALLATION - (16) VERTICAL ANODES

NO.	DATE	REVISION
P	W	H600-01
1204	06	P



NO.	DATE	BY	CHKD.	APPD.	DESCRIPTION

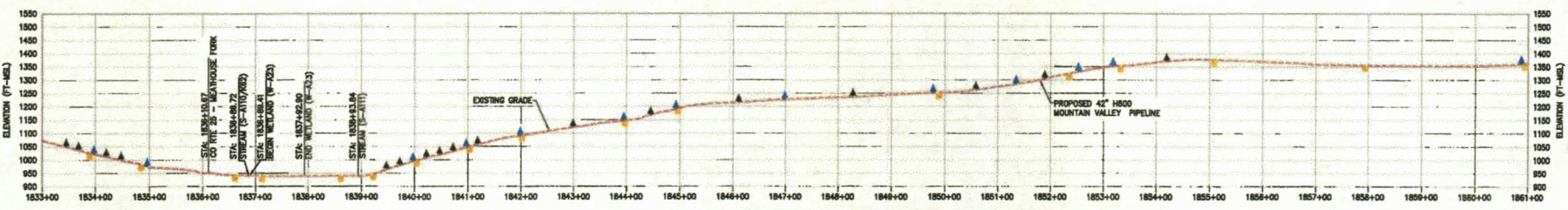
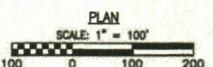
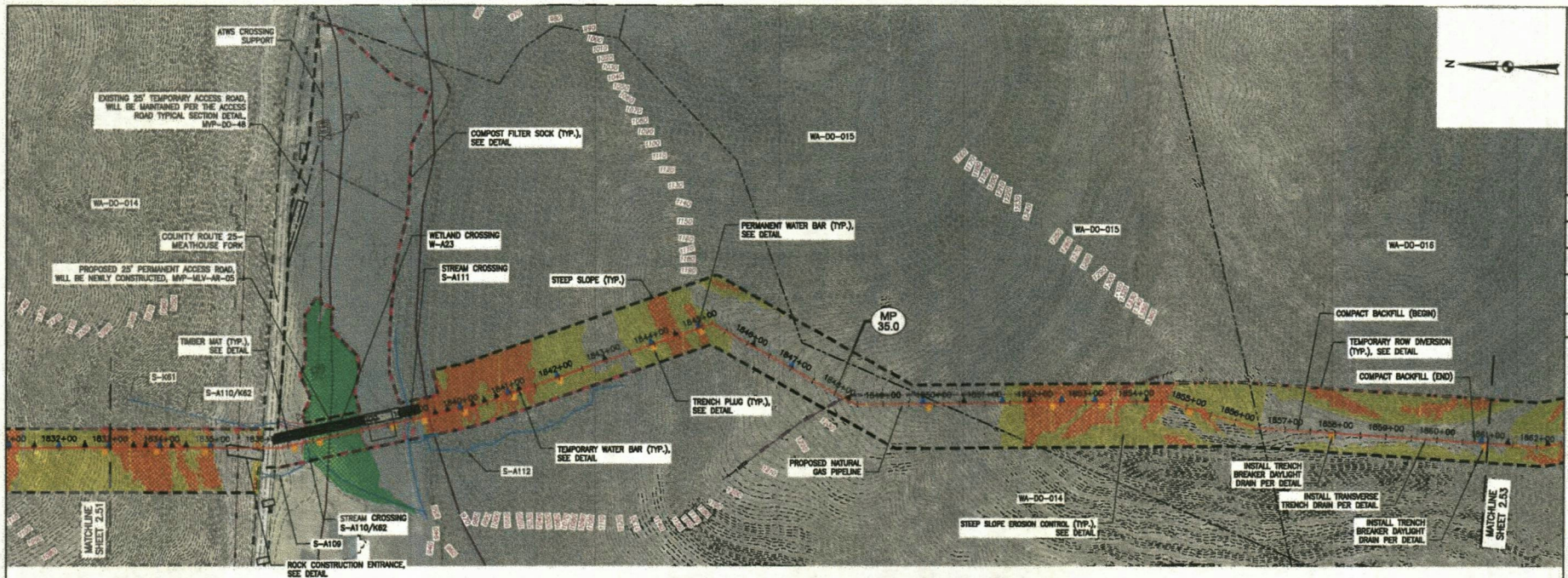
Mountain Valley
EROSION AND SEDIMENT CONTROL PLANS
MOUNTAIN VALLEY PIPELINE PROJECT - HOOD LINE
 HARRISON & DODDGE COUNTY, WEST VIRGINIA
MOUNTAIN VALLEY PIPELINE, LLC
 555 SOUTHPOINTE BOULEVARD, SUITE 200
 CHARLESTON, PA. 15017

TETRA TECH
 complete world. clear solutions™
 661 ANDERSEN DRIVE
 FOSTER PLAZA
 PITTSBURGH, PA 15220

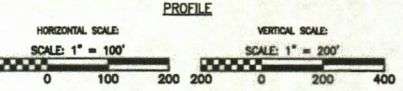
**CONSTRUCTION
PLANS**

DRAWN BY: KAL
 CHECKED BY: MT
 APPROVED BY: RE
 DATE: 2/19/2019
 SCALE: AS SHOWN
 SHT. NO. 2.02 OF 2.78

TETRA TECH CAD FILE PATH: \\G:\CAD_PROJECTS\2019\19-002 - Mountain Valley Pipeline\2019\2019-02-19-02.dwg PLOTTED ON: 10/24/2018 1:33:36 PM PLOTTED BY: jkenneth_bailey FILE: 19-002-02.dwg



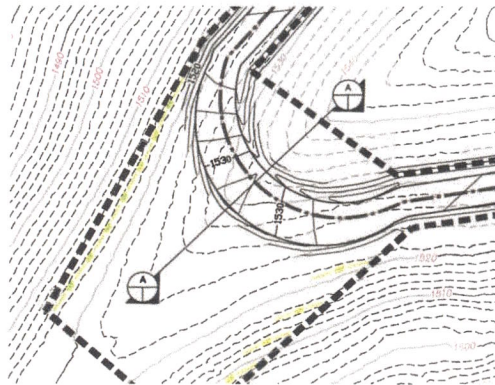
- LEGEND**
- PROPOSED LIMIT OF DISTURBANCE
 - PROPOSED ACCESS ROAD CENTERLINE
 - PROPOSED PIPELINE
 - PROPOSED SILT FENCE (SEE NOTE 4)
 - PROPOSED SUPER SILT FENCE
 - ORANGE CONSTRUCTION SAFETY FENCE
 - CCF
 - PROPOSED COMPOST FILTER SOCK
 - PROPOSED REINFORCED FILTRATION DEVICE
 - PROPOSED TEMPORARY RIGHT OF WAY DIVERSION AND OUTLET
 - EXISTING CULVERT
 - STREAM
 - WETLAND
 - POND
 - PROPOSED CULVERT WITH OUTLET PROTECTION
 - TIMBER MAT
 - STEEP SLOPE EROSION CONTROL (SEE NOTE 3)
 - STEEP SLOPE (SEE NOTE 5)
 - PROPOSED PERMANENT WATER BAR
 - PROPOSED TEMPORARY WATER BAR
 - PROPOSED BROAD BASED DIP
 - PROPOSED TRENCH PLUG
 - PROPOSED ROCK CONSTRUCTION ENTRANCE



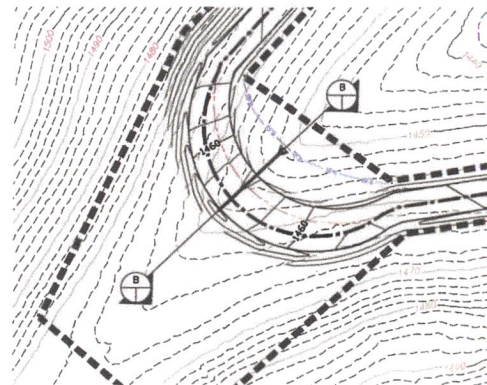
- ACCESS ROAD LEGEND**
- 1 ROCK CONSTRUCTION ENTRANCE
 - 2 WETLAND CROSSING
 - 3 STREAM CROSSING

- NOTES:**
1. WATERBARS WITHIN AGRICULTURAL AREAS SHALL BE USED AS TEMPORARY FEATURES.
 2. NO EROSION CONTROL MATTING SHALL BE INSTALLED IN AGRICULTURAL AREAS.
 3. FLEXTECH OR EQUIVALENT MAY BE USED AS A SUBSTITUTE TO EROSION CONTROL BLANKET AS DIRECTED BY M.P.
 4. CONTRACTOR IS RESPONSIBLE TO IDENTIFY ALL UTILITIES. THE UTILITY LINES SHOWN ON THE PLAN ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT REPRESENT SURVEYED LINE INFORMATION.
 5. SLOPES OF 3:1 OR GREATER EXIST. CONSTRUCTION FOR STEEP SLOPES TO BE PERFORMED USING STEEP SLOPE TECHNIQUES IDENTIFIED IN THE DETAIL SHEETS.
 6. WHERE CONSTRUCTION CONDITIONS PRECLUDE THE USE OF DIVERSION DITCHES DUE TO SITE CONDITIONS THE CONTRACTOR WILL INSTALL SILT FENCE AT THE DIRECTION OF M.P.
 7. IMPROVEMENTS TO PERMANENT AND TEMPORARY ACCESS ROADS WILL BE PERFORMED AS NEEDED AND B.M.P.'S MAY BE SUBSTITUTED BY FIELD EVALUATIONS REQUIRE ADJUSTMENTS TO ACCOMMODATE FIELD VERIFIED CONDITIONS.
 8. WETLANDS AND STREAMS WILL BE CROSSED ACCORDING TO THE APPROPRIATE DETAILS. ACCESS ROADS WILL BE CROSSED CULVERTS WHERE THEY EXIST AND NON-CULVERTED STREAMS OR STREAM SEGMENTS WILL BE CROSSED UTILIZING TIMBER MATS, BRIDGING, OR CULVERTS AS DICTATED BY FIELD CONDITIONS DURING CONSTRUCTION.

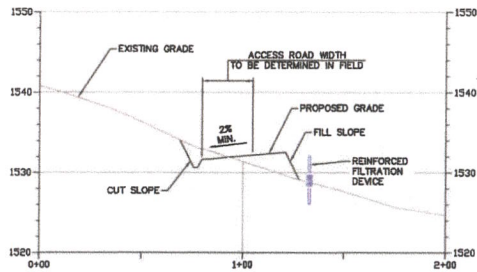
	<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>CHKD.</th> <th>APPD.</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	BY	CHKD.	APPD.	DESCRIPTION						
NO.	DATE	BY	CHKD.	APPD.	DESCRIPTION								
<p>EROSION AND SEDIMENT CONTROL PLANS MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE <small>OWNER: GEORGETOWN, WEST VIRGINIA</small></p>													
<p>MOUNTAIN VALLEY PIPELINE, LLC <small>500 SOUTHPOINTE BOULEVARD, SUITE 200 CHICAGO, PA 15317</small></p>													
<p>www.tetra-tech.com CLEAR SOLUTIONS™ 661 ANDERSON DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220</p>													
<p style="border: 1px solid black; padding: 5px; display: inline-block;">CONSTRUCTION PLANS</p>													
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">DRAWN BY: KAL</td> <td style="width: 50%;">CHECKED BY: HT</td> </tr> <tr> <td>APPROVED BY: NE</td> <td>DATE: 2/18/2016</td> </tr> <tr> <td>SCALE: AS SHOWN</td> <td>SHT. NO. 2.52 OF 2.76</td> </tr> </table>		DRAWN BY: KAL	CHECKED BY: HT	APPROVED BY: NE	DATE: 2/18/2016	SCALE: AS SHOWN	SHT. NO. 2.52 OF 2.76						
DRAWN BY: KAL	CHECKED BY: HT												
APPROVED BY: NE	DATE: 2/18/2016												
SCALE: AS SHOWN	SHT. NO. 2.52 OF 2.76												



PLAN VIEW
SCALE 1" = 50'

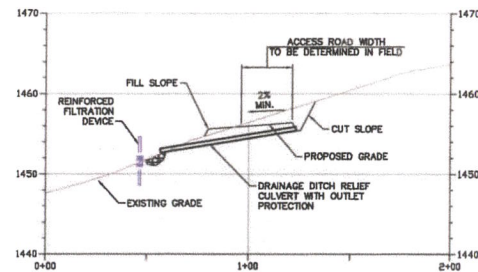


PLAN VIEW
SCALE 1" = 50'



PROFILE VIEW A-A
SCALE AS SHOWN

ATWS VEHICLE TURNING RADIUS
NOSE DETAIL
SCALE AS SHOWN



PROFILE VIEW B-B
SCALE AS SHOWN


ATWS VEHICLE TURNING RADIUS
VALLEY DETAIL
SCALE AS SHOWN

NOTES:

- ELEVATIONS ARE FOR ILLUSTRATIVE PURPOSES AND ARE NOT SPECIFIC TO EACH SITE. ACTUAL ELEVATIONS WILL BE DETERMINED IN THE FIELD.
- CUT SLOPES ARE TO BE SEEDED AND MULCHED IMMEDIATELY.

TECHNICAL FILE PATH: \\C:\GEO_P\Projects\12107187 - 12107187 - 0000\GEM\12107187.dwg PLOTTED ON: 11/23/2016 10:28 AM PLOTTED BY: [Redacted] Plot File: P:\GEM\12107187.dwg

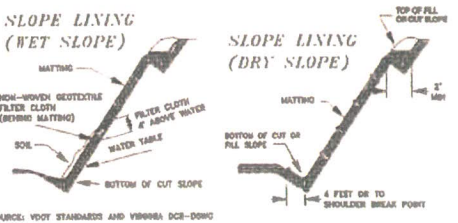
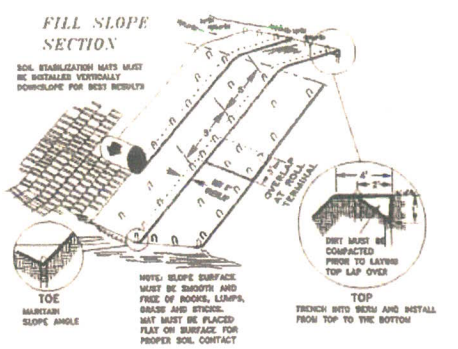
NO.	DATE	BY	CHKD	APPD	DESCRIPTION


EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE
 WETZEL COUNTY THROUGH MONROE COUNTY, WEST VIRGINIA
MOUNTAIN VALLEY PIPELINE, LLC
 555 SOUTHPOINTE BOULEVARD, SUITE 200
 CHARLESTON, PA 15017


TETRA TECH
Partnering with nature. Clear solutions.
 861 ANDERSON DRIVE
 FOSTER PLAZA 7
 PITTSBURGH, PA 15220

**CONSTRUCTION
PLANS**

DESIGNED BY:	NAL
CHECKED BY:	HT
APPROVED BY:	NE
DATE:	2/18/2016
SCALE:	AS SHOWN
SHT. NO.	022 OF 021



EROSION CONTROL FABRIC BLANKETING FOR PROTECTION ON STEEP SLOPES
TAKEN FROM 2006 MANUAL



Typical Polymer Stabilized Fiber Matrix Application Rates

Maximum Slope of 2:1	6:1	5:1	4:1	3:1	2:1	1.5:1	1:1
Soil Stabilizer (gal/acre)	4	5	6	7	8	9	10
Fiber (lb/acre)	1,500	1,500	1,500	1,800	2,000	2,500	3,000

Maximum Slope of > 2:1 and for Site Winterization	6:1	4:1	3:1
Soil Stabilizer (gal/acre)	5	8	10
Fiber (lb/acre)	2,000	2,500	3,000

NOTES:

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

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

A POLYMER STABILIZED FIBER MATRIX (PSFM) CAN ALSO BE AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. PSFM'S MAKE USE OF A LINEAR SOIL STABILIZING TACKIFIER THAT WORKS DIRECTLY ON SOIL TO MAINTAIN SOIL STRUCTURE, MAINTAIN PORE SPACE CAPACITY AND FLOCCULATE DISLODGED SEDIMENT THAT WILL SIGNIFICANTLY REDUCE RUNOFF TURBIDITY. PROPERLY APPLIED, A PSFM MAY BE AS MUCH AS 90% EFFECTIVE.

NOTES:

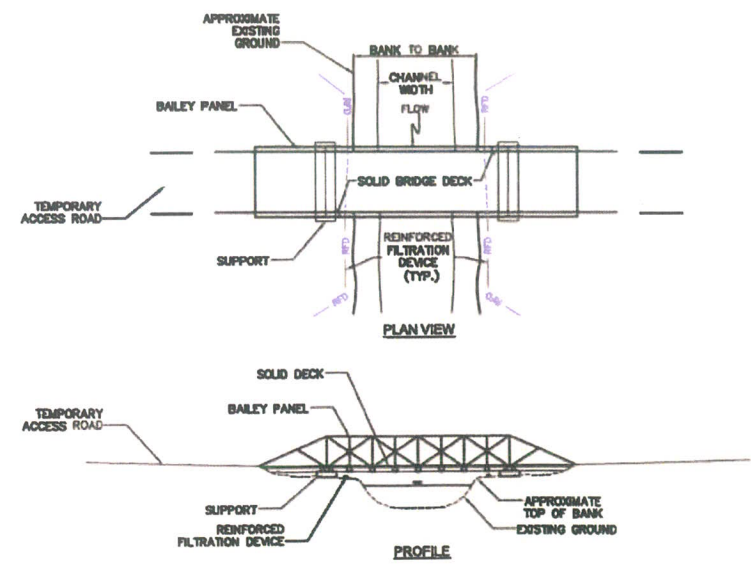
UNLIKE ROLLED BLANKETS, THERE IS NO NEED TO SMOOTH THE SLOPE PRIOR TO APPLICATION OF HYDRAULICALLY APPLIED BLANKETS. IN FACT SOME ROUGHENING OF THE SURFACE, EITHER NATURAL OR MECHANICALLY INDUCED, IS PREFERABLE. HOWEVER, LARGE ROCKS, THOSE > 9 INCHES, AND EXISTING RILLS SHOULD BE REMOVED PRIOR TO APPLICATION.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

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

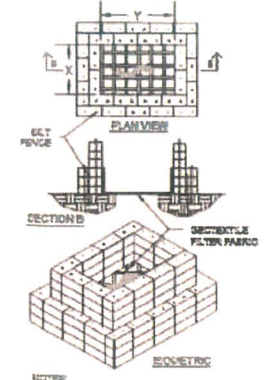
BONDED FIBER MATRIX

STEEP SLOPE EROSION CONTROL OPTIONS

MINIMUM SLUMP DIMENSIONS (FEET)		MAXIMUM PUMPING RATE (GALLONS PER MINUTE)
X	Y	
10	20	300
15	20	300
20	20	400
20	25	400
25	25	500
25	30	500
30	30	600



MODULAR TEMPORARY BAILEY BRIDGE



- NOTES:**
1. ARRANGE THE STRAW BALES TO THE X AND Y DIMENSIONS AS SPECIFIED IN THE CHART.
 2. IN OPTION 2, THE BOTTOM OF THE STRUCTURE IS NOT LINED WITH STRAW BALES. LINE THE ENTIRE STRUCTURE WITH GEOTEXTILE FILTER FABRIC.
 3. GEOTEXTILE FILTER FABRIC TO BE USED IN CONJUNCTION WITH STRAW BALE STRUCTURE FOR IMPROVED SEDIMENT REMOVAL.
 4. SEAMS OF GEOTEXTILE FABRIC TO BE SEWN TOGETHER.

TYPICAL BALE DEWATERING STRUCTURE

REFERENCES:
WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL, DATED 2006.
WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, DRAFT DATED 7-28-2010.
WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, DATED MAY 2012.

NO.	DATE	BY	CHKD.	APPD.	DESCRIPTION

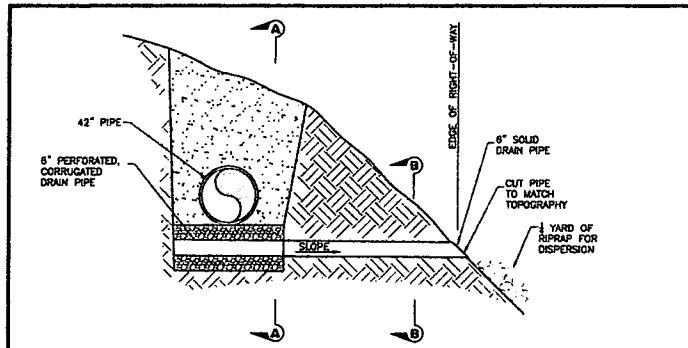
Mountain Valley
EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE
WETZEL COUNTY THROUGH MONROE COUNTY, WEST VIRGINIA

MOUNTAIN VALLEY PIPELINE, LLC
555 SOUTHPOINTE BOULEVARD, SUITE 200
CANONSBURG, PA 15317

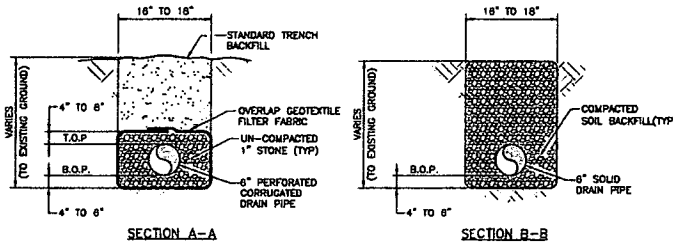
TETRA TECH
complex world CLEAR SOLUTIONS®
661 ANDERSEN DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220

CONSTRUCTION PLANS

DRAWN BY:	KAL
CHECKED BY:	HT
APPROVED BY:	RE
DATE:	2/19/2016
SCALE:	AS SHOWN
SHT. NO.	007 OF 021



MAINLINE CROSS SECTION



NOTES

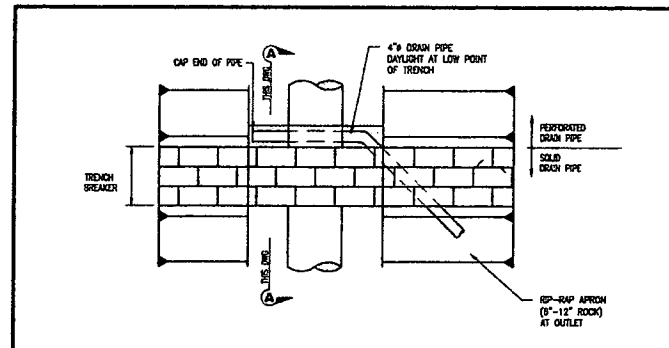
1. LOW POINT DITCH DRAINS SHALL BE INSTALLED AT LOCATIONS SPECIFIED IN THE APPROVED EROSION & SEDIMENTATION CONTROL PLAN, AND AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
2. FILL STONE SHOULD BE 1" AGGREGATE WITHOUT FINES, CRUSHER RUN WITHOUT FINES, OR EQUIVALENT.
3. DRAIN PIPE TO BE CONNECTED USING STANDARD PIPE COLLARS.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

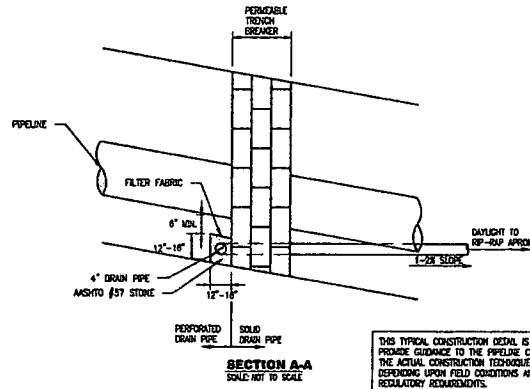
DRAWN	JL	DATE	10/8/2018
CHECKED	MAF	DATE	10/8/2018
APP'D	XXX	DATE	10/8/2018
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE
DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
SIDEHILL LOW-POINT DRAIN TYPICAL	
DRAWING NO.	MVP-24
REV.	0



PLAN SCALE NOT TO SCALE



SECTION A-A SCALE NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN	TEB	DATE	2/03/2018
CHECKED	MAF	DATE	2/03/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE
DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
TRENCH BREAKER DAYLIGHT DRAIN	
DRAWING NO.	MVP-35
REV.	0

Revised by: [Name], [Date], [Revision]

File Path: X:\CAD\001_Pittsburgh\1811787 - RYPLU - General\References\18-02-18 Added to Set\MVP-35.dwg

SLIP PREVENTION DETAIL

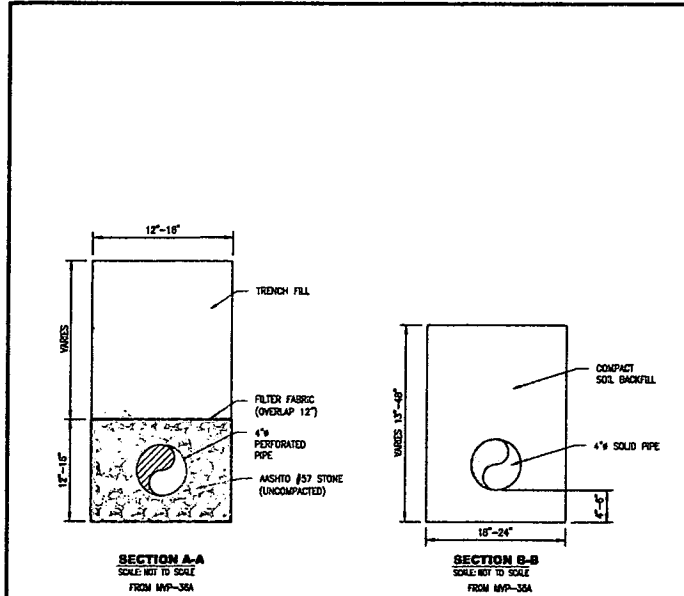
NO.	DATE	BY	CHKD.	APP'D.	DESCRIPTION

Mountain Valley PIPELINE
EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE
MOUNTAIN VALLEY PIPELINE, LLC
505 SOUTHPOINTE BOULEVARD, SUITE 600
CAMDEN, PA 17017

TETRA TECH
CONSTRUCTION WORLD CLASS SOLUTIONS
881 ANDERSON DRIVE
PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN BY	JL
CHECKED BY	MAF
APP'D BY	XXX
DATE	2/18/2018
SOLD AS SHOWN	YES
SHT. NO.	010 OF 025



SECTION A-A
SCALE: NOT TO SCALE
FROM MVP-38A

SECTION B-B
SCALE: NOT TO SCALE
FROM MVP-38A

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY VARY DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

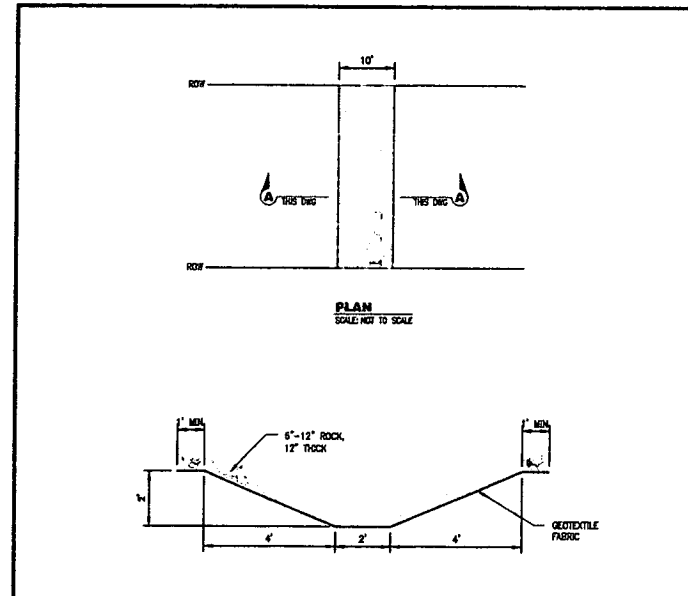
Revised by: LUT, Each on October 18, 2016 - 3:39 PM

DRAWN	TDD	DATE	2/03/2016
CHECKED	MAF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE
DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
TRANSVERSE TRENCH DRAIN	
DRAWING NO.	MVP-38B
REV.	0

File Path: X:\CAD\1111sburn\1011157 - MVP10 - General\References\10-12-16 Added to Set\MVP-38B.dwg



PLAN
SCALE: NOT TO SCALE

SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY VARY DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

Revised by: LUT, Each on October 18, 2016 - 3:39 PM

DRAWN	TDD	DATE	2/03/2016
CHECKED	MAF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE
DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
ROCK LINED SWALE	
DRAWING NO.	MVP-39
REV.	0

File Path: X:\CAD\1111sburn\1011157 - MVP10 - General\References\10-12-16 Added to Set\MVP-39.dwg

SUP PREVENTION DETAIL

NO.	DATE	BY	DESCRIPTION

Mountain Valley PIPELINE
EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE
MOUNTAIN VALLEY PIPELINE, LLC
550 SOUTHPOINTE BOULEVARD, SUITE 200
CAMBERSBURG, PA 17317

TETRA TECH
COMPLETE WATER CLEAR SOLUTIONS™
581 ANDERSON DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY VARY DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN BY:	ML
CHECKED BY:	HT
APPROVED BY:	
DATE:	2/16/2016
SCALE:	AS SHOWN
DWG. NO.:	014 OF 037

COMPACTION NOTES

- 1) ALL ROCKS LARGER THAN 6 INCHES IN SIZE, AND MORE THAN 10 PERCENT BY VOLUME SHOULD BE REMOVED AND PROPERLY DEPOSITED FROM THE SHOVELL MATERIAL.
- 2) THE SURFACE AT THE BASE OF THE EXCAVATION SHOULD BE PROFILESOLLED WITH A PNEUMATIC TIRE ROLLER OR VEHICLE.
- 3) THE EXCAVATED AREA SHALL BE BACKFILLED WITH THE CLEARED EXCAVATED SOIL MATERIAL AND COMPACTED IN PLACE.
- 4) SHOVELL OPERATIONS SHALL BE PERFORMED WHEN SOIL IS SUITABLE FOR COMPACTION (I.E. NOT SIGNIFICANTLY FOLLOWING A LARGE FRESH SHAW, OR ICE EXACT). FRESH FILL SHALL NOT BE USED.
- 5) THE SHOVELL SHALL BE PLACED IN COMPACTED LIFTS NO GREATER THAN 12 INCHES.
- 6) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN COMPACTION ACTIVITY AND THE GAS PIPELINE.

GEOTEXTILE FABRIC NOTES

- 1) GEOTEXTILE FABRIC SHALL BE TENSILE MINOR 1 CM OR APPROVED EQUIVALENT.
- 2) THE GEOTEXTILE FABRIC SHALL BE STORED UNWOUND PLACED TO MANUFACTURER'S RECOMMENDATIONS.
- 3) DO NOT OPERATE CONSTRUCTION EQUIPMENT DIRECTLY ON THE GEOTEXTILE FABRIC.
- 4) DRAINAGE AGGREGATE SHALL MEET THE REQUIREMENTS OF MANDT NO. 57 STONE.
- 5) DRAINAGE AGGREGATE SHALL NOT BE COMPACTED.

GEOTEXTILE NOTES

- 1) GEOTEXTILE REINFORCEMENT SHALL BE TENSILE MINOR 50T OR APPROVED EQUIVALENT.
- 2) THE GEOTEXTILE MATERIAL SHALL BE STORED UNWOUND PLACED TO MANUFACTURER'S RECOMMENDATIONS.
- 3) GEOTEXTILE SHALL BE PLACED HORIZONTALLY ON THE SHOVELL WITH THE PRINCIPAL STRENGTH DIRECTION PERPENDICULAR TO THE FACE OF THE SLOPE. ADJACENT PIECES OF PRINCIPAL GEOTEXTILE SHALL NOT OVERLAP BUT ARE TO BE BUTTED SIDE TO SIDE.
- 4) REMOVE ALL SLACK IN THE GEOTEXTILE MATERIAL AND ANCHOR AS NECESSARY WITH PINS, OR BAGS TO PREVENT SLACK FROM DEVELOPING DURING FILL PLACEMENT AND COMPACTOR.
- 5) FILL IS TO BE PLACED AND SPREAD DIRECTLY ON THE GEOTEXTILE MATERIAL WITH RUBBER TIRE DUMPERS ONLY. SPEEDS ARE TO BE KEPT SLOW WITH NO FEW STOPS AND TURNS AS PRACTICAL.
- 6) DO NOT OPERATE TRACKED EQUIPMENT DIRECTLY ON THE GEOTEXTILE MATERIAL.
- 7) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN GEOTEXTILE MATERIAL AND THE GAS PIPELINE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY VARY DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN	TDG	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	3 OF 3
JOB NO.			
PROJECT ID:	PXXXX		



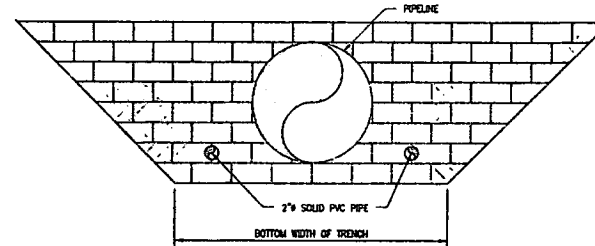
DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL

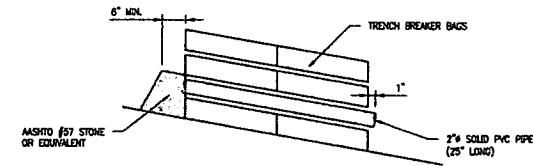
GEOGRID NOTES

DRAWING NO.	MVP-42C
REV.	0

File Path: X:\CADD\Pittsburgh\1011757 - MVP10 - General\References\10-12-16 Added to Set\MVP-42C.dwg



FRONT VIEW
SCALE: NOT TO SCALE



SECTION VIEW
SCALE: NOT TO SCALE

NOTES:

1. PLACE PVC DRAIN PIPE ON FIRST LAYER OF TRENCH BREAKER BAGS.
2. PLACE PVC DRAIN PIPE EQUIDISTANT FROM THE OUTSIDE EDGE OF THE 30" GAS PIPE AND THE BOTTOM LISTS OF THE TRENCH.
3. EXTEND PVC PIPE THROUGH ENTIRE TRENCH BREAKER AND EXTEND APPROX. 1' PAST END OF BREAKER.
4. ASPHALT #57 STONE SHALL BE PLACED TO A MINIMUM 6" THICKNESS UPSLOPE OF THE DRAIN PIPE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY VARY DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN	TDG	DATE	4/14/2016
CHECKED	MMF	DATE	4/14/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:	PXXXX		



DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL

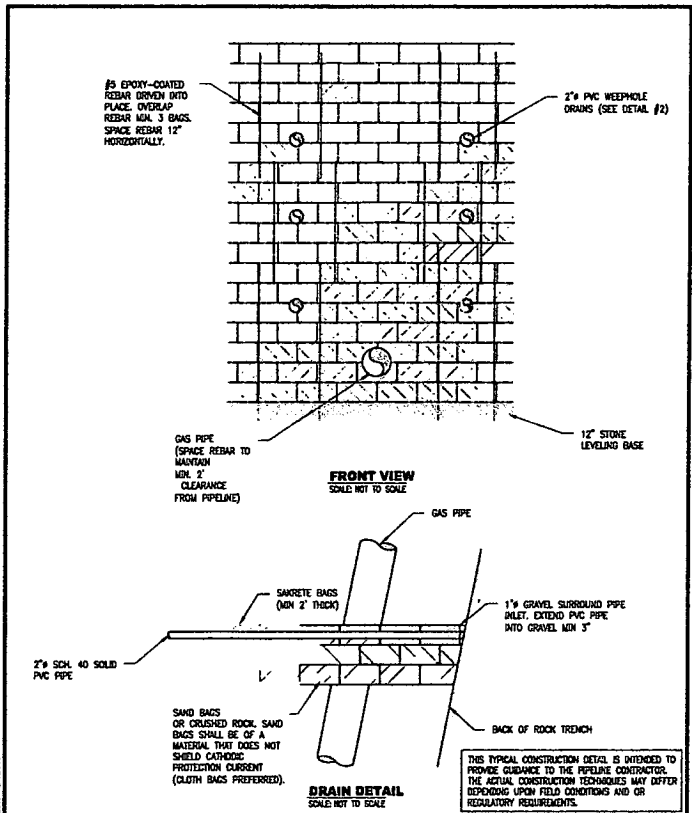
TRENCH BREAKER PASS-THROUGH DRAIN

DRAWING NO.	MVP-43A
REV.	0

File Path: X:\CADD\Pittsburgh\1011757 - MVP10 - General\References\10-12-16 Added to Set\MVP-43A.dwg

S/LP PREVENTION DETAIL

		EROSION AND SEDIMENT CONTROL DETAILS MOUNTAIN VALLEY PIPELINE PROJECT - HROD LINE	
MOUNTAIN VALLEY PIPELINE, LLC 555 SOUTHPOINTE BLDG, SUITE 200 CAMDEN, PA 17017		REVISIONS:	
NO.	DATE	DESCR.	APPROV.
		TETRA TECH CLEAR SOLUTIONS™ 801 ANDERSON DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220	
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY VARY DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.			
DESIGN BY	TDG	CHECKED BY	MMF
APPROVED BY	TDG	DATE	2/19/2016
SCALE	AS SHOWN	SHEET NO.	018 OF 021



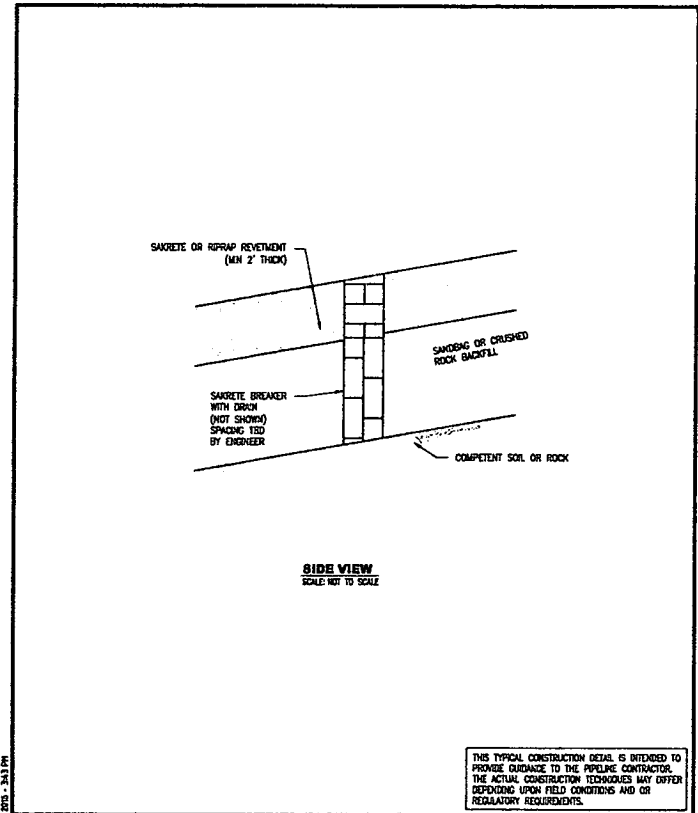
DRAWN	CL	DATE	6/29/2018
CHECKED	MMF	DATE	-
APP'D		DATE	
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
SLIDE MITIGATION HIGHWALL REVETMENT FRONT VIEW AND DRAIN DETAIL	
DRAWING NO.	MVP-44B
REV.	0

File Path: X:\CAD\1_Pittsburgh\12011757 - RPP10 - General\References\10-12-18 Added to Set\URV-44B.dwg



DRAWN	TDJ	DATE	2/03/2018
CHECKED	MMF	DATE	2/03/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
STEEP SLOPE REVETMENT	
DRAWING NO.	MVP-45
REV.	0

File Path: X:\CAD\1_Pittsburgh\12011757 - RPP10 - General\References\10-12-18 Added to Set\URV-45.dwg

SLIP PREVENTION DETAIL

NO.	DATE	BY	DESCRIPTION

Mountain Valley

EROSION AND SEDIMENT CONTROL DETAILS

MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE

MOUNTAIN VALLEY PIPELINE, LLC

655 SOUTHPOINTE BULLDOZER, SUITE 200

CHAMBERSBURG, PA 17317

TETRA TECH

CLEAR WATER SOLUTIONS

681 ANDERSON DRIVE

FOSTER PLAZA 7

PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY VARY DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN BY:	MMF
CHECKED BY:	TDJ
APPROVED BY:	MMF
DATE:	2/19/2018
SCALE:	AS SHOWN
SHT. NO.	018 OF 031

GENERAL CONSTRUCTION SEQUENCE

THE FOLLOWING IS A GENERAL SEQUENCE FOR EARTHMOVING ACTIVITIES ASSOCIATED WITH CONSTRUCTION OF THE PIPELINE:

1. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS PRIOR TO EARTH DISTURBANCE. REFER TO BEST MANAGEMENT PRACTICES (BMP) INSTALLATION AND REMOVAL NOTES. APPROPRIATE BMP'S SHOULD BE PLACED AROUND SENSITIVE AREAS PRIOR TO EARTH DISTURBANCE. STORM CONSTRUCTION ENTRANCES (SCE) ARE TO BE PROVIDED AT ALL LOCATIONS WHERE ACCESS ROADS AND PIPELINES WILL BE ACCESSING OR CROSSING A PUBLIC ROADWAY.
2. INSTALL TEMPORARY EAS CONTROLS FOR STREAM CROSSINGS AT LOCATIONS SHOWN ON THE EAS PLAN SHEETS. NO EARTH DISTURBANCE ACTIVITIES WITHIN 50 FEET OF STREAM CHANNELS WILL BE PERFORMED UNTIL MATERIALS NEEDED TO COMPLETE THE CROSSING ARE AT THE LOCATION.
3. GENERAL CLEARING AND GRUBBING OF THE TREES AND BRUSH ALONG THE RIGHT-OF-WAY (ROW) FOR PIPELINE TRENCHING MAY COMMENCE TO THE WIDTH SPECIFIED IN THE ROW AGREEMENTS OR CONSTRUCTION ALIGNMENT SHEETS, WHICHEVER IS LESS. SMALLER DEGREES SUCH AS SHRUBS OR LIMBS ARE TO BE CHIPPED AND UTILIZED ON-SITE AS PART OF THE SOIL STABILIZATION, UNLESS OTHERWISE DIRECTED BY THE LANDOWNER. LOGS WILL EITHER BE HAULED OFF-SITE OR GIVEN TO THE LANDOWNER UPON THEIR REQUEST. STUMPS AND/OR LOGS WILL BE GROUND, CHIPPED, HONKORED, OR HAULED OFF-SITE.
4. INSTALL TEMPORARY WATERBARS IMMEDIATELY AFTER INITIAL DISTURBANCE OF THE SOIL IN ACCORDANCE WITH THE WATERBAR SPACING AND SIZING REQUIREMENTS SHOWN ON THE PLAN AND DETAIL SHEETS. WATERBARS WILL BE CONSTRUCTED OF SOIL AND USED TO REDUCE RUNOFF VELOCITY AND DIVERT WATER OFF THE PIPELINE ROW. WATERBARS WILL BE INSTALLED WITH COMPOSTED FILTER SOCK AT THE DISCHARGE END.
5. EXCAVATE PIPELINE TRENCH AND BEGIN GRADING OF PROPOSED METER AND RECTIFIER ANODE BED SITES. THE PROPOSED CONSTRUCTION ROW AND EXTRA WORKSPACES ARE TO BE USED AS A WORK AREA FOR TRENCH EXCAVATION, EQUIPMENT MOVEMENT AND THE TEMPORARY STORAGE OF SOIL STOCKPILES, AS NEEDED. EQUIPMENT, SOIL STOCKPILES AND OTHER MATERIALS ARE TO REMAIN UPSTREAM OF BMP'S DURING CONSTRUCTION ACTIVITIES. REFER TO BMP INSTALLATION AND REMOVAL SCHEDULE FOR THE BMP'S TO BE USED FOR PROTECTION DURING TRENCH EXCAVATION AND AROUND TEMPORARY SOIL STOCKPILES. SEPARATE SOIL AND SUBSOIL WILL BE PERFORMED WHERE TRENCH EXCAVATION TAKES PLACE IN AN AGRICULTURAL, WETLAND OR RESIDENTIAL AREA.
6. PIPELINE SECTIONS WILL BE TRANSPORTED TO THE WORK AREA AND STRUNG ALONG THE WORKING SIDE OF THE ROW PARALLEL TO THE TRENCH LINE. WELDING CAN OCCUR IN OR OUT OF THE TRENCH. THE PIPELINE WILL BE BENT TO CONFORM TO THE TRENCH CONTOUR, ALIGNED WELDED AND PLACED ON TEMPORARY SUPPORTS ALONGSIDE THE TRENCH. WELDS WILL BE VISUALLY AND BACK-COMPACTED AS NECESSARY. THE PIPE SECTION WILL BE LOADED INTO THE TRENCH AND PLACED ON PADDING PER MIP CONSTRUCTION STANDARDS. ANY WETNESS ENCOUNTERED DURING CONSTRUCTION WORK WILL BE DETAILED BY USING PUMPS, HOSES, AND PUMPED FILTER (DEWATERING) BAGS, AND WILL BE DISCHARGED TO A WELL VEGETATED UPLAND AREA. NO STANDING WATER IS PERMITTED IN PIPE TRENCH AT ANY POINT IN TIME EXCEPT FOR WETLAND AREAS.
7. STREAM PIPELINE CROSSING CONSTRUCTION METHODS WILL BE INSTALLED AT LOCATIONS SHOWN ON THE EAS PLAN SHEETS AND AS SPECIFIED ON DETAIL SHEET. STREAM BANK STABILIZATION WILL BE INSTALLED IMMEDIATELY FOLLOWING COMPLETION OF PIPELINE INSTALLATION AS SHOWN ON THE DETAIL SHEET.
8. INSTALL TRENCH BREAKERS AT LOCATIONS SHOWN ON THE DRAWINGS OR AS DIRECTED BY MYP AND AS SPECIFIED ON THE DETAIL SHEET.
9. THE TRENCH WILL SUBSEQUENTLY BE BACKFILLED WITH SUITABLE EXCAVATED MATERIAL. THE BACKFILL MATERIAL WILL BE SLIGHTLY CROWNED IN UPLAND AREAS TO ALLOW FOR SETTLEMENT THAT MAY OCCUR. CROWNING THE SOIL SLIGHTLY OVER THE PIPELINE WILL HELP PREVENT FUTURE STORM WATER-RELATED PROBLEMS FROM SETTLING OF THE BACKFILLED AREA. NO CROWNING OF SOILS WILL TAKE PLACE IN WETLANDS, STREAMS OR FLOODPLAINS. IN AREAS WHERE TOPSOIL HAS BEEN SEPARATED, THE SUBSOIL WILL BE REPLACED FIRST, AND THEN THE TOPSOIL WILL BE SPREAD OVER THE AREA FROM WHICH IT WAS REMOVED. DISTURBED AREAS WILL BE RESTORED TO THEIR APPROXIMATE ORIGINAL TOPOGRAPHIC CONTOURS.
10. STABILIZE EXPOSED AND UNWORKED SOILS BY APPLICATION OF EFFECTIVE BMP'S THAT PROTECT THE SOIL FROM THE EROSION, FORCES OF RAINFALL, FLOWING WATER, AND WIND. AREAS AT FINAL GRADE SHOULD BE SEEDING AND MULCHED OR OTHERWISE STABILIZED WITHIN 7 DAYS AND AREAS THAT WILL NOT BE WORKED AGAIN FOR 21 DAYS OR MORE MUST BE SEEDING AND MULCHED OR OTHERWISE STABILIZED WITHIN 7 DAYS.
11. IN THE UNLIKELY EVENT THAT THERE ARE EXCESS EXCAVATED MATERIALS REMAINING AFTER THE TRENCH HAS BEEN BACKFILLED, THE MATERIAL IS TO BE DEPOSITED OF WITHIN THE EXISTING ROW IN AN UPLAND AREA OUTSIDE OF THE 100-YEAR FLOODPLAIN. MATERIAL WILL BE SPREAD IN A THIN LAYER AND TIED INTO EXISTING CONTOURS TO CREATE POSITIVE DRAINAGE FOR STORMWATER RUNOFF.
12. CONSTRUCT PERMANENT WATERBARS AFTER COMPLETION OF GRADING IN ACCORDANCE WITH THE WATERBAR SPACING AND SIZING REQUIREMENTS SHOWN ON PLAN AND DETAIL SHEETS. PERMANENT WATERBARS ARE NOT PERMITTED IN AGRICULTURAL OR PASTURE LANDS.
13. REVEGETATE DISTURBED AREA PER TABLES ON THIS SHEET OR PER LANDOWNER REQUEST. FOR 3:1 OR STEEPER SLOPES THE DISTURBED AREA WILL HAVE EROSION CONTROL FABRIC (BLANKETING, HYDROSEEDING, FLEXITERRA, OR APPROVED EQUAL) INSTALLED AS SHOWN ON DETAIL SHEET. BLANKETING IS NOT PERMITTED IN AGRICULTURAL OR PASTURE LANDS.
14. RE-ESTABLISH APPROPRIATE DRAINAGE IN EXISTING ROAD CHANNELS PRIOR TO SEEDING AND MULCHING.
15. INSPECTION OF ALL EROSION AND SEDIMENTATION CONTROLS WITHIN DISTURBED AREAS WILL BE, AT A MINIMUM, PERFORMED ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. REPAIRS OR MAINTENANCE SHALL BE PERFORMED IMMEDIATELY TO BMP'S. A FINAL INSPECTION SHALL BE REQUESTED ONCE THERE IS UNIFORM, PERENNIAL 70 PERCENT VEGETATIVE COVERAGE ESTABLISHED. TEMPORARY BMP'S WILL BE REMOVED UPON ACHIEVING VEGETATIVE STABILIZATION. THE 70 PERCENT REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED. DISTURBED AREAS NOT ATTAINING A UNIFORM, PERENNIAL 70 PERCENT VEGETATIVE COVERAGE SHALL BE RE-SEEDING AS NEEDED UNTIL UNIFORM, PERENNIAL 70 PERCENT VEGETATIVE COVERAGE IS ESTABLISHED.
16. ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND LEGALLY DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF SURFACE WATERS. WOODY DEBRIS WILL BE CHIPPED AND SPREAD ON-SITE.

FOR STREAM CROSSINGS, REFER TO THE FOLLOWING STEPS:

1. INSTALL TEMPORARY EQUIPMENT BRIDGE, BYPASS HOSE, FLUME, PUMP, OR COFFERDAM AS DESCRIBED IN STREAM CROSSING DETAILS AROUND THE WORK AREA.
2. DEWATER WORK AREA UTILIZING PUMP WATER FILTER BAGS. WHERE POSSIBLE, EXCAVATION WILL BE FROM THE TOP OF THE STREAM BANK. STOCKPILE STREAM BED MATERIAL SEPARATELY FROM OTHER SOILS TO BE USED DURING THE STREAM RESTORATION.
3. INSTALL TRENCH PILING, PIPE, AND BACKFILL.
4. STABILIZE CHANNEL EXCAVATION AND STREAM BANKS PRIOR TO REDIRECTING STREAM FLOW. STOCKPILE STREAM BED MATERIAL WILL BE THE LAST MATERIAL RESTORED IN THE STREAM CHANNEL.
5. REMOVE BYPASS HOSE, FLUME, PUMP, AND TEMPORARY DAM AS NEEDED.

IF WORKING WITHIN A WETLAND AREA, FOLLOW THE GENERALIZED CONSTRUCTION SEQUENCE BELOW:

1. INSTALL EITHER SUPER SILT FENCE OR COMPOST FILTER SOCKS ALONG THE PERIMETERS OF THE SITE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
2. MATS, PADS, OR SIMILAR DEVICES WILL BE USED DURING THE CROSSINGS OF WETLANDS. ORIGINAL GRADES THROUGH WETLANDS MUST BE RESTORED AFTER TRENCHING AND BACKFILLING. ANY EXCESS FILL MATERIALS MUST BE REMOVED FROM THE WETLAND AND NOT SPREAD WITHIN WETLANDS.
3. SOIL EXCAVATED FROM WETLAND AREAS WILL BE CAREFULLY REMOVED WITH THE ROOTS INTACT. THIS SOIL SHOULD BE PLACED IN A SEPARATE STOCKPILE TO BE REUSED DURING THE WETLAND SURFACE RESTITUTION.
4. DEWATER WORK AREA UTILIZING PUMP WATER FILTER BAGS.

5. INSTALL PIPE.
6. INSTALL TRENCH PILING IN WETLAND AREAS TO PREVENT THE TRENCH FROM GRADING THE WETLAND OR CHANGING ITS HYDROLOGY.
7. BACKFILL PIPE TRENCH. BACKFILL THE TOP 12-INCHES OF THE EXCAVATED TRENCH WITH THE STOCKPILED WETLAND SOIL TO MATCH ORIGINAL SURFACE GRADES.
8. COMPACT BACKFILL AND GRADE THE SURFACE OF THE TRENCH AREA TO ALLOW FOR POSITIVE DRAINAGE TO SOIL EASCS AND TO PREPARE DISTURBED AREAS FOR PERMANENT TRENCH RESTORATION.
9. MAINTAIN ALL EASCS DEVICES UNTIL SITE WORK IS COMPLETE AND A UNIFORM 70-PERCENT PERENNIAL VEGETATIVE COVER IS ESTABLISHED.
10. REMOVE ALL SOIL AND EASCS MEASURES UPON ESTABLISHMENT OF A UNIFORM 70-PERCENT VEGETATIVE COVER OVER THE DISTURBED AREA. RE-GRADE AND REVEGETATE AREAS DISTURBED DURING THE REMOVAL OF THE SOIL EASCS.

BMP MAINTENANCE

- TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE AS STATED IN WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF WATER AND WASTE MANAGEMENT, EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL, 2008.
- IN NON-AGRICULTURAL AREAS THE VISUAL SURVEY SHALL BE COMPARED TO THE DENSITY AND COVER OF ADJACENT UNDISTURBED LANDS. IN AGRICULTURAL AREAS, THE VISUAL SURVEY SHALL BE COMPARED TO THE ADJACENT UNDISTURBED PORTIONS OF THE SAME FIELD, UNLESS THE EASEMENT AGREEMENT SPECIFIES OTHERWISE.
- WETLANDS ALONG THE PROPOSED PIPELINE ARE EXPECTED TO EXHIBIT VARYING DEGREES OF SATURATION AND WATER ELEVATION, REQUIRING A VARIETY OF PLANT SPECIES TO BE RE-ESTABLISHED. IN UNSATURATED WETLANDS, MOST VEGETATION WILL BE REPLACED BY SEEDING. SATURATED WETLANDS WILL TYPICALLY BE ALLOWED TO RE-VEGETATE NATURALLY. WETLAND REVEGETATION WILL BE CONSIDERED SUCCESSFUL WHEN THE COVER OF HERBACEOUS AND/OR WOODY SPECIES IS AT LEAST 80 PERCENT OF THE TYPE, DENSITY, AND DISTRIBUTION OF THE VEGETATION IN ADJACENT WETLAND AREAS THAT WERE NOT DISTURBED BY CONSTRUCTION. REVEGETATION EFFORTS WILL CONTINUE UNTIL WETLAND REVEGETATION IS SUCCESSFUL.
- INSPECTION OF ALL EROSION AND SEDIMENTATION CONTROLS WITHIN DISTURBED AREAS WILL BE, AT A MINIMUM, PERFORMED ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT EQUAL TO OR GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. REPAIRS OR MAINTENANCE SHALL BE PERFORMED IMMEDIATELY TO BMP'S. A FINAL INSPECTION SHALL BE REQUESTED ONCE THERE IS UNIFORM, PERENNIAL 70 PERCENT VEGETATIVE COVERAGE ESTABLISHED. TEMPORARY BMP'S WILL BE REMOVED UPON ACHIEVING VEGETATIVE STABILIZATION. THE 70 PERCENT REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT A PERCENT OF THE SITE. DISTURBED AREAS NOT ATTAINING A UNIFORM, PERENNIAL 70 PERCENT VEGETATIVE COVERAGE SHALL BE RE-SEEDING AS NEEDED UNTIL UNIFORM, PERENNIAL 70 PERCENT VEGETATIVE COVERAGE IS ESTABLISHED.
- TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BMP'S OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

REFERENCES

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF WATER AND WASTE MANAGEMENT, EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL, 2008.
 WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS, WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, MAY 2012.
RECOMMENDED PERMANENT AND TEMPORARY SEED MIXTURES AND FERTILIZER/MULCH FOR REVEGETATION OF UPLAND AREAS

ITEM		
UPLANDS		
PERMANENT SEED AND MULCH APPLICATION RATES		
Seed ¹	Kentucky 31 tall fescue	65 pounds per acre
Seed ¹	Empire Birdfoot Trifolium (1/2 Empire, 1/2 Viking)	5 pounds per acre of inoculated seed
Seed ¹	Red fescue	20 pounds per acre
Lime	Agricultural Grade (Pulver Form)	2 Tons per acre without a soil test
Fertizer	10-20-20	1/2 ton per acre
Mulch	Grass Hay or Cereal Straw	3 tons per acre
TEMPORARY SEED AND MULCH APPLICATION RATES		
Seed ¹	Annual Ryegrass	40 pounds per acre
Mulch	Grass Hay or Cereal Straw	3 tons per acre

NOTES

1. ALL SEED IS PURE LIVE SEED.
2. UNLESS OTHERWISE REQUESTED BY LANDOWNER IN R.O.W.

REVEGETATION OF WETLAND AREAS

ITEM		
WETLANDS¹		
Seed ¹	Annual Ryegrass	40 pounds per acre

NOTES

1. ALL SEED IS PURE LIVE SEED.
2. DO NOT APPLY MULCH, FERTILIZER, OR LIME IN WETLAND AREAS.

ALTERNATE PERMANENT SEED MIXTURES

ITEM		
ALTERNATE NO. 1		
PERMANENT SEED AND MULCH APPLICATION RATES		
Seed ¹	Alfalfa	10 pounds per acre
Seed ¹	Clover	5 pounds per acre

ITEM		
ALTERNATE NO. 2		
PERMANENT SEED APPLICATION RATES		
Seed ¹	Orchard Grass	30 pounds per acre
Seed ¹	Clover	5 pounds per acre

ITEM		
ALTERNATE NO. 3 - WILDLIFE SEED MIX		
PERMANENT SEED APPLICATION RATES		
Seed ¹	DRUMX - 260 PA Piedmont Province LPL Mix	20 pounds per acre
	25% Indiangrass	
	25% Little Bluestem	
	20% Virginia Wildrye	
	10% Big Bluestem	
	7% Purpletop	
	5% Switchgrass	
	4% Dewberry	
	2% Purple Lovegrass	

NOTES

1. ALL SEED IS PURE LIVE SEED.
2. CONTRACTOR TO USE ALTERNATE SEED MIXTURES PER LANDOWNER REQUEST DOCUMENTATION PROVIDED BY MYP.

REVISIONS:

CONSTRUCTION PLANS

Mountain Valley
 GENERAL NOTES AND LEGEND
 MOUNTAIN VALLEY PIPELINE PROJECT - HSCD LINE
 WETLAND COUNTY THROUGH MORGAN COUNTY, WEST VIRGINIA
 MOUNTAIN VALLEY PIPELINE, LLC
 505 SANDHURST BRADDOCK, SUITE 200
 CHARLESTON, WV 25317

TETRA TECH
 681 ANDERSON DRIVE
 FOSTER PLAZA 7
 PITTSBURGH, PA 15220

DRAWN BY: KAL
 CHECKED BY: NT
 APPROVED BY: RE
 DATE: 5/16/2016
 SCALE: AS SHOWN
 DT, RL, O.D, OF, OMT



George Eidel <doddridgecountyfpm@gmail.com>

Mountain Valley Floodplain Permit Renewal - Doddridge County

6 messages

Hoover, Matthew S. <MHoover@equitransmidstream.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Thu, Oct 24, 2019 at 3:41 PM

Hi George,
Hope all is well! I was hoping to renew the Doddridge County Floodplain Permit for the Mountain Valley Pipeline Project. I've attached the renewal from the previous two years. Please let me know if you have any questions or need additional information.

Matt Hoover
Sr. Environmental Coordinator
2200 Energy Drive, 2nd Floor
Canonsburg, PA 15317
Office: (724) 873-3009
Cell: (412) 258-5627

mhoover@equitransmidstream.com<mailto:mhoover@equitransmidstream.com>
*Please note my new email address

 **Doddridge County Floodplain Approval 12.09.18.pdf**
340K

George Eidel <doddridgecountyfpm@gmail.com>
To: "Hoover, Matthew S." <MHoover@equitransmidstream.com>

Fri, Oct 25, 2019 at 7:40 AM

Matt,

Nice to hear from you. I am out of the office until November 4th. I will get to it when I am back in the office.
[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: "Hoover, Matthew S." <MHoover@equitransmidstream.com>

Mon, Nov 4, 2019 at 11:19 AM

Matt,

Good morning, I am back at my office, go ahead and send me a new permit application with the same information and I will get it processed.

Thanks
[Quoted text hidden]

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

Doddridge County Office of Emergency Management
101 Church Street Suite 102
West Union, WV 26456-2095
Work Phone: 1-304-873-1343
Mobile Phone: 1-304-281-7407
Fax: 1-304-873-1840
doddridgecountyfpm@gmail.com

CONFIDENTIALITY NOTE: This email message is for the sole use of the intended recipient(s) and may contain confidential, privileged, or sensitive information. Any unauthorized review, use, disclosure, or distribution is strictly prohibited and may be legally accountable.

Hoover, Matthew S. <MHoover@equitransmidstream.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Fri, Dec 13, 2019 at 2:06 PM

Hi George,

Sorry for the delay. I've attached the updated permit. Please let me know if you have any questions.

I can send a hard copy if you need it.

Thanks,
Matt

[Quoted text hidden]

 **Eidel George - Floodplain Permit Application Cover Letter (16-0259-008C)_2019 renewal.pdf**
6630K

George Eidel <doddridgecountyfpm@gmail.com>
To: "Hoover, Matthew S." <MHoover@equitransmidstream.com>

Fri, Dec 13, 2019 at 2:11 PM

Matt,

Thanks for sending this over, YES, please mail me a hard copy. I will get the process started, unfortunately it will not be approved until late January due to our process. If there are any other permits that are required please ensure that our office gets copies of them, per our ordinance the permit will not be approved until all other permits have been received. If I don't hear from you, have a Merry Christmas and Happy New Year!!!

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: "Hoover, Matthew S." <MHoover@equitransmidstream.com>

Mon, Dec 16, 2019 at 8:54 AM

Matt,

Good morning, hope all is well with you. I am going over your permit application and one question I have is what kind of impact will the permanent structures have in the floodplain. If no rise is anticipated then I will need a No Rise Certificate or an H&H study to determine the impact to the floodplain. Also, do you have copies of all of the other permits, WVDNR, OLS, DNR, State Road etc... send me those as well please.

Thanks

[Quoted text hidden]



George Eidel <doddridgecountyfpm@gmail.com>

Mountain Valley Floodplain Permit Renewal - Doddridge County

Hoover, Matthew S. <MHoover@equitransmidstream.com>
To: George Eidel <doddridgecountyfpm@gmail.com>



Thu, Dec 19, 2019 at 12:01 PM

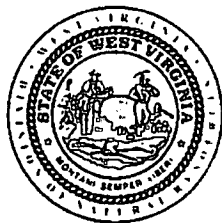
Hey George

Sorry for the delay, but I wanted to field verify some information. We were able to locate an exiting power pole in proximity to the anode bed. Therefore, we won't be installing any permanent aboveground structures in the floodplain. All work, including the installation of the pipeline will be temporary. We also have some pipe and timbermats temporarily staged in the area – this was based on the previous floodplain approval.

I've attached the DNR permits for the stream crossings. Let me know if you have any other questions.

[Quoted text hidden]

2 attachments **WV-DO-005 +LS-16-VI-09-1477.pdf**
137K **WV-DO-010 +P-16-VI-09-1546.pdf**
198K



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

Earl Ray Tomblin
Governor

Robert A. Fala
Director

October 11, 2016

**Division of Natural Resources
LICENSE AND RIGHT OF ENTRY**

Re: P-16-VI/09-1546

Mountain Valley Pipeline, LLC
Attention: Brittany Alden
99 Cambridge Place
Bridgeport, WV 26330-

Dear Ms. Alden:

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 ~~forty-two inch (42") steel pipeline at twelve (12) separate locations~~ along Tenmile Creek, an unnamed tributary of Tenmile Creek, unnamed tributaries of Big Isaac Creek, Laural Run, and an unnamed tributary of Laural Run, in Doddridge County, West Virginia, as shown located and highlighted in red on the map attached hereto as Exhibit A - F.

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

Mountain Valley Pipeline, LLC
P-16-VI/09-1546
Page 2
October 11, 2016

DEC 19 10:32 PM

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 \$6600.00 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.

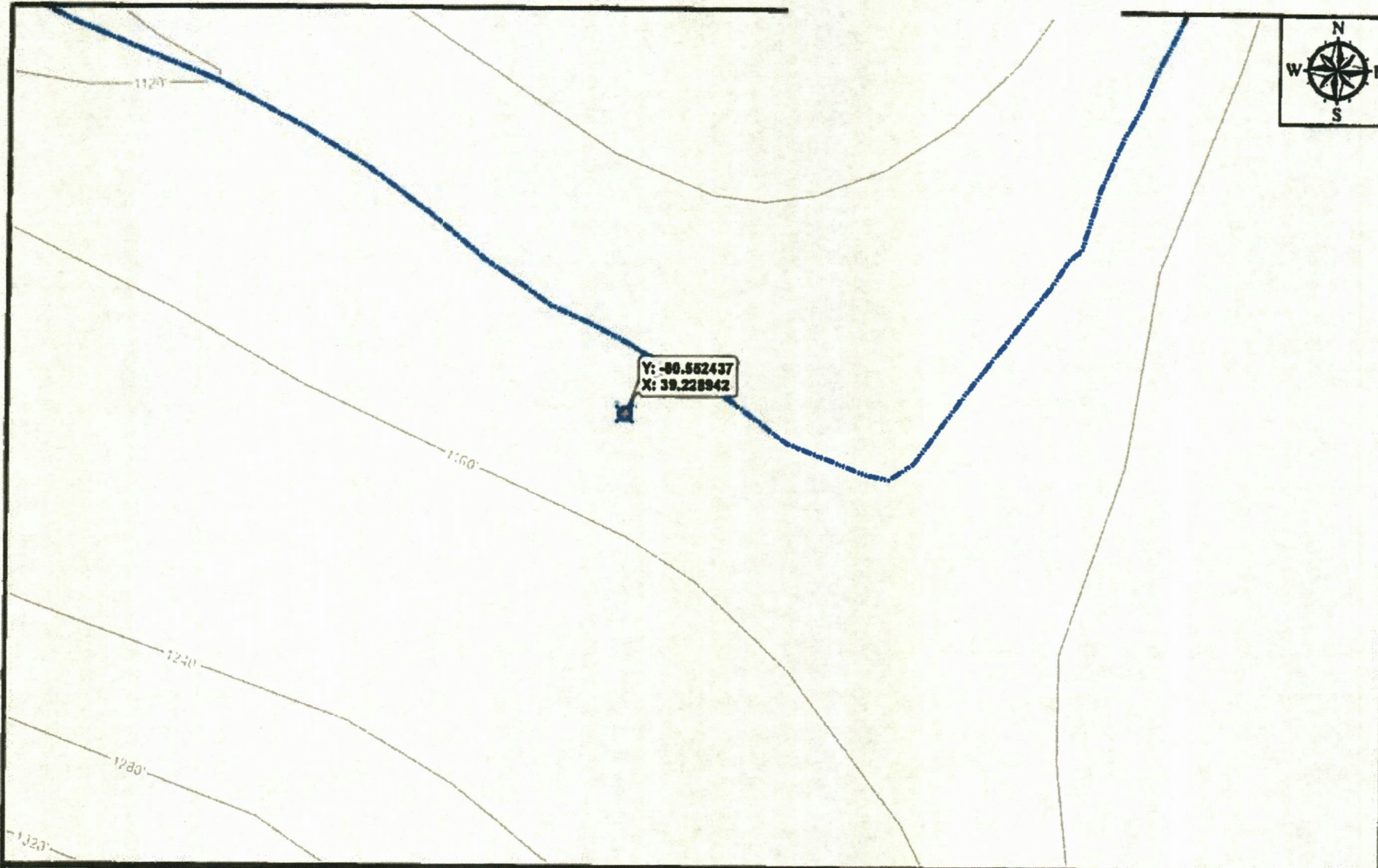
Sincerely,


Joe T. Scarberry, Supervisor
Office of Land and Streams

JTS:cb

attachment

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



Mountain Valley
OFFICIALS
90 Cambridge Place Bridgeport, WV 26330

EXHIBIT A

Map Number:
21

Location: Doddridge County, WV
Printed By: smc on 9/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of any data shown on this map, including, but not limited to, any structures, well or pipeline locations, property boundaries, topography, railroads, or waterways. The data shown on this map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

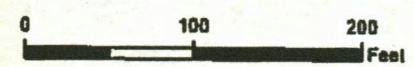


Exhibit B

P-16-VI/09-1546

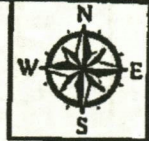
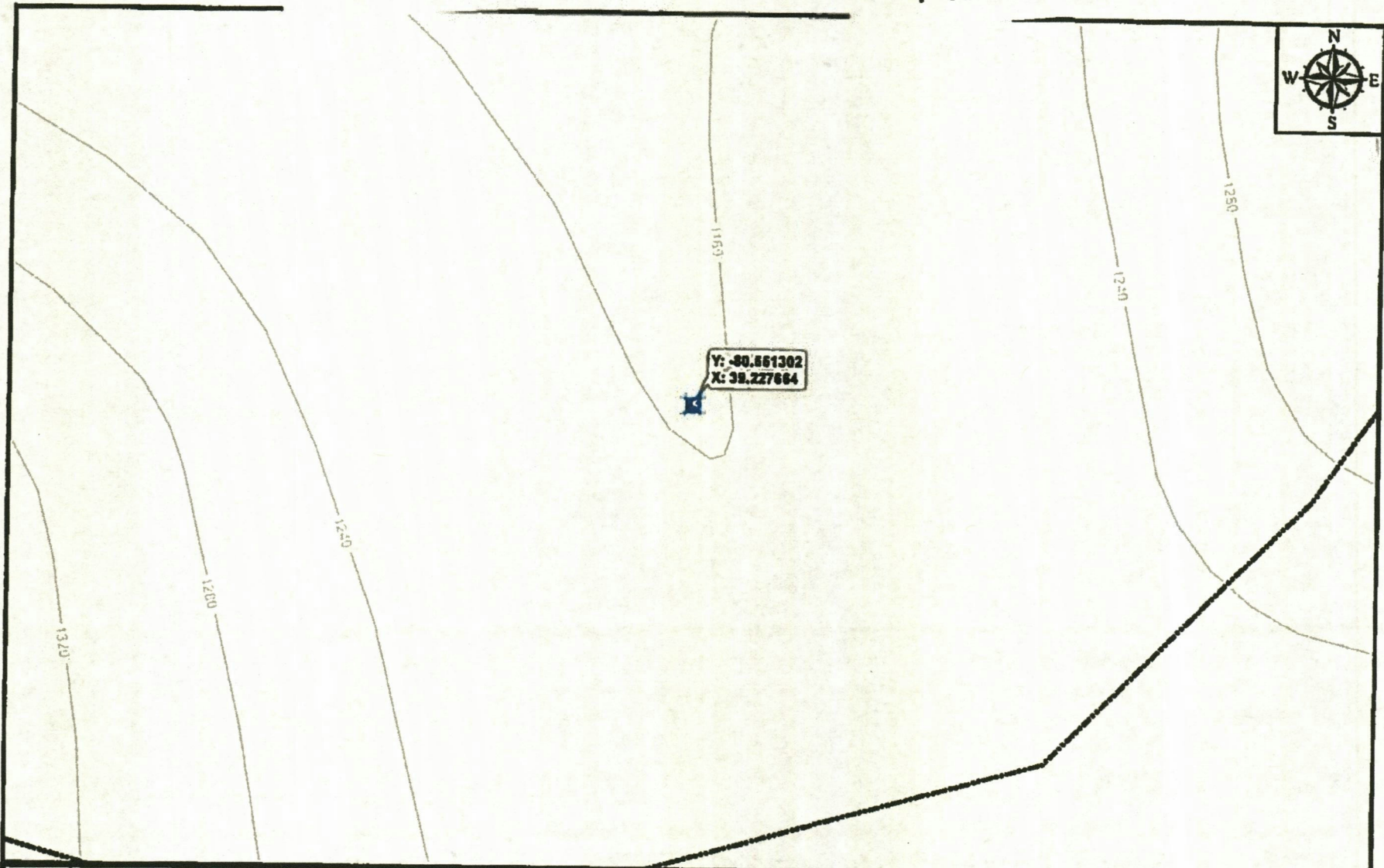


EXHIBIT A
Map Number:
22

Location: Doddridge County, WV
Printed By: email on 5/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or pipeline locations, property boundaries, topography, roadways, or waterways. The items shown on this map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the items shown should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

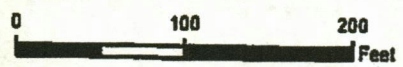
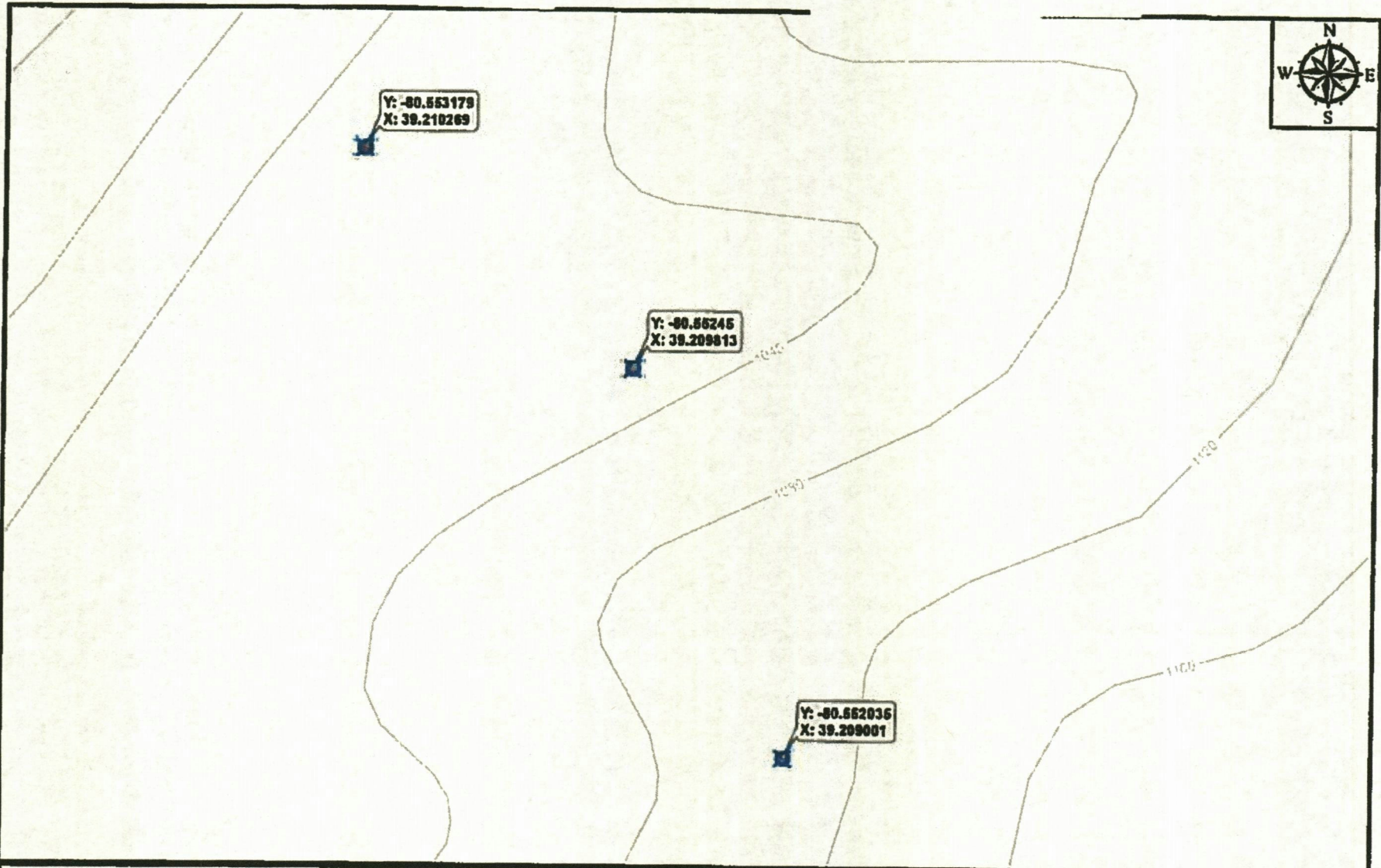


Exhibit C

P-16-VI/09-1546



Mountain Valley
PIPELINES
88 Cambridge Place Bridgeport, WV 26330

EXHIBIT A

Map Number:
24

Location: Doddridge County, WV
Printed By: smell on 8/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or pipeline facilities, property boundaries, topography, red dwarf, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

0 100 200 Feet

Exhibit D

P-16-VI/09-1546



Y: -80.562867 X: 39.207673
Y: -80.562862 X: 39.207667



EXHIBIT A

Map Number:
25

Location: Doddridge County, WV
Printed By: smc on 9/28/2018

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on the map, including, but not limited to, any structures, well or pipeline facilities, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

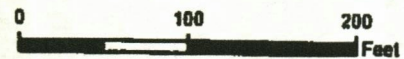
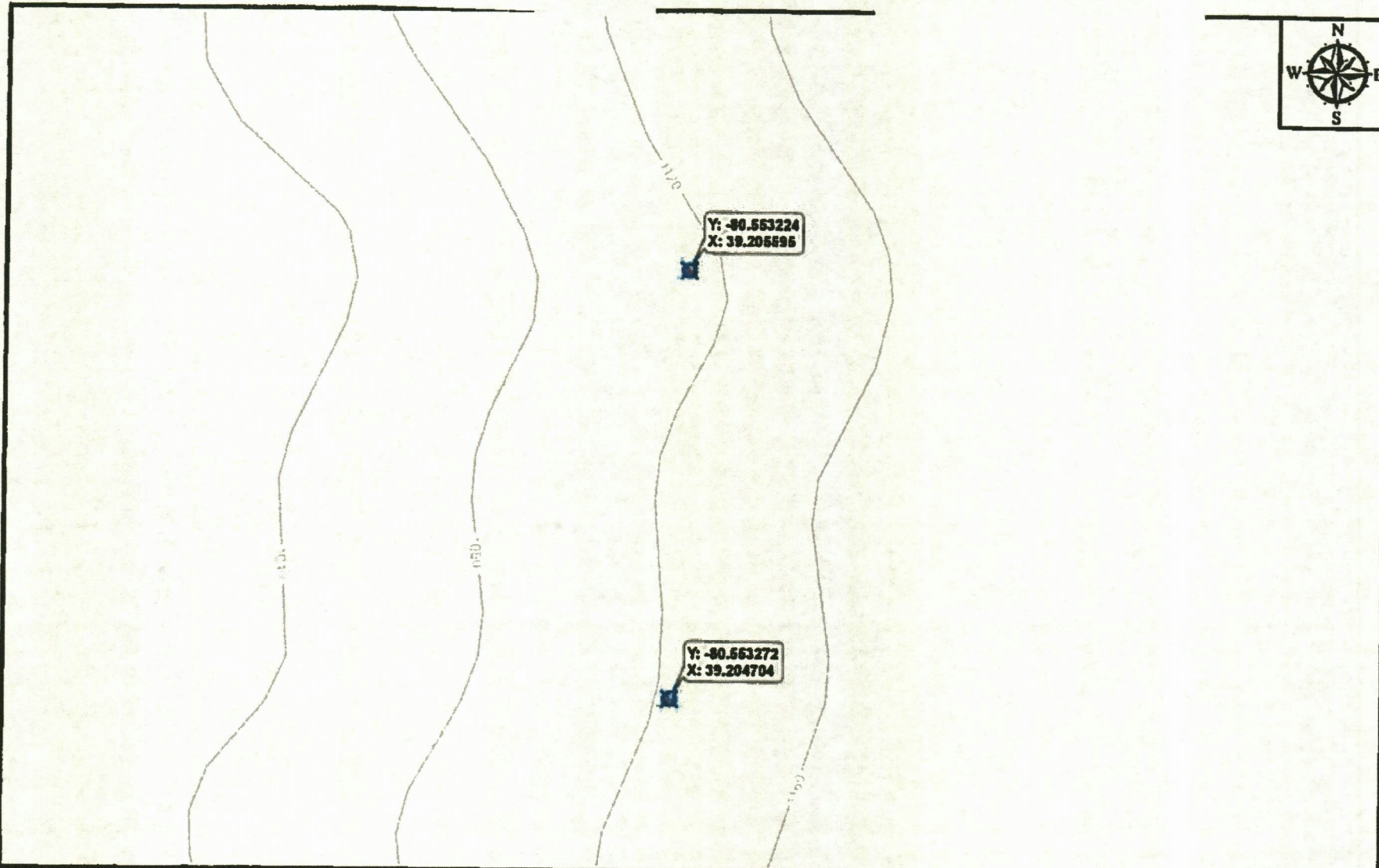
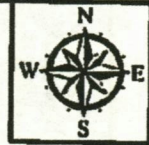


Exhibit E

P-16-VI/09-1546



Mountain Valley
01961108
88 Cambridge Place Bridgeport, WV 26330

EXHIBIT A

Map Number:
26

Location: Doddridge County, WV
Printed By: smellc on 11/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express contractual purposes for which it was created. Unauthorised use, copying, or distribution is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, road or pipeline to address, property boundaries, topography, roadways, or waterways. The names shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

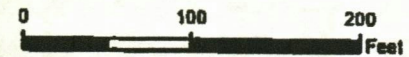


Exhibit F

P-16-VI/09-1546

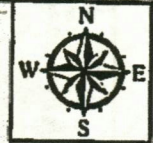
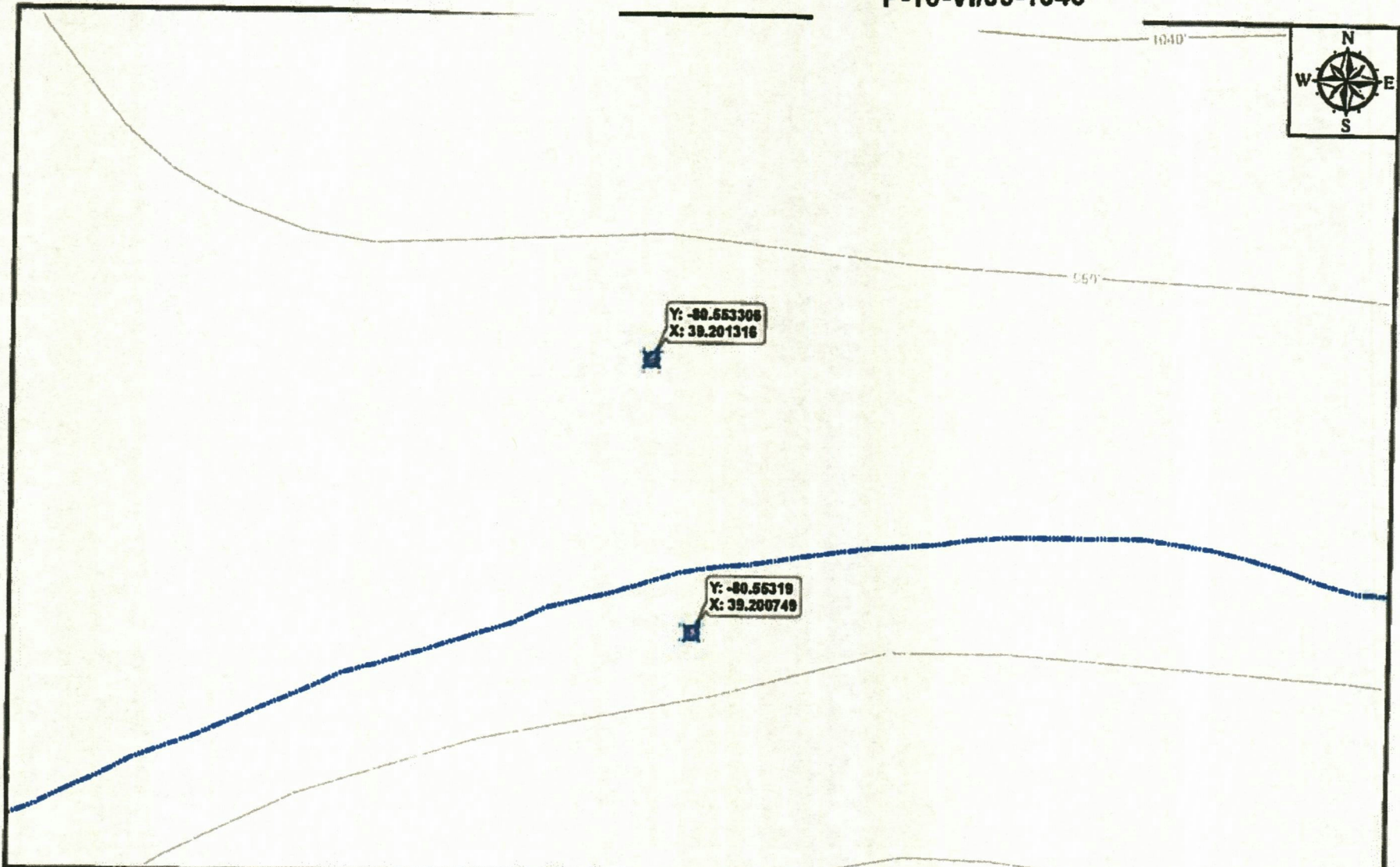


EXHIBIT A

Map Number:
28

Location: Doddridge County, WV
Printed By: smalle on 9/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purpose for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or pipeline locations, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the items shown should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line



5

West Virginia Division of Natural Resources
Invoice

paid ok # 3124

Pay on-line at <http://wvdnr.gov/REM>

Invoice#: 27956
Comp. ID#: 6538
Bill Date: 08/01/2017

In Acct With	Mountain Valley Pipeline LLC 99 Cambridge Place Bridgeport, WV 26330
--------------------	--

DEC 19 10 12:32PM

AGREEMENT	INVOICE PERIOD	AMOUNT PAID	AMOUNT DUE
<u>AGREEMENT DATED 9/22/2016</u> <u>LS-16-I/52-1473</u> Timber mat crossings, Wetzel Co., WV	For 9/22/2017 to 9/22/2018 Land and Streams/DNR	\$0.00	\$1800.00
<u>AGREEMENT DATED 9/22/2016</u> <u>LS-16-I/17-1475</u> Timber mat crossings at 30 sep loc, R.Fk Big Elk Ck, Goose Run and UNT of same, Little Tenmile Ck, UNT Jones Ck, Little Rockcamp Run and UNT of same, Grass Run and UNT of same. Indian Run and UNT of same, Salem Fk. Coburn Fk, UNT Raccoon Harrison Co., W	For 9/22/2017 to 9/22/2018 Land and Streams/DNR	\$0.00	\$3000.00
<u>AGREEMENT DATED 9/22/2016</u> <u>LS-16-VI/09-1477</u> Timber mat crossing, Doddridge Co., WV	For 9/22/2017 to 9/22/2018 Land and Streams/DNR	\$0.00	\$1900.00
<u>AGREEMENT DATED 9/23/2016</u> <u>LS-16-III/21-1479</u> Timber mat crossing along Kincheloe Cree, Smoke Camp Run, Righ Fork Freemans Creek, Fink Cree, Left Fork Freeman Creek, Leading Creek, Laurel Run, Cove Lick, Indian Fork, and unnamed tribs of same, Lewis Co., WV	For 9/23/2017 to 9/23/2018 Land and Streams/DNR	\$0.00	\$6900.00

Please Reference Either Invoice Number or Agreement Re: on Payment

WV Division of Natural Resources
Office of Land & Streams
324 Fourth Avenue, Room 200
South Charleston, WV 25303

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT

Brian N. Eid (304) 558-3225
brian.n.eid@wv.gov



DEC 19 19 12:32 PM

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**

**Earl Ray Tomblin
Governor**

**Robert A. Fala
Director**

September 22, 2016

**Division of Natural Resources
RIGHT OF ENTRY**

Re: ~~LS-16-VI/09-1477~~

**Mountain Valley Pipeline, LLC
Att: Ms. Brittany Alden
99 Cambridge Place
Bridgeport, WV 26330-**

Dear Ms. Alden:

The Division of Natural Resources hereby grants to you for a period of ten (10) years from the date hereof, a Right of Entry for the purpose of timber mat crossings at ~~nineteen (19) separate locations~~ as shown on the attached index as Exhibit A 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.
8. Applicant is responsible for removing debris from in and around the installation periodically to prevent stream flow obstruction.

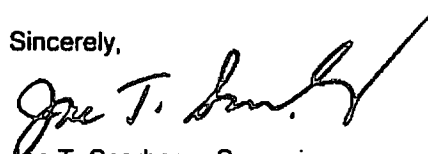
9. Durable head walls of logs, crossties, rock, or concrete shall be constructed at both the upstream and downstream ends of crossing to prevent erosion of fill material into the stream.
10. Bridge installation should not impede passage of recreational water craft. Water craft must be able to pass through or over the structure, whichever the applicant prefers.
11. 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.
12. A 404 permit may be required from the U.S. Army Corps of Engineers. You may call them at 304-529-5710 or 412-395-7155.

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 in the amount of \$1900.00 is now due and payable to the Division of Natural Resources covering the first year's annual fee of this agreement. You must notify the Division in writing with this installation has been removed. 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

Doddridge County, WV

Stream ID	NHD Stream Name ¹	County	State	Latitude ²	Longitude ²	Impact Description	Permanent Linear Feet Impact (ft)	Permanent Linear Feet Impact (ft)	Exhibit Map #	Crossing Type
S-K77	Tenmile Creek	Doddridge	West Virginia	39.229029	-80.552534	Temporary Workspace	-		23A	Timber Mat
S-K77	Tenmile Creek	Doddridge	West Virginia	39.228942	-80.552437	ROW Permanent Easement	-		23A	Timber Mat
S-K78	UNT to Tenmile Creek	Doddridge	West Virginia	39.227664	-80.551302	ROW Permanent Easement, Temporary Workspace	-		23	Timber Mat
S-K69/ S-K70	UNT to Big Issac Creek	Doddridge	West Virginia	39.212374	-80.557640	Access Roads Work Space Temporary	-		24R	Timber Mat
S-K69/ S-K70	UNT to Big Issac Creek	Doddridge	West Virginia	39.212068	-80.557493	Access Roads Work Space Temporary	-		24R	Timber Mat
S-UU6	UNT to Big Issac Creek	Doddridge	West Virginia	39.211498	-80.558098	ATWS	-		24R	Timber Mat
S-K67	UNT to Big Issac Creek	Doddridge	West Virginia	39.210269	-80.553179	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K65	UNT to Big Issac Creek	Doddridge	West Virginia	39.209813	-80.552450	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K63	UNT to Big Issac Creek	Doddridge	West Virginia	39.209001	-80.552035	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K54	UNT to Big Issac Creek	Doddridge	West Virginia	39.207673	-80.552957	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K55	UNT to Big Issac Creek	Doddridge	West Virginia	39.207657	-80.552852	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K58	UNT to Big Issac Creek	Doddridge	West Virginia	39.205595	-80.553224	ROW Permanent Easement, Temporary Workspace	-		25A	Timber Mat
S-K59	UNT to Big Issac Creek	Doddridge	West Virginia	39.204704	-80.553272	ROW Permanent Easement, Temporary Workspace	-		25A	Timber Mat
S-K60	UNT to Big Issac Creek	Doddridge	West Virginia	39.203779	-80.553410	ROW Permanent Easement, Temporary Workspace	-		25	Timber Mat
S-K62/ S-A110	UNT to Laural Run	Doddridge	West Virginia	39.201645	-80.553276	Temporary Workspace	-		25B	Timber Mat
S-K62/ S-A110	UNT to Laural Run	Doddridge	West Virginia	39.201415	-80.553252	ATWS	-		25B	Timber Mat
S-K62/ S-A110	UNT to Laural Run	Doddridge	West Virginia	39.201284	-80.553437	Access Road Permanent	-		25B	Timber Mat
S-A109	UNT to Laural Run	Doddridge	West Virginia	39.201257	-80.553474	Temporary Workspace	-		25B	Timber Mat
S-A111	Laural Run	Doddridge	West Virginia	39.200749	-80.553190	ROW Permanent Easement, Temporary Workspace	-		25B	Timber Mat

Exhibit A

Exhibit A



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

Earl Ray Tomblin
Governor

Robert A. Fala
Director

October 11, 2016

**Division of Natural Resources
LICENSE AND RIGHT OF ENTRY**

Re: P-16-VI/09-1546

Mountain Valley Pipeline, LLC
Attention: Brittany Alden
99 Cambridge Place
Bridgeport, WV 26330-

Dear Ms. Alden:

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 ~~forty-two-inch (42") steel pipeline at twelve (12) separate locations~~ along Tenmile Creek, an unnamed tributary of Tenmile Creek, unnamed tributaries of Big Isaac Creek, Laural Run, and an unnamed tributary of Laural Run, in Doddridge County, West Virginia, as shown located and highlighted in red on the map attached hereto as Exhibit A - F.

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

Mountain Valley Pipeline, LLC
P-16-VI/09-1546
Page 2
October 11, 2016

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 \$6600.00 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

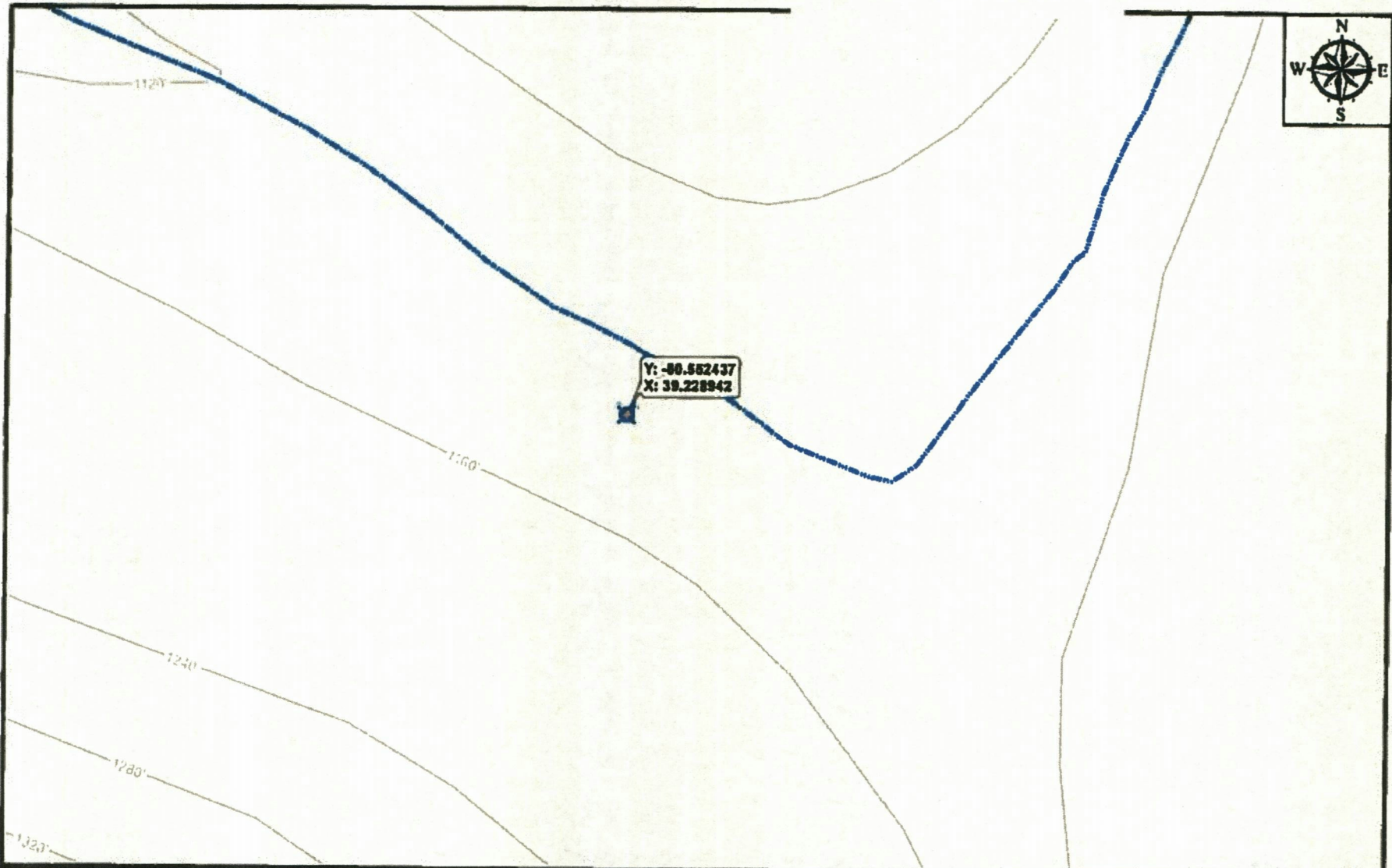
JTS:cb

attachment

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

Exhibit A

P-16-VI/09-1546



Mountain Valley
SURVEYING
99 Cambridge Place Bridgeport, WV 26330

EXHIBIT A

Map Number:
21

Location: Putnam County WV
Printed By: smc on 8/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any points shown on this map, including, but not limited to, any structures, well or pipeline locations, property boundaries, topography, roads, or waterways. The scale shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

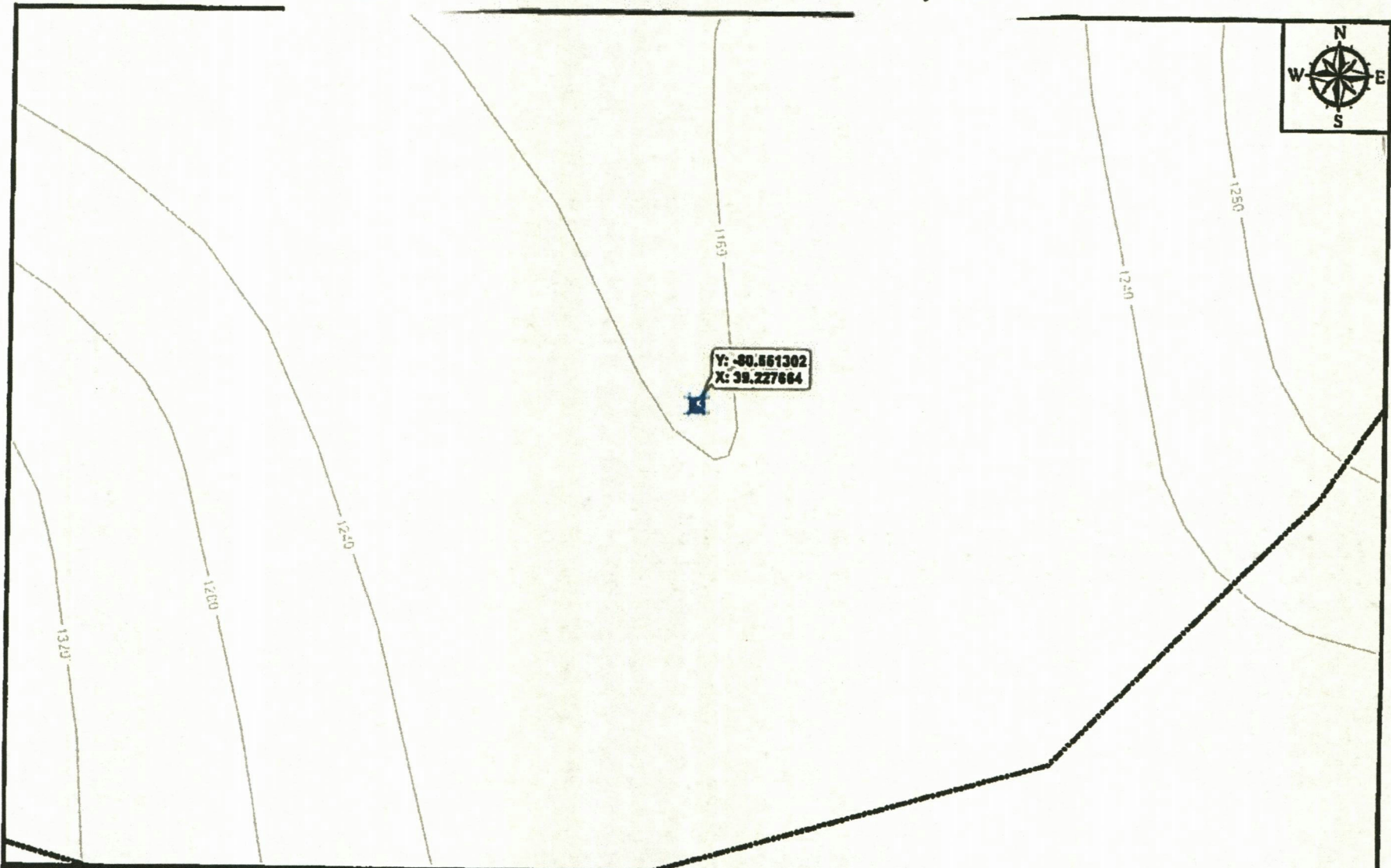
Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

0 100 200 Feet

Exhibit B

P-16-VI/09-1546



Mountain Valley
PIPELINES
59 Cambridge Place Bridgeport, WV 26330

EXHIBIT A

Map Number:
22

Location: Doddridge County, WV

Printed By: smeltz on 8/28/2016

Grantor: _____

Disclaimer: This map is confidential and it is to be used only for the specific informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or public facilities, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

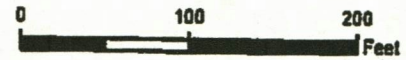
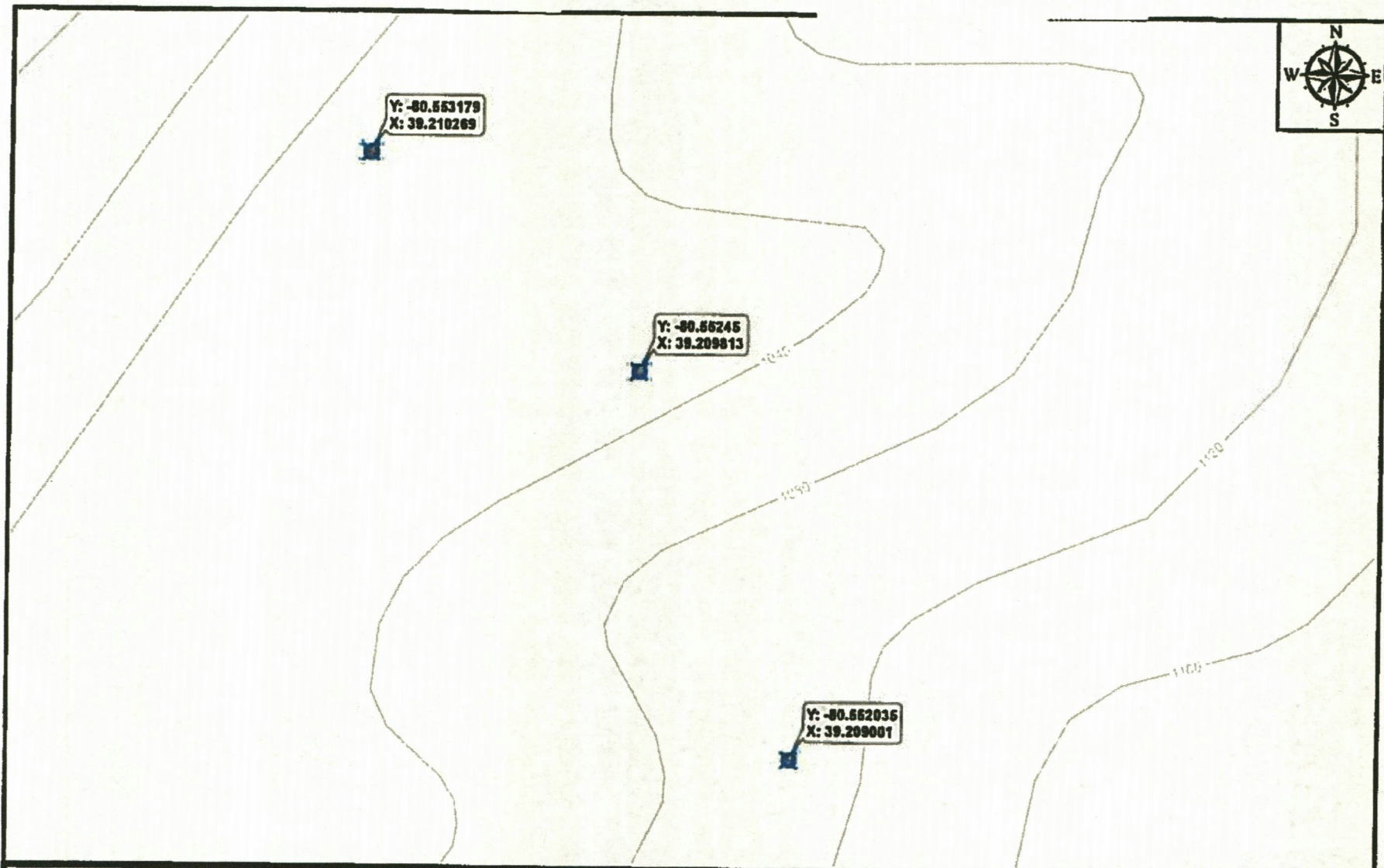


Exhibit C

P-16-VI/09-1546



Mountain Valley
PIPELINE
99 Cambridge Place Bridgeport, WV 26330

EXHIBIT A

Map Number:
24

Location: Doddridge County, WV
Printed By: smc on 8/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or pipeline facilities, property boundaries, topography, railroads, or waterways. The items shown on this map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

0 100 200
Feet

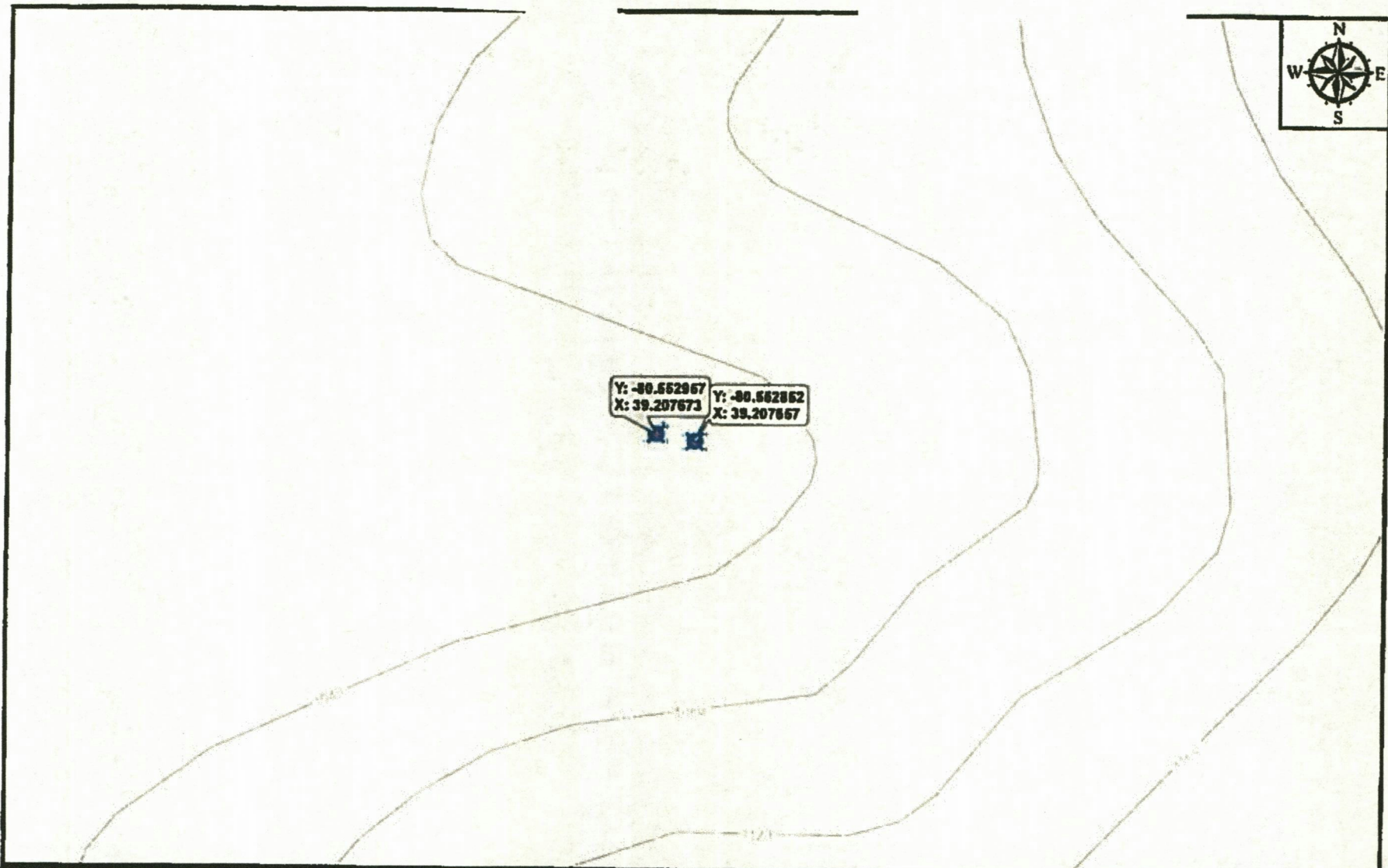
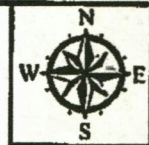


EXHIBIT A




Map Number:
25

Location: Doddridge County WV
Printed By: amelle on 9/28/2016

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unrestricted use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on the map, including but not limited to any structures, well or pipeline facilities, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

-  MVP Stream Pipeline Crossing
-  Stream
-  County Line

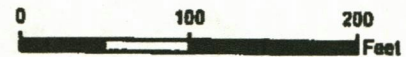
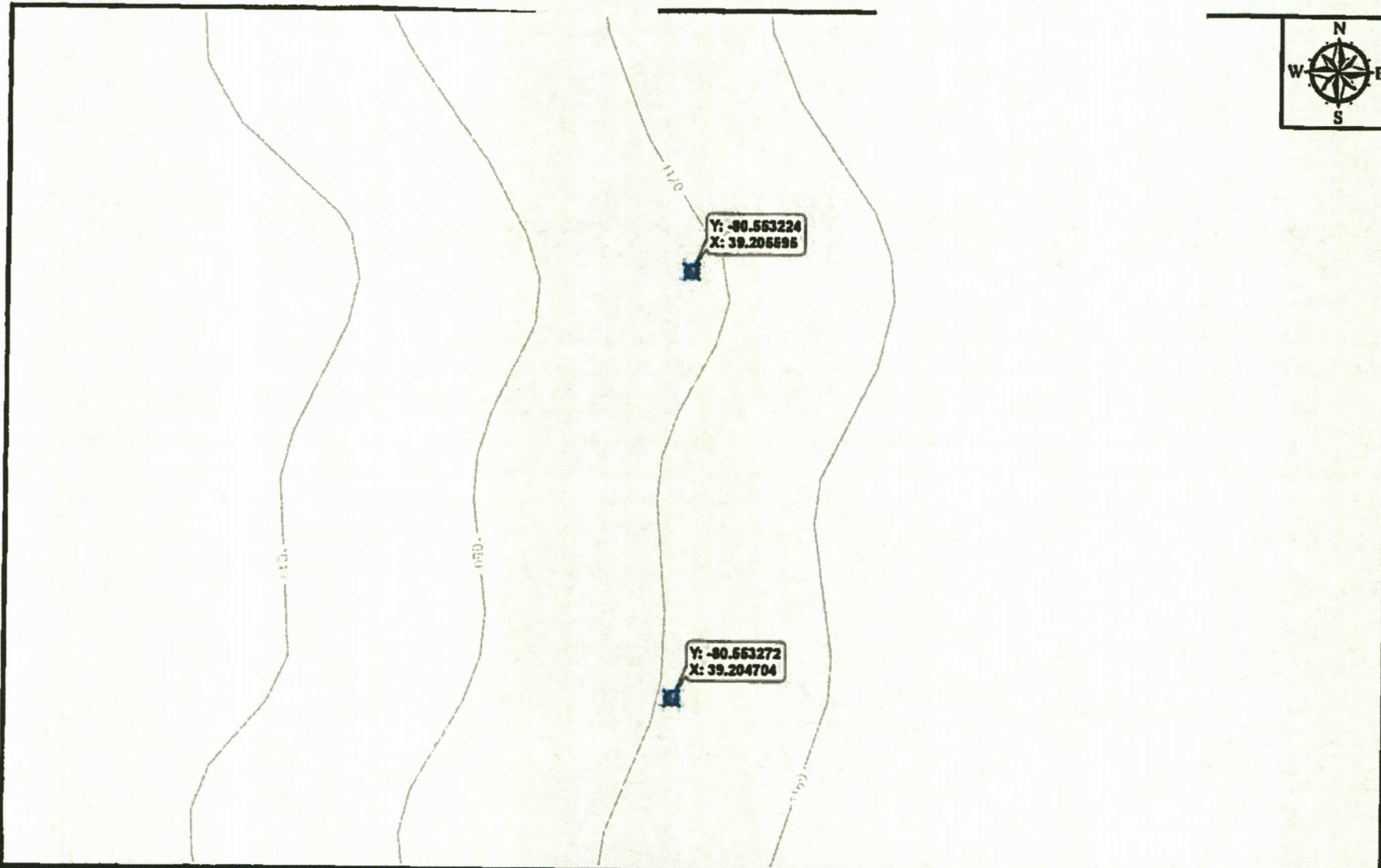
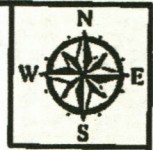


Exhibit E

P-16-VI/09-1546



Mountain Valley
PIPELINES
88 Cambridge Place Bridgeport, WV 26330

EXHIBIT A
Map Number:
26

Location: Doddridge County, WV
Printed By: smell on 8/28/2018

Grantor: _____

Disclaimer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorised use, copying, or distribution is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on the map, including, but not limited to, any structures, well or pipeline locations, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey data or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line

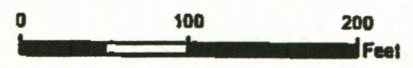
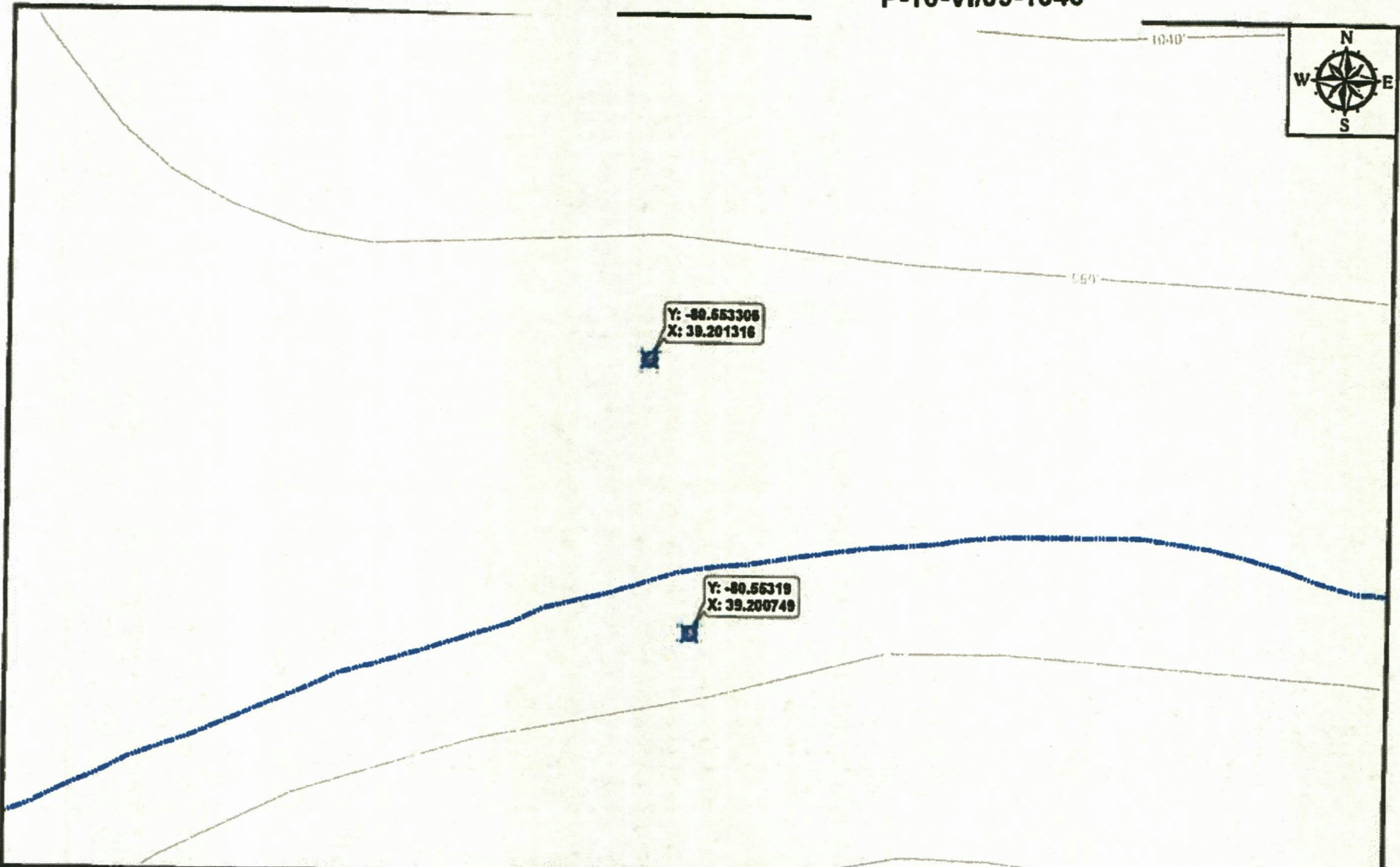


Exhibit F

P-16-VI/09-1546



Mountain Valley
PIPING
93 Cambridge Place Bridgeport, WV 26330

EXHIBIT A

Map Number:
28

Location: Doddridge County, WV

Printed By: smalls on 9/28/2018

Grantor: _____

Customer: This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. MVP does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, wells or pipelines, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey data or GPS coordinates. The specific location of any of the items shown should be determined by a field survey performed by a licensed surveyor upon consultation with MVP.

Legend

- MVP Stream Pipeline Crossing
- Stream
- County Line



5

West Virginia Division of Natural Resources
Invoice

paid ok # 3124

Pay on-line at <http://wvdnr.gov/REM>

Invoice#: 27956
Comp. ID#: 6538
Bill Date: 08/01/2017

In Acct With	Mountain Valley Pipeline LLC 99 Cambridge Place Bridgeport, WV 26330
--------------------	--

AGREEMENT	INVOICE PERIOD	AMOUNT PAID	AMOUNT DUE
<u>AGREEMENT DATED 9/22/2016</u> <u>LS-16-I/52-1473</u> Timber mat crossings, Wetzel Co., WV	For 9/22/2017 to 9/22/2018 Land and Streams/DNR	\$0.00	\$1800.00
<u>AGREEMENT DATED 9/22/2016</u> <u>LS-16-I/17-1475</u> Timber mat crossings at 30 sep loc, R.Fk Big Elk Ck, Goose Run and UNT of same, Little Tenmile Ck, UNT Jones Ck, Little Rockcamp Run and UNT of same, Grass Run and UNT of same. Indian Run and UNT of same, Salem Fk. Coburn Fk, UNT Raccoon Harrison Co., W	For 9/22/2017 to 9/22/2018 Land and Streams/DNR	\$0.00	\$3000.00
<u>AGREEMENT DATED 9/22/2016</u> <u>LS-16-VI/09-1477</u> Timber mat crossing, Doddridge Co., WV	For 9/22/2017 to 9/22/2018 Land and Streams/DNR	\$0.00	\$1900.00
<u>AGREEMENT DATED 9/23/2016</u> <u>LS-16-III/21-1479</u> Timber mat crossing along Kincheloe Cree, Smoke Camp Run, Righ Fork Freemans Creek, Fink Cree, Left Fork Freeman Creek, Leading Creek, Laurel Run, Cove Lick, Indian Fork, and unnamed tribs of same, Lewis Co., WV	For 9/23/2017 to 9/23/2018 Land and Streams/DNR	\$0.00	\$6900.00

Please Reference Either Invoice Number or Agreement Re: on Payment

WV Division of Natural Resources
Office of Land & Streams
324 Fourth Avenue, Room 200
South Charleston, WV 25303

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT

Brian N. Eid (304) 558-3225
brian.n.eid@wv.gov



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**

**Earl Ray Tomblin
Governor**

**Robert A. Fala
Director**

September 22, 2016

**Division of Natural Resources
RIGHT OF ENTRY**

Re: ~~LS-16-VI/09-1477~~

Mountain Valley Pipeline, LLC
Att: Ms. Brittany Alden
99 Cambridge Place
Bridgeport, WV 26330-

Dear Ms. Alden:

The Division of Natural Resources hereby grants to you for a period of ten (10) years from the date hereof, a Right of Entry for the purpose of timber mat crossings at ~~nineteen (19) separate locations~~ as shown on the attached index as Exhibit A in ~~Dodridge 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.
8. Applicant is responsible for removing debris from in and around the installation periodically to prevent stream flow obstruction.

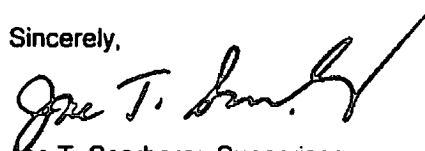
9. Durable head walls of logs, crossties, rock, or concrete shall be constructed at both the upstream and downstream ends of crossing to prevent erosion of fill material into the stream.
10. Bridge installation should not impede passage of recreational water craft. Water craft must be able to pass through or over the structure, whichever the applicant prefers.
11. 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.
12. A 404 permit may be required from the U.S. Army Corps of Engineers. You may call them at 304-529-5710 or 412-395-7155.

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 in the amount of \$1900.00 is now due and payable to the Division of Natural Resources covering the first year's annual fee of this agreement. You must notify the Division in writing with this installation has been removed. 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

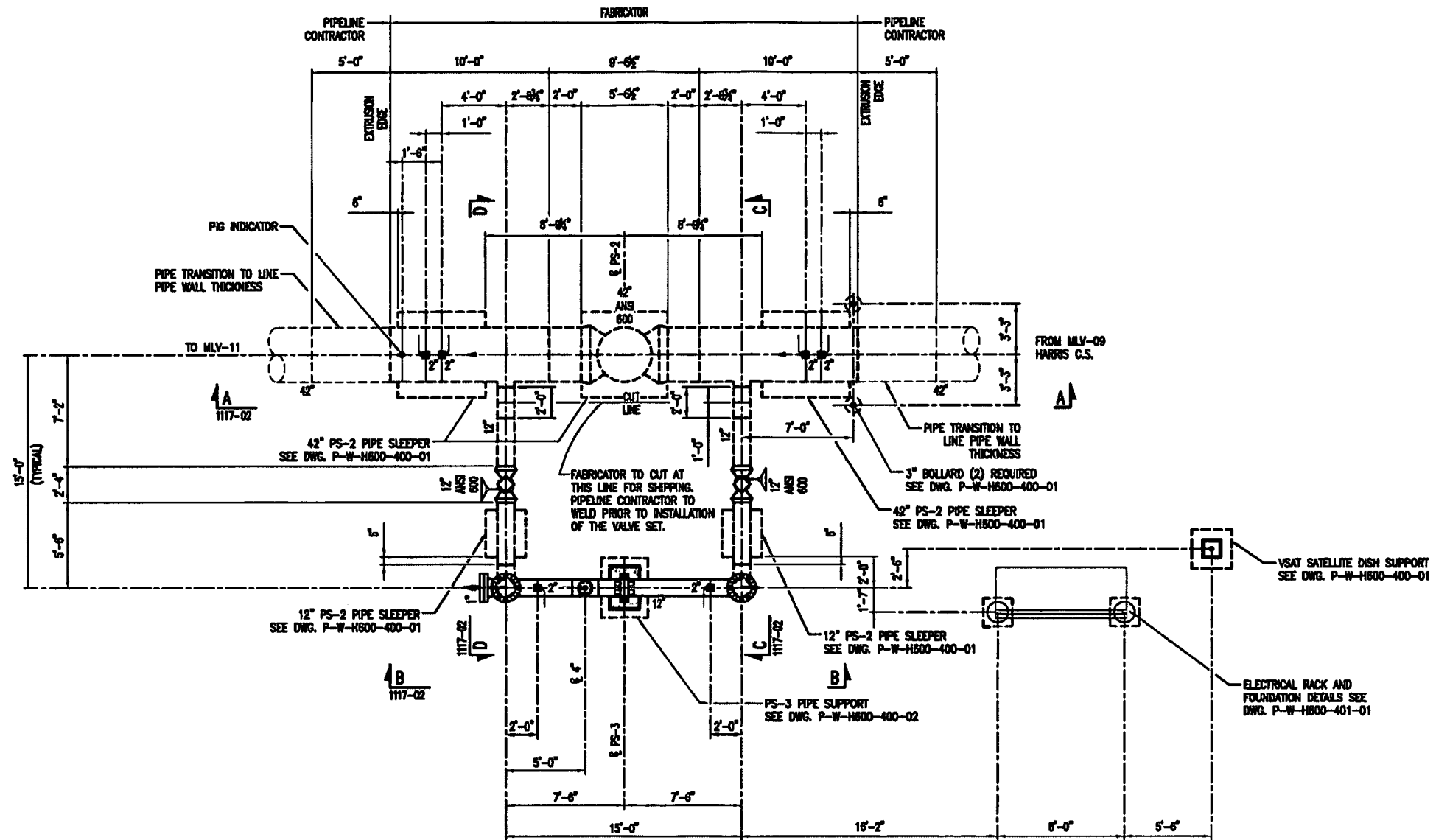
Exhibit A

Doddridge County, WV

Stream ID	NHD Stream Name	County	State	Latitude ²	Longitude ²	Impact Description	Permanent Linear Feet Impact (ft)	Permanent Linear Feet Impact (ft)	Exhibit Map #	Crossing Type
S-K77	Tenmile Creek	Doddridge	West Virginia	39.228029	-80.552534	Temporary Workspace	-		23A	Timber Mat
S-K77	Tenmile Creek	Doddridge	West Virginia	39.228942	-80.552437	ROW Permanent Easement	-		23A	Timber Mat
S-K78	UNT to Tenmile Creek	Doddridge	West Virginia	39.227664	-80.551302	ROW Permanent Easement, Temporary Workspace	-		23	Timber Mat
S-K69/ S-K70	UNT to Big Issac Creek	Doddridge	West Virginia	39.212374	-80.557640	Access Roads Work Space Temporary	-		24R	Timber Mat
S-K69/ S-K70	UNT to Big Issac Creek	Doddridge	West Virginia	39.212068	-80.557493	Access Roads Work Space Temporary	-		24R	Timber Mat
S-UU6	UNT to Big Issac Creek	Doddridge	West Virginia	39.211498	-80.558098	ATWS	-		24R	Timber Mat
S-K67	UNT to Big Issac Creek	Doddridge	West Virginia	39.210269	-80.553179	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K65	UNT to Big Issac Creek	Doddridge	West Virginia	39.208813	-80.552450	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K63	UNT to Big Issac Creek	Doddridge	West Virginia	39.209001	-80.552035	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K54	UNT to Big Issac Creek	Doddridge	West Virginia	39.207673	-80.552957	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K55	UNT to Big Issac Creek	Doddridge	West Virginia	39.207657	-80.552852	ROW Permanent Easement, Temporary Workspace	-		24R	Timber Mat
S-K58	UNT to Big Issac Creek	Doddridge	West Virginia	39.205595	-80.553224	ROW Permanent Easement, Temporary Workspace	-		25A	Timber Mat
S-K59	UNT to Big Issac Creek	Doddridge	West Virginia	39.204704	-80.553272	ROW Permanent Easement, Temporary Workspace	-		25A	Timber Mat
S-K60	UNT to Big Issac Creek	Doddridge	West Virginia	39.203779	-80.553410	ROW Permanent Easement, Temporary Workspace	-		25	Timber Mat
S-K62/ S-A110	UNT to Laural Run	Doddridge	West Virginia	39.201645	-80.553276	Temporary Workspace	-		25B	Timber Mat
S-K62/ S-A110	UNT to Laural Run	Doddridge	West Virginia	39.201415	-80.553252	ATWS	-		25B	Timber Mat
S-K62/ S-A110	UNT to Laural Run	Doddridge	West Virginia	39.201284	-80.553437	Access Road Permanent	-		25B	Timber Mat
S-A109	UNT to Laural Run	Doddridge	West Virginia	39.201257	-80.553474	Temporary Workspace	-		25B	Timber Mat
S-A111	Laural Run	Doddridge	West Virginia	39.200749	-80.553190	ROW Permanent Easement, Temporary Workspace	-		25B	Timber Mat

Exhibit A

Exhibit A



PLAN

DESIGN & TEST DATA

DESIGN PRESSURE 1480 PSIG AT 120°F (0.5 DESIGN FACTOR)
 MAXIMUM HOOP STRESS LEVEL AT 1480 PSIG .50 % SMYS. BASED ON 42" 0.888" WT. X-70 PIPE
 MAOP OF 1480 PSIG AT 120°F IS LIMITED BY ANSI 600 COMPONENTS, 42" PIPE, 42" FITTINGS.
 MINIMUM TEST PRESSURE 2220 PSIG. MAXIMUM TEST PRESSURE 2245 PSIG.
 TEST LIMITED BY ANSI 600 COMPONENTS. TEST PERIOD 8 HOURS.
 TEST MEDIUM WATER. SERVICE NATURAL GAS.
 NONDESTRUCTIVE INSPECTION REQUIREMENTS 100% X-RAY, MAG. PARTICLE, FILLET WELDS.

WEBSTER COUNTY, WV

REFERENCE DRAWINGS		NO.	DATE	REVISION	BY	CHK	APPR	NO.	DATE	REVISION	BY	CHK	APPR
DRAWING NUMBER	DRAWING TITLE				JOM	KOS	RLM						
P-W-H600-400-01	PS-2 PIPE SLEEPER AND FOUNDATION DETAILS		04/08/2016	ISSUED FOR BID									
P-W-H600-400-02	PS-3 AND PS-4 PIPE SUPPORT DETAILS												
P-W-H600-401-01	ELECTRICAL EQUIP. RACK & FOUNDATION DETAIL												
P-W-H600-1100-12	MLV-10 VALVE SETTING - PLOT PLAN												
P-W-H600-1117-02	MLV-10 VALVE SETTING INSTALLATION - SECTIONS												
P-W-H600-1117-03	MLV-10 VALVE SETTING INSTALLATION - BOM												

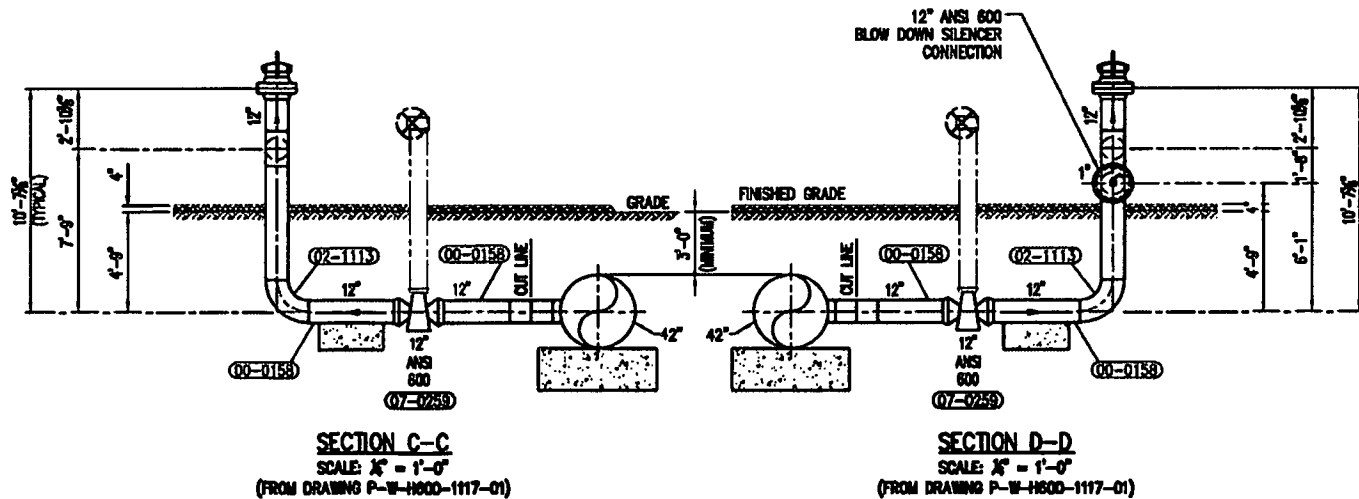
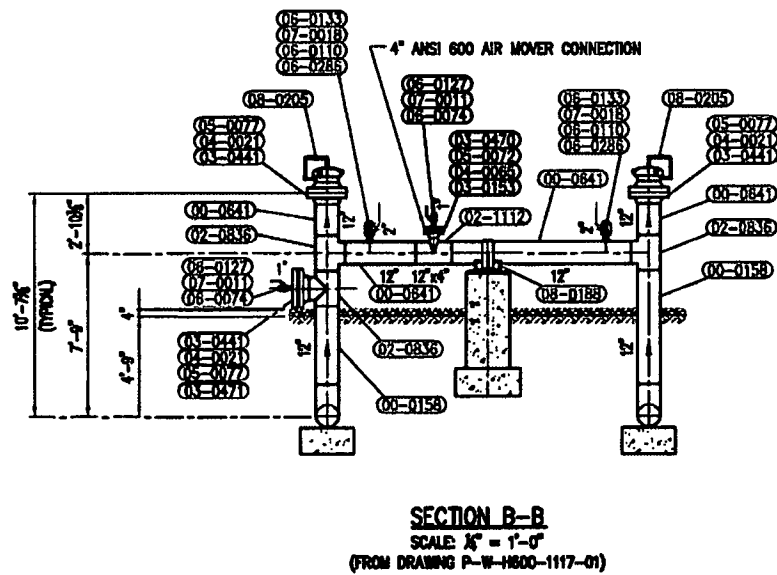
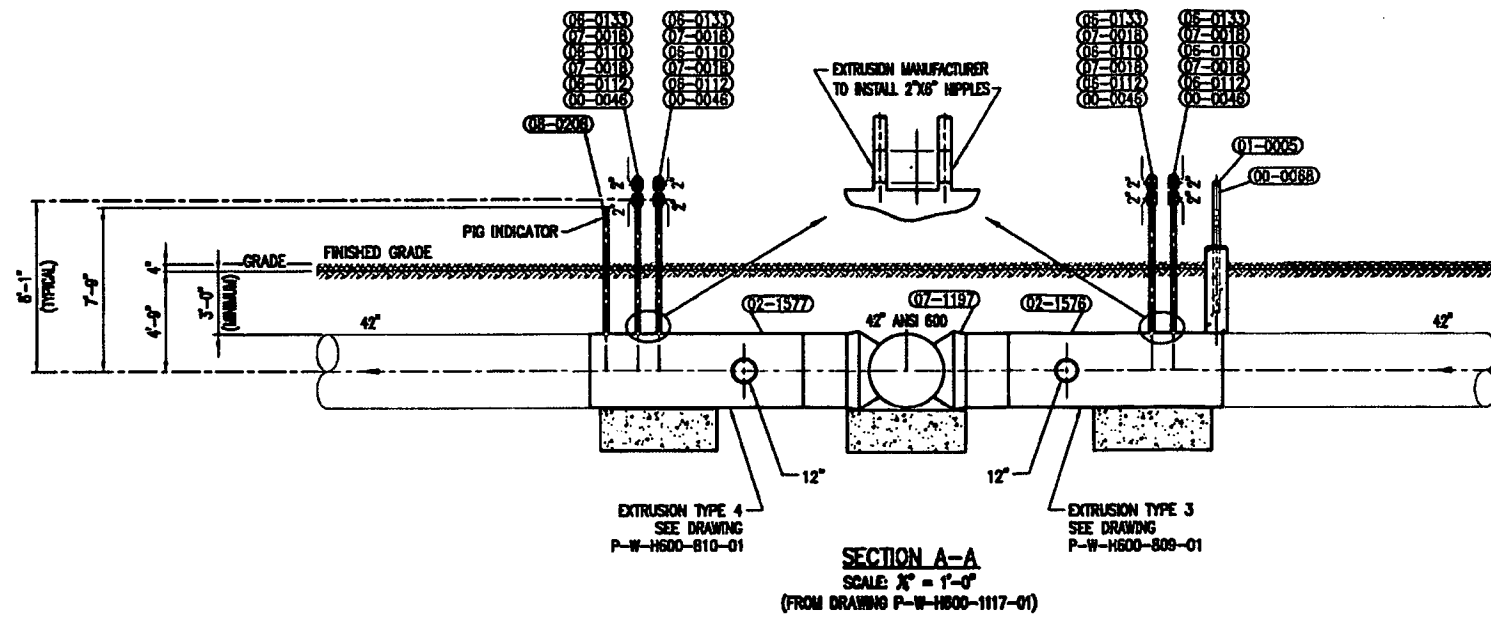
TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

DRAFT

4/8/2016
DATE
DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

	DRAWING TITLE:			
	H600 42" 1480 PSIG ANSI 600 MLV-10 VALVE SETTING INSTALLATION PLAN			
PROJECT ID	FACILITY/STATE	IDENTIFICATION	SERIES	SHEET/REVISION
	P W	H600	1117 01	P9



WEBSTER COUNTY, WV

REFERENCE DRAWINGS	NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
DRAWING NUMBER												
P-W-H600-1117-01		04/06/2016	ISSUED FOR BID	JEM	KIS	RLM						
DRAWING TITLE												
MLV-10 INSTALLATION - PLAN												
P-W-H600-1117-03												
MLV-10 INSTALLATION - BILL OF MATERIALS												
P-W-H600-809-01												
VALVE SET EXTRUSION TYPE 3												
P-W-H600-810-01												
VALVE SET EXTRUSION TYPE 4												

TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

DRAFT

DATE: 4/8/2018

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

Mountain Valley PIPING

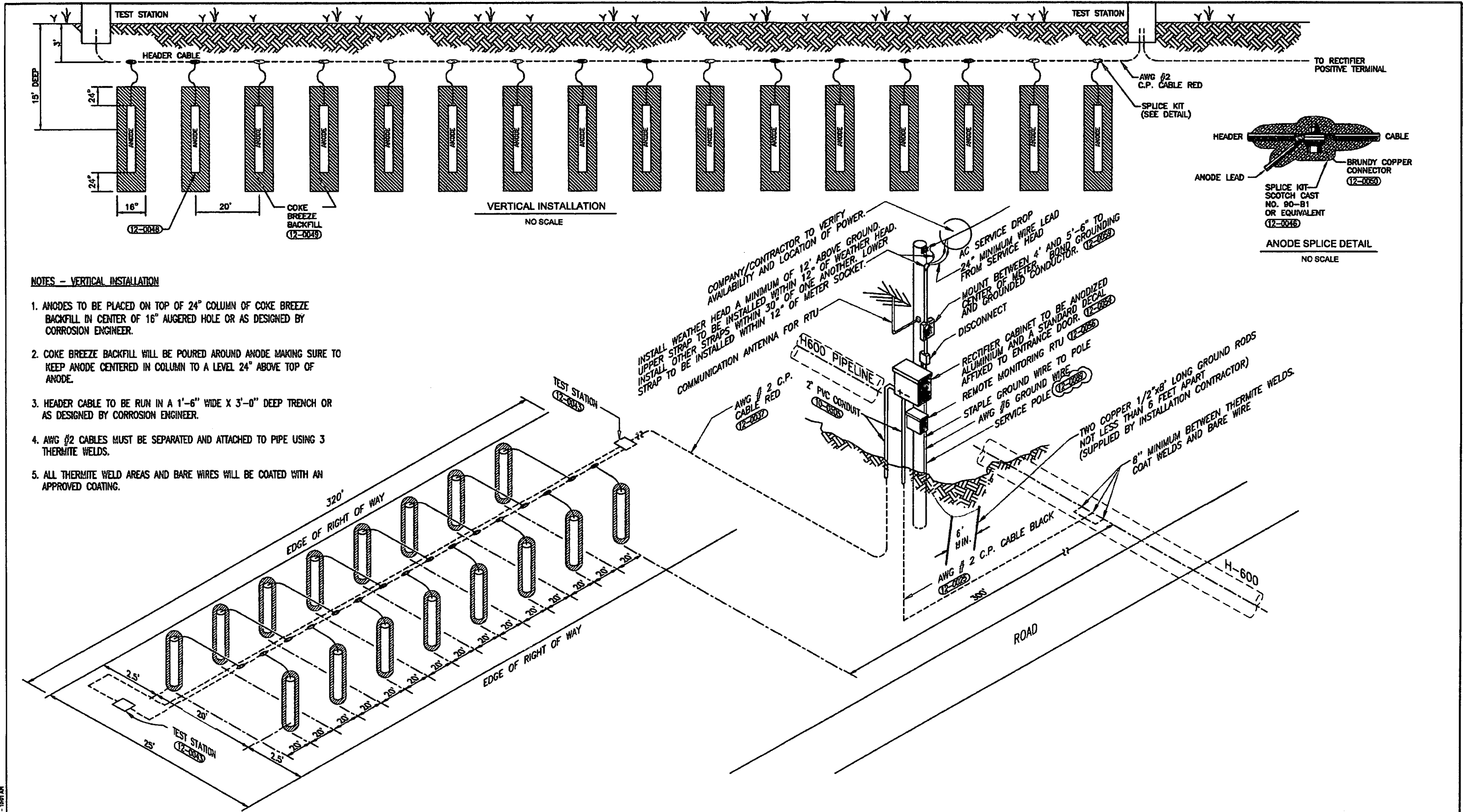
DRAWING TITLE: H600 42" 1480 PSIG ANSI 600 MLV-10 VALVE SETTING INSTALLATION SECTIONS

PROJECT ID: _____

FACILITY	STATE	IDENTIFICATION	SERIES	SHEET	REVISION
P	W	H600	1117	02	P9

DRAWING SCALE: NONE

Created by: [Name] Date: April 7, 2016 10:57 AM
 File Path: C:\Users\jdemer\Working\SDV\WPUR-400\W-600 04 Package\Drawings\Plan\Design Files\Mechanical\W-W-H600-1117-02.dwg



NOTES - VERTICAL INSTALLATION

1. ANODES TO BE PLACED ON TOP OF 24" COLUMN OF COKE BREEZE BACKFILL IN CENTER OF 16" AUGERED HOLE OR AS DESIGNED BY CORROSION ENGINEER.
2. COKE BREEZE BACKFILL WILL BE POURED AROUND ANODE MAKING SURE TO KEEP ANODE CENTERED IN COLUMN TO A LEVEL 24" ABOVE TOP OF ANODE.
3. HEADER CABLE TO BE RUN IN A 1'-6" WIDE X 3'-0" DEEP TRENCH OR AS DESIGNED BY CORROSION ENGINEER.
4. AWG #2 CABLES MUST BE SEPARATED AND ATTACHED TO PIPE USING 3 THERMITE WELDS.
5. ALL THERMITE WELD AREAS AND BARE WIRES WILL BE COATED WITH AN APPROVED COATING.

COMPANY/CONTRACTOR TO VERIFY AVAILABILITY AND LOCATION OF POWER.

INSTALL WEATHER HEAD A MINIMUM OF 12' ABOVE GROUND. UPPER STRAP TO BE INSTALLED WITHIN 12" OF WEATHER HEAD. INSTALL OTHER STRAPS WITHIN 30" OF ONE ANOTHER. LOWER STRAP TO BE INSTALLED WITHIN 12" OF METER SOCKET.

COMMUNICATION ANTENNA FOR RTU

AC SERVICE DROP

24" MINIMUM WIRE LEAD FROM SERVICE HEAD

MOUNT BETWEEN 4" AND 5'-6" TO CENTER OF METER AND GROUNDED CONDUCTOR.

DISCONNECT

RECTIFIER CABINET TO BE ANODIZED ALUMINIUM AND A STANDARD DECAL AFFIXED TO ENTRANCE DOOR.

REMOTE MONITORING RTU

STAPLE GROUND WIRE TO POLE

AWG #6 GROUND WIRE

SERVICE POLE

TWO COPPER 1/2"x8" LONG GROUND RODS NOT LESS THAN 6 FEET APART (SUPPLIED BY INSTALLATION CONTRACTOR)

8" MINIMUM BETWEEN THERMITE WELDS

AWG #2 C.P. CABLE RED

AWG #2 C.P. CABLE BLACK

6" MIN.

H600 PIPELINE

2" PVC CONDUIT

ROAD

H-600

NO.	DATE	REVISION	BY	CHK	APPD	NO.	DATE	REVISION	BY	CHK	APPD
1	5/25/2016	PRELIMINARY	JOH								

TO THE BEST OF MY KNOWLEDGE, ALL COMPONENTS OF THIS DRAWING ARE DESIGNED IN ACCORDANCE WITH APPLICABLE GUIDELINES AND SPECIFICATIONS

PAUL LAYNE
MECHANICAL DESIGN ENGINEER

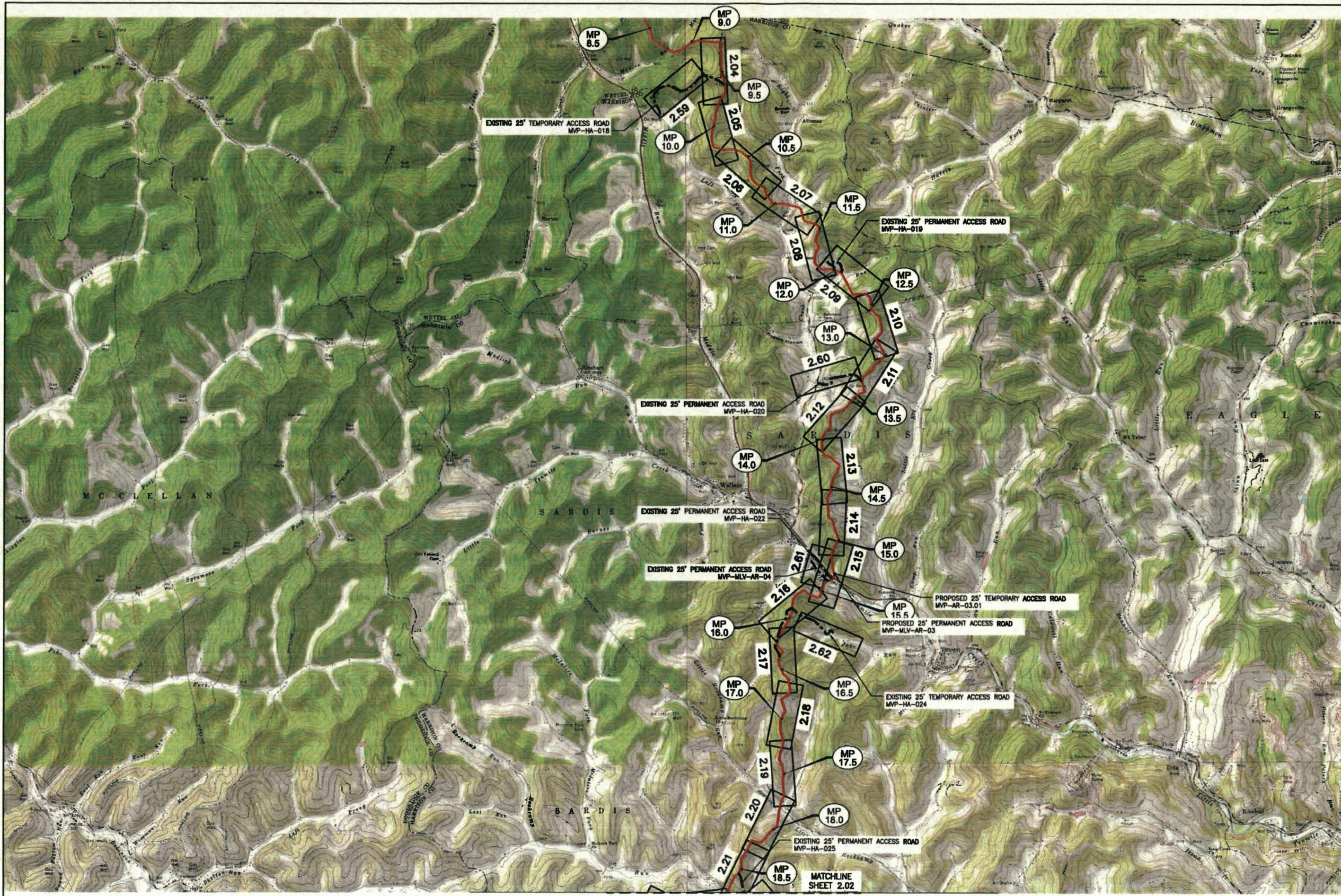
DATE

ELECTRICAL DESIGN ENGINEER

DATE

NOTE: ANY CHANGES TO THE DESIGN SHOWN ON THIS DRAWING MUST BE APPROVED BY THE DESIGN ENGINEER.

		DRAWING TITLE: H600 42" 1480 PSIG ANSI 600 RECTIFIER AND CONVENTIONAL GROUNDBED INSTALLATION - (16) VERTICAL ANODES			
PROJECT ID	P8960	FACILITY STATE	IDENTIFICATION	SERIES	SHEET REVISION
DRAWING SCALE	NONE	P	W	H600-01	1204 06 P



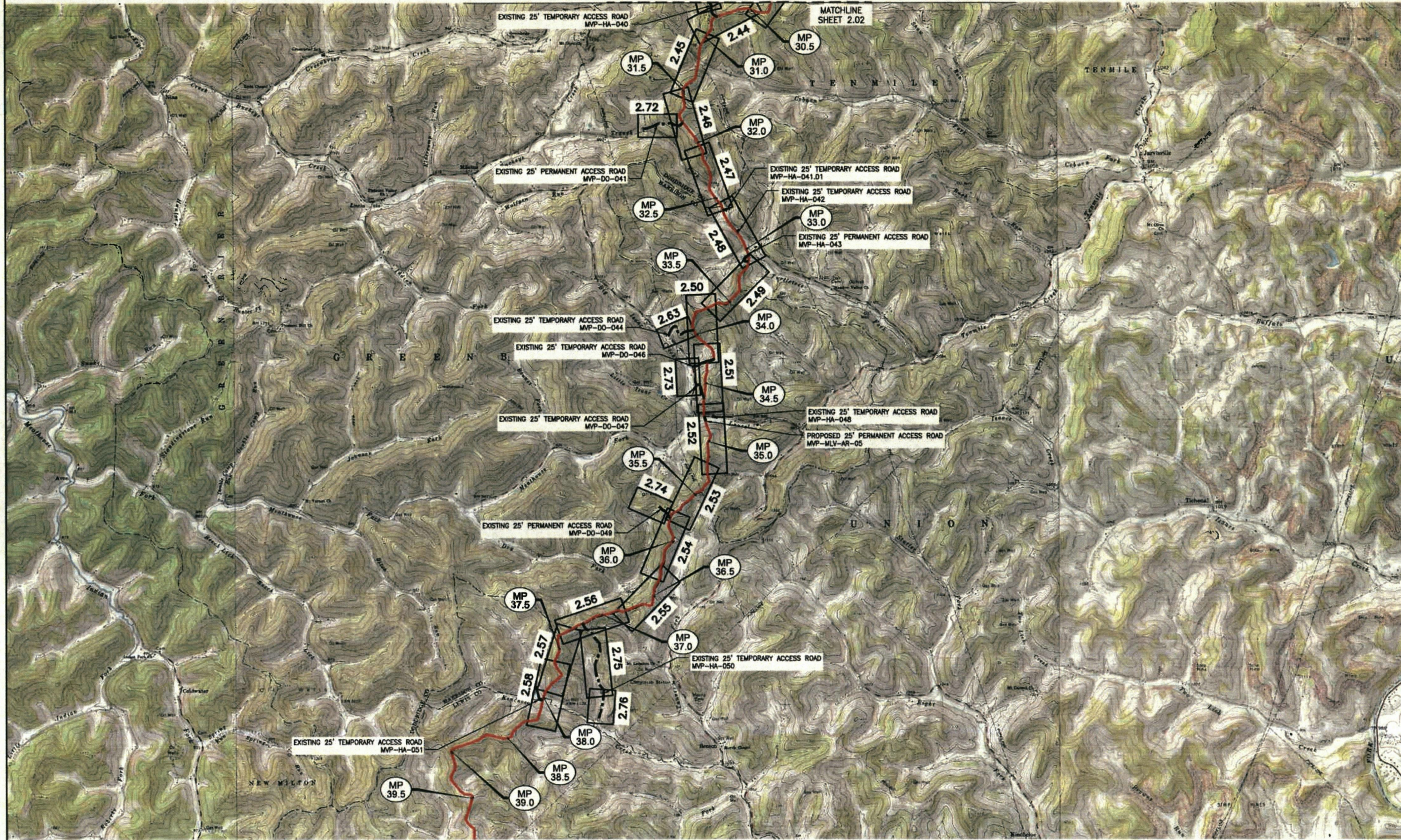
NO.	DATE	BY	CHKD	APPL	DESCRIPTION


Mountain Valley Pipeline
EROSION AND SEDIMENT CONTROL PLANS
MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE
 HARRISON COUNTY, WEST VIRGINIA
MOUNTAIN VALLEY PIPELINE, LLC
 655 SOUTHPOINTE BOULEVARD, SUITE 200
 CHARLESTON, PA 15317

TETRA TECH
 complex world. CLEAR SOLUTIONS.[®]
 661 ANDERSEN DRIVE
 FOSTER PLAZA 7
 PITTSBURGH, PA 15220

CONSTRUCTION PLANS

DRAWN BY: KAL
 CHECKED BY: HT
 APPROVED BY: RE
 DATE: 2/18/2016
 SCALE: AS SHOWN
 SHT. NO. 2.01 OF 2.76

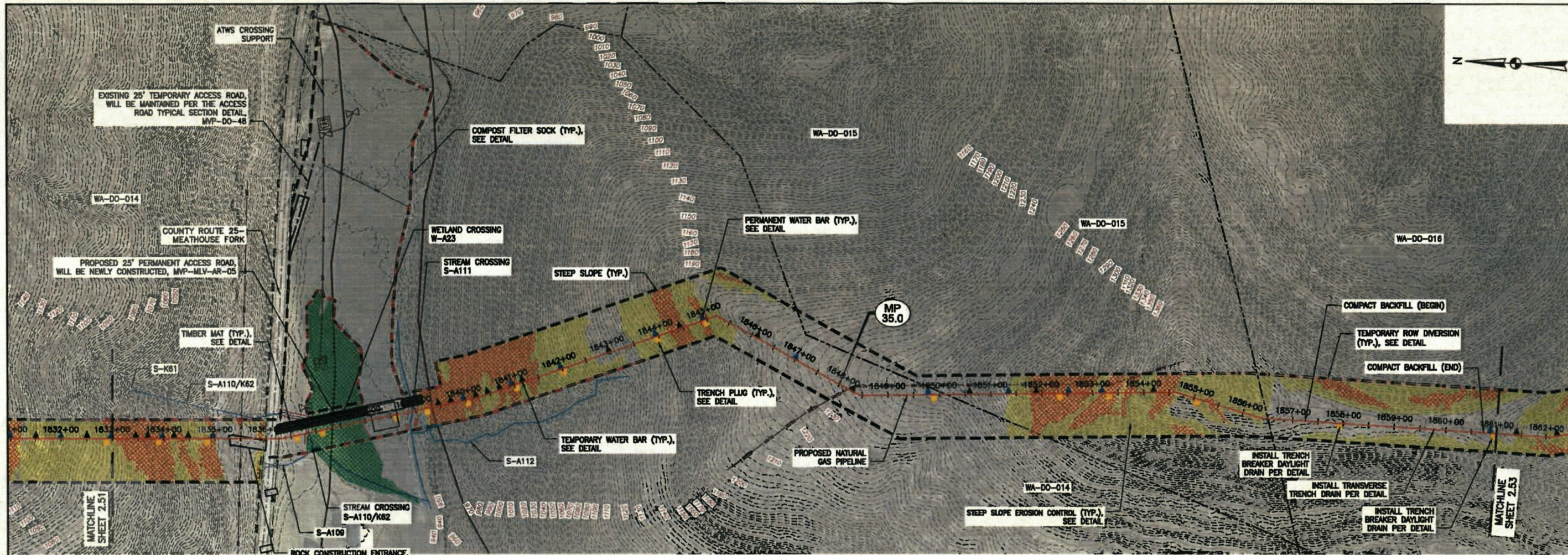



EROSION AND SEDIMENT CONTROL PLANS
MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE
 HARRISON & DODDIDGE COUNTY, WEST VIRGINIA
MOUNTAIN VALLEY PIPELINE, LLC
 555 SOUTHPOINTE BOULEVARD, SUITE 200
 CHARLESTON, PA 15317

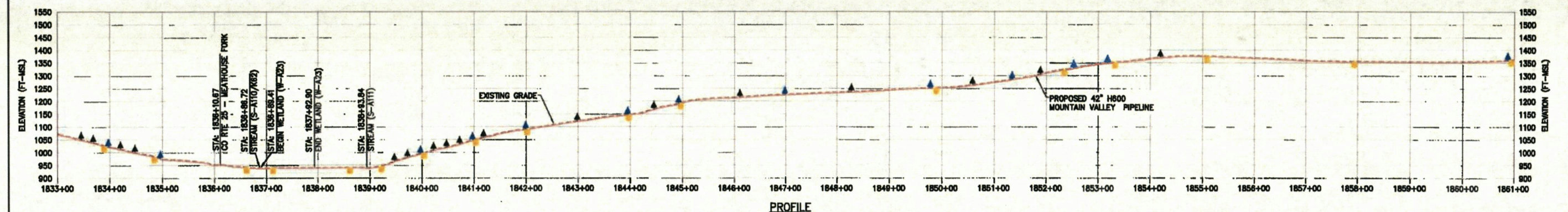

TETRA TECH
 complex world | CLEAR SOLUTIONS®
 661 ANDERSEN DRIVE
 FOSTER PLAZA 7
 PITTSBURGH, PA 15220

CONSTRUCTION PLANS

DRAWN BY: KAL
 CHECKED BY: HT
 APPROVED BY: RE
 DATE: 2/19/2016
 SCALE: AS SHOWN
 SHT. NO. 2.03 OF 2.76



PLAN
SCALE: 1" = 100'



PROFILE
HORIZONTAL SCALE: SCALE: 1" = 100'
VERTICAL SCALE: SCALE: 1" = 200'

- LEGEND**
- PROPOSED LIMIT OF DISTURBANCE
 - PROPOSED ACCESS ROAD CENTERLINE
 - PROPOSED PIPELINE
 - PROPOSED SILT FENCE (SEE NOTE 6)
 - PROPOSED SUPER SILT FENCE
 - ORANGE CONSTRUCTION SAFETY FENCE
 - PROPOSED COMPOST FILTER SOCK
 - PROPOSED REINFORCED FILTRATION DEVICE
 - PROPOSED TEMPORARY RIGHT OF WAY DIVERSION AND OUTLET
 - EXISTING CULVERT
 - STREAM
 - WETLAND
 - POND
 - PROPOSED CULVERT WITH OUTLET PROTECTION
 - TIMBER MAT
 - STEEP SLOPE EROSION CONTROL (SEE NOTE 3)
 - STEEP SLOPE (SEE NOTE 5)
 - PROPOSED PERMANENT WATER BAR
 - PROPOSED TEMPORARY WATER BAR
 - PROPOSED BROAD BASED DIP
 - PROPOSED TRENCH PLUG
 - PROPOSED ROCK CONSTRUCTION ENTRANCE

- ACCESS ROAD LEGEND**
- ① ROCK CONSTRUCTION ENTRANCE
 - ② WETLAND CROSSING
 - ③ STREAM CROSSING

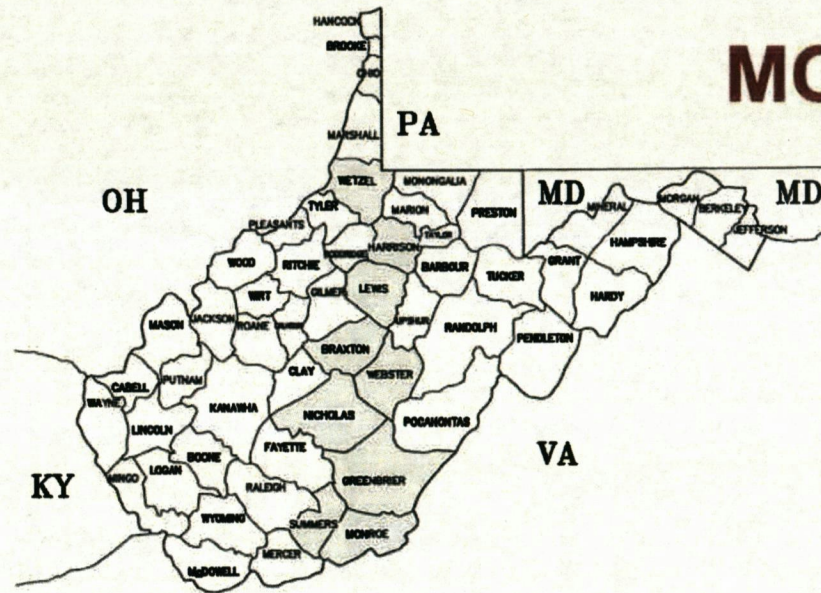
- NOTES:**
1. WATERBARS WITHIN AGRICULTURAL AREAS SHALL BE USED AS TEMPORARY FEATURES.
 2. NO EROSION CONTROL MATTING SHALL BE INSTALLED IN AGRICULTURAL AREAS.
 3. FLEXITERRA OR EQUIVALENT MAY BE USED AS A SUBSTITUTE TO EROSION CONTROL BLANKET AS DIRECTED BY M.V.P. CONTRACTOR IS RESPONSIBLE TO IDENTIFY ALL UTILITIES. THE UTILITY LINES SHOWN ON THE PLAN ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT REPRESENT SURVEYED LINE INFORMATION.
 4. SLOPES OF 3:1 OR GREATER EXIST. CONSTRUCTION FOR STEEP SLOPES TO BE PERFORMED USING STEEP SLOPE TECHNIQUES IDENTIFIED IN THE DETAIL SHEETS.
 5. WHERE CONSTRUCTION CONDITIONS PRECLUDE THE USE OF DIVERSION DITCHES DUE TO SITE CONDITIONS THE CONTRACTOR WILL INSTALL SILT FENCE AT THE DIRECTION OF M.V.P.
 6. IMPROVEMENTS TO PERMANENT AND TEMPORARY ACCESS ROADS WILL BE PERFORMED AS NEEDED AND BMP'S MAY BE SUBSTITUTED IF FIELD EVALUATIONS REQUIRE ADJUSTMENTS TO ACCOMMODATE FIELD VERIFIED CONDITIONS.
 7. WETLANDS AND STREAMS WILL BE CROSSED ACCORDING TO THE APPROPRIATE DETAILS. ACCESS ROADS WILL UTILIZE CULVERTS WHERE THEY EXIST AND NON-CULVERTED STREAMS OR STREAM SEGMENTS WILL BE CROSSED UTILIZING TIMBER MATS, BRIDGING, OR CULVERTS AS DICTATED BY FIELD CONDITIONS DURING CONSTRUCTION.

<p style="text-align: center;">Mountain Valley Pipeline</p> <p style="text-align: center;">EROSION AND SEDIMENT CONTROL PLANS</p> <p style="text-align: center;">MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE</p> <p style="text-align: center;"><small>DEPOWNE COUNTY, WEST VIRGINIA</small></p>	<p style="text-align: center;">MOUNTAIN VALLEY PIPELINE, LLC</p> <p style="text-align: center;"><small>555 SOUTHPOINTE BOULEVARD, SUITE 200 CANONSBURG, PA 15317</small></p>										
<p style="text-align: center;"><small>complex world CLEAR SOLUTIONS™</small></p> <p style="text-align: center;">661 ANDERSEN DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220</p>											
<p style="font-size: 24pt; color: red; margin: 0;">CONSTRUCTION PLANS</p>											
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DRAWN BY: KAL</td> <td style="width: 50%;">CHECKED BY: HT</td> </tr> <tr> <td>APPROVED BY: RE</td> <td>DATE: 2/18/2016</td> </tr> <tr> <td>SCALE: AS SHOWN</td> <td>SHT. NO. 2.52 OF 2.78</td> </tr> </table>		DRAWN BY: KAL	CHECKED BY: HT	APPROVED BY: RE	DATE: 2/18/2016	SCALE: AS SHOWN	SHT. NO. 2.52 OF 2.78				
DRAWN BY: KAL	CHECKED BY: HT										
APPROVED BY: RE	DATE: 2/18/2016										
SCALE: AS SHOWN	SHT. NO. 2.52 OF 2.78										
<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>APPD.</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	DATE	BY	APPD.	DESCRIPTION					
NO.	DATE	BY	APPD.	DESCRIPTION							

MOUNTAIN VALLEY PIPELINE, LLC

WVDEP GENERAL WATER POLLUTION CONTROL PERMIT EROSION & SEDIMENT CONTROL PLAN

MVP PIPELINE PROJECT WETZEL COUNTY TO MONROE COUNTY NOVEMBER 2016



LOCATION MAP
N.T.S.



LOCATION MAP
MVP PIPELINE PROJECT
WETZEL COUNTY, WEST VIRGINIA TO MONROE COUNTY, WEST VIRGINIA

DRAWING INDEX	
SHEET No.	DRAWING TITLE
GENERAL SET	
ES-0.00	COVER SHEET
ES-0.01 TO ES-0.19	EROSION AND SEDIMENT CONTROL DETAILS
ES-0.20 TO ES-0.21	GENERAL NOTES AND LEGEND
WETZEL COUNTY	
ES-1.01	KEY PLAN
ES-1.02 TO ES-1.33	EROSION & SEDIMENT CONTROL PLANS
HARRISON COUNTY	
ES-2.01 TO ES-2.03	KEY PLAN
ES-2.04 TO ES-2.76	EROSION & SEDIMENT CONTROL PLANS
LEWIS COUNTY	
ES-3.01 TO ES-3.03	KEY PLAN
ES-3.04 TO ES-3.79	EROSION & SEDIMENT CONTROL PLANS
BRAXTON COUNTY	
ES-4.01 TO ES-4.02	KEY PLAN
ES-4.03 TO ES-4.90	EROSION & SEDIMENT CONTROL PLANS
WEBSTER COUNTY	
ES-5.01 TO ES-5.04	KEY PLAN
ES-5.05 TO ES-5.99	EROSION & SEDIMENT CONTROL PLANS
NICHOLAS COUNTY	
ES-6.01 TO ES-6.03	KEY PLANS
ES-6.04 TO ES-6.86	EROSION & SEDIMENT CONTROL PLANS
GREENBRIER COUNTY	
ES-7.01	KEY PLAN
ES-7.02 TO ES-7.63	EROSION & SEDIMENT CONTROL PLANS
SUMMERS COUNTY	
ES-8.01	KEY PLAN
ES-8.02 TO ES-8.51	EROSION & SEDIMENT CONTROL PLANS
MONROE COUNTY	
ES-9.01	KEY PLAN
ES-9.02 TO ES-9.99	EROSION & SEDIMENT CONTROL PLANS
PIPE YARDS	
ES-10.01 TO ES-10.07	KEY PLAN
ES-10.08 TO ES-10.24	PIPE YARD PLANS
LANDSLIDE MITIGATION	
ES-11.01	LANDSLIDE MITIGATION LEGEND
ES-11.02 TO ES-11.19	LANDSLIDE MITIGATION PLANS

WEST VIRGINIA 811

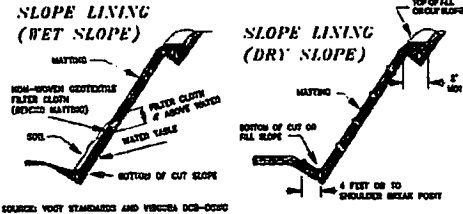
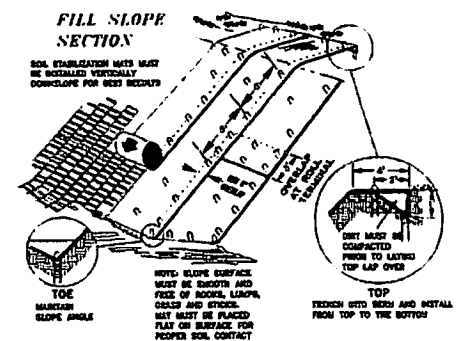
CALL BEFORE YOU DIG!

THREE DAYS BEFORE YOU DIG

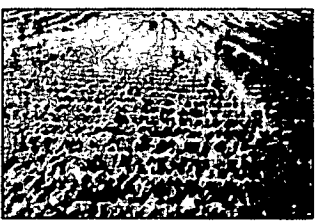
CALL WV ONE CALL
SYSTEM TOLL FREE
811
OR
1-800-245-4848

CONTRACTOR IS RESPONSIBLE TO IDENTIFY ALL UTILITIES. THE UTILITY LINES SHOWN ON THE PLAN ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT REPRESENT SURVEYED LINE INFORMATION.

NO.		DATE	DRWN.	CHKD.	APPR.	DESCRIPTION
<p>Mountain Valley Pipeline EROSION AND SEDIMENT CONTROL PLANS MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE WETZEL COUNTY THROUGH MONROE COUNTY, WEST VIRGINIA</p> <p>MOUNTAIN VALLEY PIPELINE, LLC 555 SOUTHPOINTE BOULEVARD, SUITE 200 CHARLESTON, PA 15317</p>						
<p>Tetra Tech complex world. CLEAR SOLUTIONS™ 661 ANDERSEN DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220</p>						
<p>CONSTRUCTION PLANS</p>						
DRAWN BY:		KAL				
CHECKED BY:		HT				
APPROVED BY:		RE				
DATE:		2/19/2018				
SCALE:		AS SHOWN				
SHT. NO.		0.00		OF 0.21		



EROSION CONTROL FABRIC BLANKETING FOR PROTECTION ON STEEP SLOPES
TAKEN FROM 2008 MANUAL



NOTES:
A BONDED FIBER MATRIX (BFM) IS AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. BFM MAKE USE OF A CROSS-LINKED HYDROCOLLOID TACKIFIER TO BOND THERMALLY PROCESSED WOOD FIBERS. APPLICATION RATES VARY ACCORDING TO SITE CONDITIONS. FOR SLOPES UP TO 3:1 THE BFM SHOULD BE APPLIED AT A RATE OF 3,000 LB/ACRE. STEEPER SLOPES MAY NEED AS MUCH AS 4,000 LB/ACRE.
BFM SHOULD ONLY BE USED WHEN NO RAIN IS FORECASTED FOR AT LEAST 48 HOURS FOLLOWING THE APPLICATION. THIS IS TO ALLOW THE TACKIFIER SUFFICIENT TIME TO CURE PROPERLY. ONCE PROPERLY APPLIED, A BFM IS TYPICALLY 80% EFFECTIVE IN PREVENTING ACCELERATED EROSION. BFM SHOULD NOT BE APPLIED BETWEEN SEPTEMBER 30 AND APRIL 1.
A POLYMER STABILIZED FIBER MATRIX (PSFM) CAN ALSO BE AN EFFECTIVE METHOD OF STABILIZING STEEP SLOPES WHEN USED PROPERLY. PSFM MAKE USE OF A LINEAR SOIL STABILIZING TACKIFIER THAT WORKS DIRECTLY ON SOIL TO MAINTAIN SOIL STRUCTURE, MAINTAIN PORE SPACE CAPACITY AND FLOCCULATE DISLODGED SEDIMENT THAT WILL SIGNIFICANTLY REDUCE RUNOFF TURBIDITY. PROPERLY APPLIED, A PSFM MAY BE AS MUCH AS 90% EFFECTIVE.

Typical Polymer Stabilized Fiber Matrix Application Rates

Maximum Slope of 3:1	4:1	5:1	6:1	7:1	8:1	9:1	10:1
Soil Stabilizer (gal/acre)	4	3	2	1.5	1	0.75	0.5
Fiber (lb/acre)	1,500	1,500	1,500	1,800	2,000	2,500	3,000

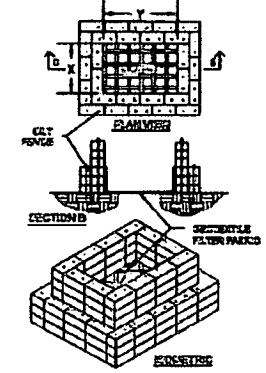
Maximum Slope of 2:1 and For Site Rehabilitation	3:1	4:1	5:1
Soil Stabilizer (gal/acre)	8	6	4
Fiber (lb/acre)	2,000	2,500	3,000

NOTES:
UNLIKE ROLLED BLANKETS, THERE IS NO NEED TO SMOOTH THE SLOPE PRIOR TO APPLICATION OF HYDRAULICALLY APPLIED BLANKETS. IN FACT SOME ROUGHENING OF THE SURFACE, EITHER NATURAL OR MECHANICALLY INDUCED, IS PREFERABLE. HOWEVER, LARGE ROCKS, THOSE > 8 INCHES, AND EXISTING RILLS SHOULD BE REMOVED PRIOR TO APPLICATION. TRACKING OR GROOVING OF SLOPES SHOULD BE CONSIDERED TO SLOW WATER FLOWS DURING A STORM EVENT. SLOPE INTERRUPTION DEVICES SUCH AS STAIR STEP GRADING OR BENCHING SHOULD BE APPLIED PRIOR TO THE APPLICATION. MIXING AND APPLICATION RATES SHOULD FOLLOW MANUFACTURER'S RECOMMENDATIONS.
HYDRAULICALLY APPLIED BLANKETS ARE TYPICALLY APPLIED IN TWO STAGES UNLESS SPECIFICALLY RECOMMENDED TO BE APPLIED IN ONE APPLICATION BY THE MANUFACTURER. THE SEED MIXTURE AND SOIL AMENDMENTS SHOULD BE APPLIED FIRST. IF THE SEED IS APPLIED AT THE SAME TIME AS THE HYDRAULICALLY APPLIED BLANKET, THE BONDED FIBERS MAY KEEP THE SEED FROM MAKING SUFFICIENT CONTACT WITH THE SOIL TO GERMINATE. AFTER THE SEED MIXTURE IS APPLIED, THE BFM, FOM, OR PSFM SHOULD BE SPRAYED OVER THE AREA AT THE REQUIRED APPLICATION RATE. (SEE ABOVE TABLES)

BONDED FIBER MATRIX

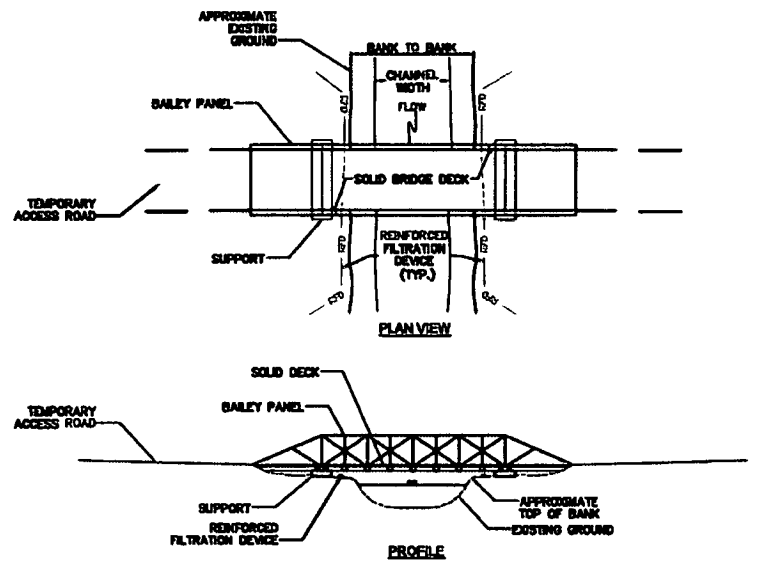
STEEP SLOPE EROSION CONTROL OPTIONS

MIPOMBA SLUMP DIMENSIONS (FEET)		MANUAL PUMPING RATE (GALLONS PER MINUTE)
X	Y	
10	20	300
15	20	350
20	20	400
20	25	450
25	25	500
25	30	550
30	30	600



- NOTES:**
1. ARRANGE THE STRAITS CALLED TO THE X AND Y DIMENSIONS AS SPECIFIED IN THIS DRAWING.
 2. IN SECTION B, THE BOTTOM OF THE STRUCTURE IS NOT LINED WITH STYRA DRAIN BALES, USE THE EXISTING STRUCTURE WITH GEOTEXTILE FILTER FABRICS.
 3. GEOTEXTILE FILTER FABRICS TO BE LINED IN CONJUNCTION WITH STYRA DRAIN BALE STRUCTURES FOR IMPROVED EFFICIENCY.
 4. BALETS OR RECTANGULAR BALETS TO BE JOINED TOGETHER.

TYPICAL BALE DEWATERING STRUCTURE



MODULAR TEMPORARY BAILEY BRIDGE

REFERENCES:
WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL, DATED 2008.
WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, DRAFT DATED 7-25-2010.
WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, DATED MAY 2012.

NO.	DATE	BY	CHKD.	APPD.	DESCRIPTION

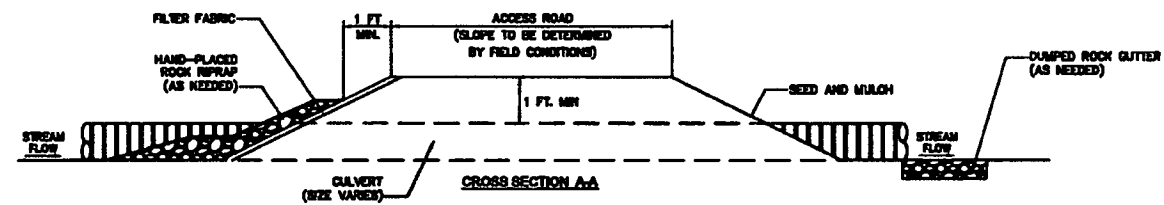
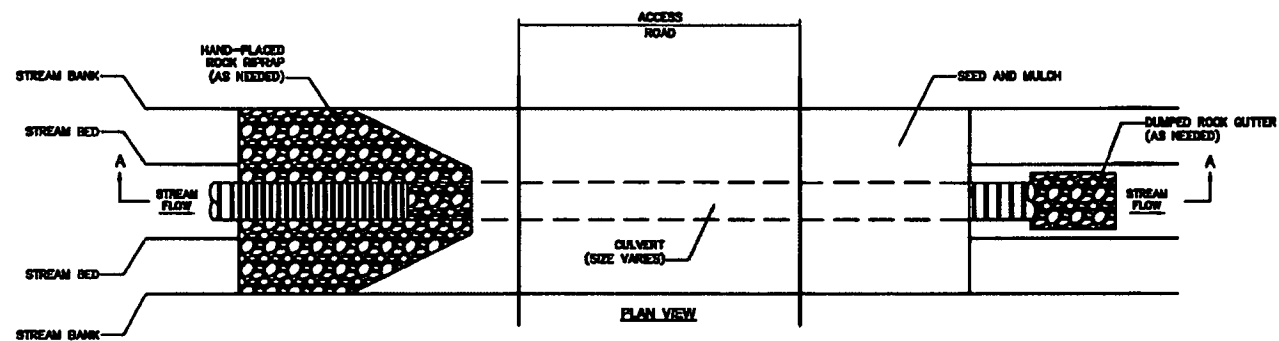
REVISIONS:

Mountain Valley
EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE
WETZEL COUNTY THROUGH MONROE COUNTY, WEST VIRGINIA
MOUNTAIN VALLEY PIPELINE, LLC
555 SOUTHPOINTE BOULEVARD, SUITE 200
CHARLESTON, PA 15317

TETRA TECH
complex world. CLEAR SOLUTIONS®
661 ANDERSEN DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220

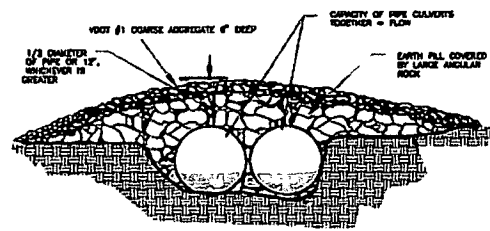
CONSTRUCTION PLANS

DRAWN BY:	KAL
CHECKED BY:	HT
APPROVED BY:	RE
DATE:	2/19/2018
SCALE:	AS SHOWN
SHT. NO. 0.07	OF 0.31

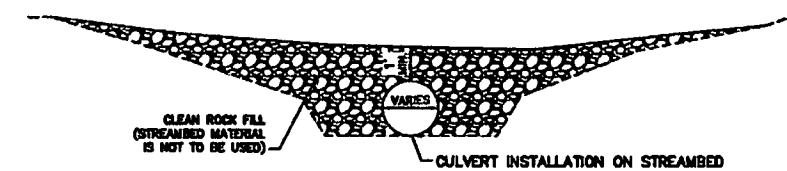


CULVERT SHALL BE DEPRESSSED A MINIMUM OF 6 INCHES INTO STREAM BED TO ENSURE UPSTREAM AND DOWNSTREAM CONNECTIVITY

TYPICAL ROAD CROSS-SECTION AT STREAM CROSSING



TEMPORARY CULVERT CROSSING
TAKEN FROM VADEQ 1992 MANUAL



TYPICAL STREAM CROSSING PROFILE - SINGLE CULVERT
TAKEN FROM WVDOP MANUAL

NOTE:
THE CULVERT TYPES, SIZES, AND LOCATIONS RELATIVE TO THE PIPELINE ARE SHOWN ON THE TABLE INCLUDED AS ATTACHMENT D&J WATER RESOURCES -8A.

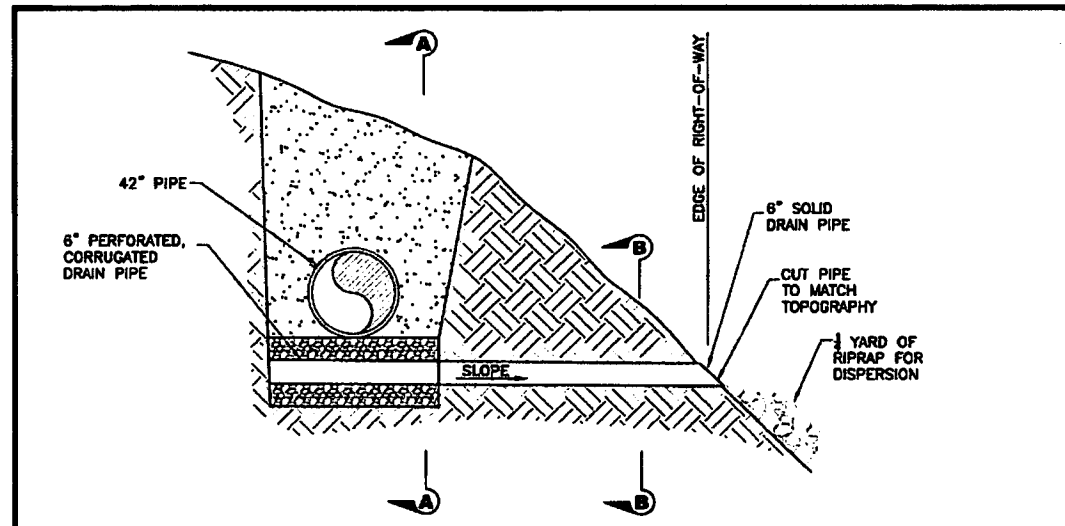
NO.	DATE	BY	CHKD.	APPLD.	DESCRIPTION

Mountain Valley Pipeline
EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE
 MOUNTAIN VALLEY PIPELINE, LLC
 555 SOUTHPOINTE BOULEVARD, SUITE 200
 CARONSBURG, PA 15317

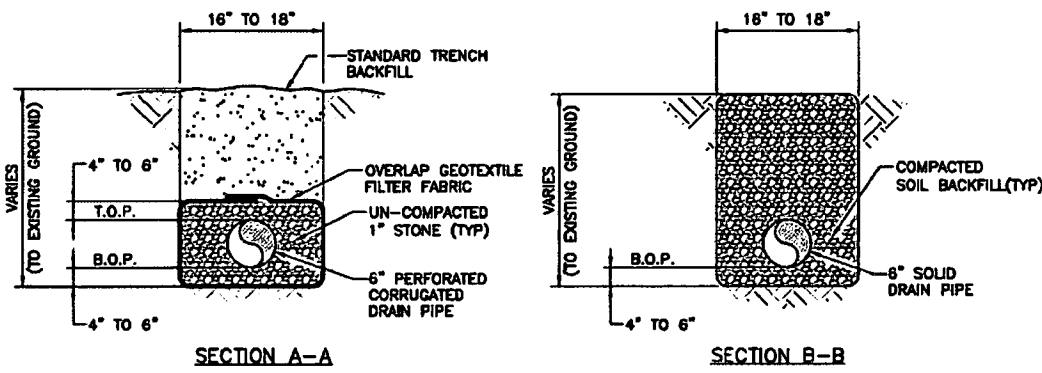
TETRA TECH
 complex world CLEAR SOLUTIONS™
 661 ANDERSEN DRIVE
 FOSTER PLAZA 7
 PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN BY:	KAL
CHECKED BY:	HT
APPROVED BY:	RE
DATE:	2/19/2015
SCALE:	AS SHOWN
SHT. NO. 0.09	OF 0.21



MAINLINE CROSS SECTION



SECTION A-A

SECTION B-B

NOTES

1. LOW POINT DITCH DRAINS SHALL BE INSTALLED AT LOCATIONS SPECIFIED IN THE APPROVED EROSION & SEDIMENTATION CONTROL PLAN, AND AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
2. FILL STONE SHOULD BE 1" AGGREGATE WITHOUT FINES, CRUSHER RUN WITHOUT FINES, OR EQUIVALENT.
3. DRAIN PIPE TO BE CONNECTED USING STANDARD PIPE COLLARS.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	JL	DATE	10/8/2016
CHECKED	MMF	DATE	10/8/2016
APP'D	XDK	DATE	10/8/2016
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
PXXXX			

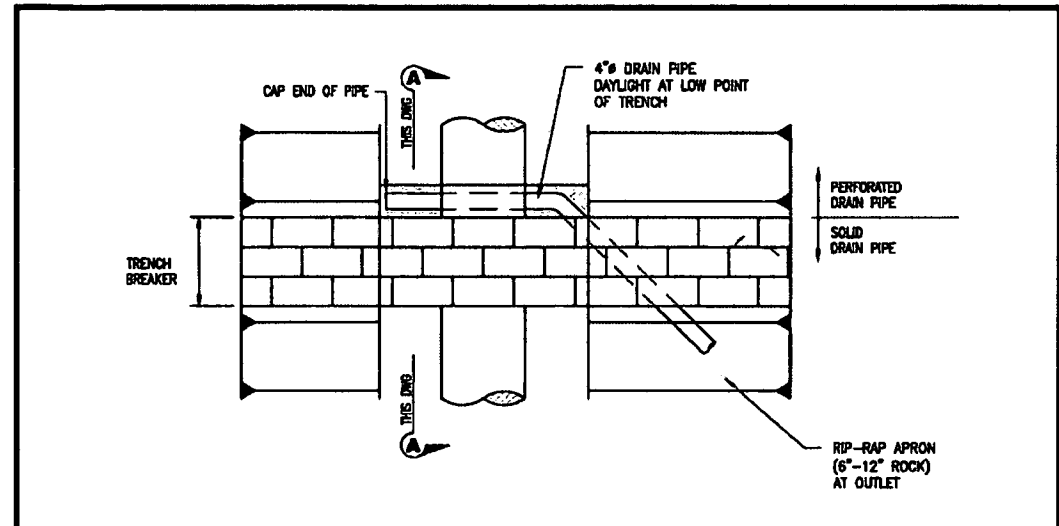


DESIGN ENGINEERING

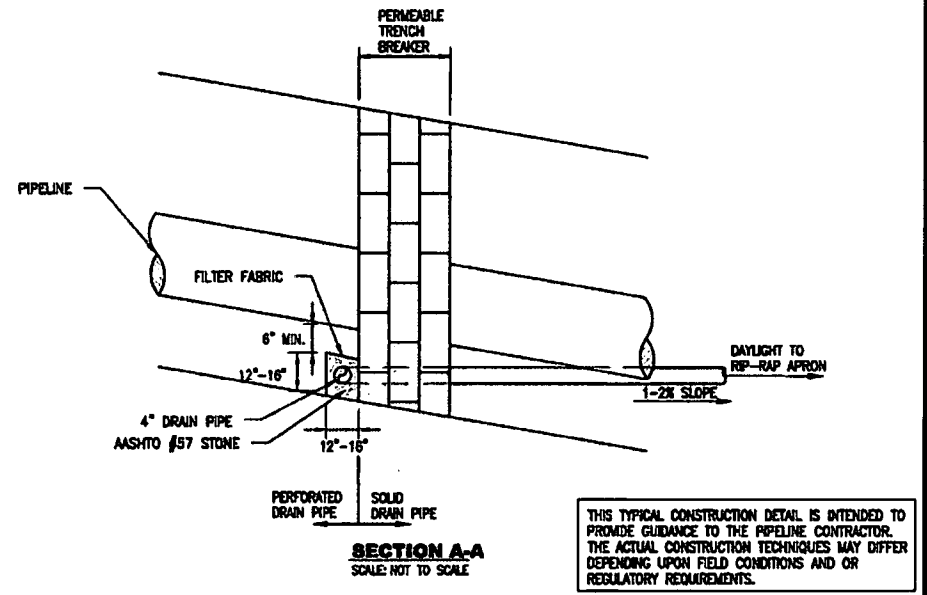
TYPICAL CONSTRUCTION DETAIL

SIDEHILL LOW-POINT DRAIN TYPICAL

DRAWING NO.	REV.
MVP-24	0



PLAN
SCALE: NOT TO SCALE



SECTION A-A
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TDD	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
PXXXX			



DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER DAYLIGHT DRAIN

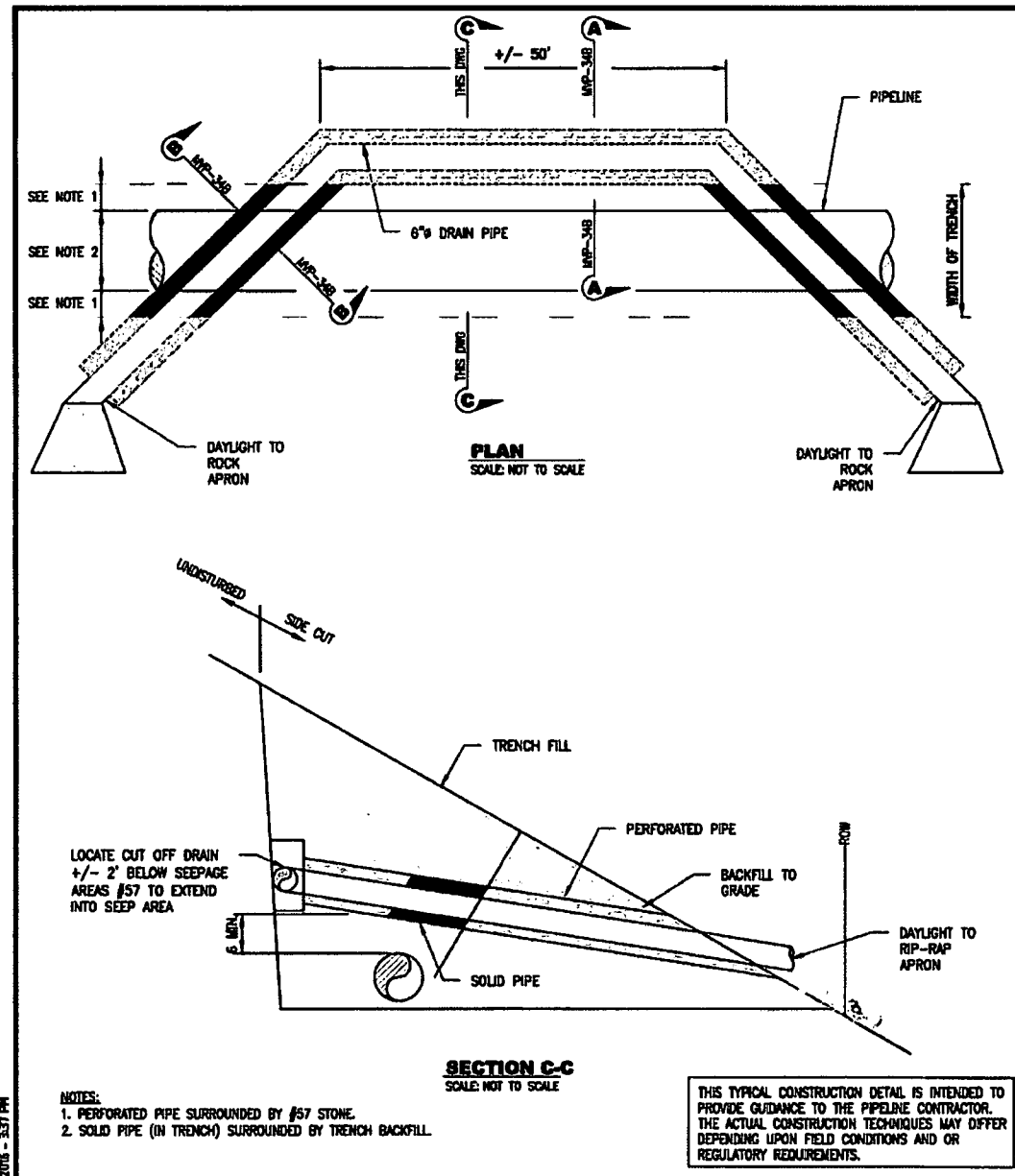
DRAWING NO.	REV.
MVP-35	0

Revised by Lutz, Keith on October 11, 2016 - 337 PH

File Path: X:\CADD\PH\hburg\EDT17157 - MVP\0 - General\References\10-12-16 Added to Set\MVP-35.dwg

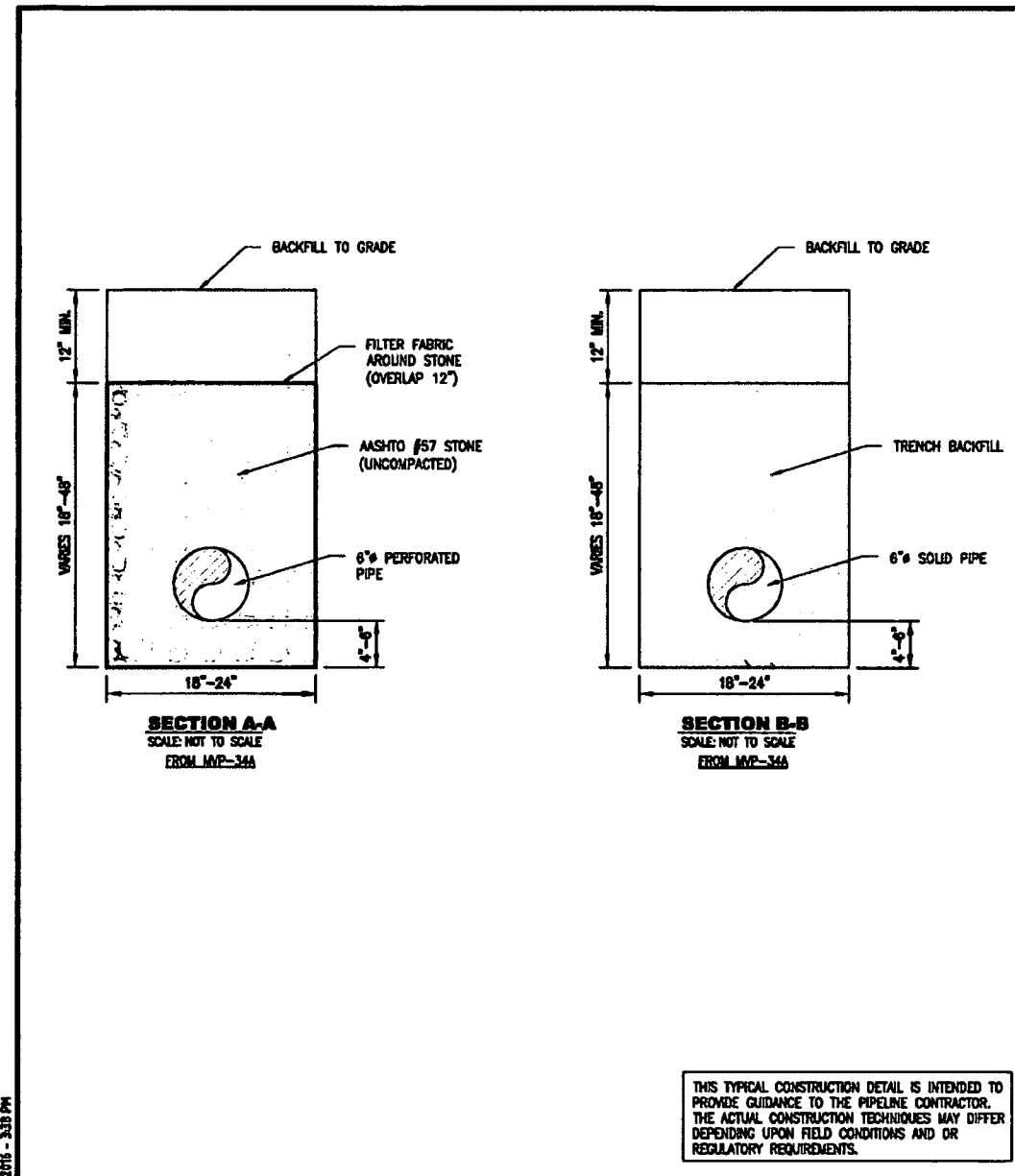
SLIP PREVENTION DETAIL

Mountain Valley Pipeline		EROSION AND SEDIMENT CONTROL DETAILS		MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE	
MOUNTAIN VALLEY PIPELINE, LLC		585 SOUTHPOINTE BOULEVARD, SUITE 200		CARLEBURG, PA 15317	
TETRA TECH complex world. CLEAR SOLUTIONS™ 661 ANDERSEN DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220					
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.					
DRAWN BY: KAL		CHECKED BY: HT		APPROVED BY: RE	
DATE: 2/19/2016		SCALE: AS SHOWN		SHT. NO. 010 OF 031	



<p>NOTES:</p> <ol style="list-style-type: none"> PERFORATED PIPE SURROUNDED BY #57 STONE. SOLID PIPE (IN TRENCH) SURROUNDED BY TRENCH BACKFILL. 	<p>THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.</p>																																
<table border="1"> <tr><td>DRAWN</td><td>TDD</td><td>DATE</td><td>2/03/2016</td></tr> <tr><td>CHECKED</td><td>MMF</td><td>DATE</td><td>2/03/2016</td></tr> <tr><td>APP'D</td><td></td><td>DATE</td><td></td></tr> <tr><td>SCALE</td><td>N.T.S.</td><td>SHEET</td><td>1 OF 2</td></tr> <tr><td>JOB NO.</td><td colspan="3"></td></tr> <tr><td>PROJECT ID:</td><td colspan="3">PXXXX</td></tr> </table>	DRAWN	TDD	DATE	2/03/2016	CHECKED	MMF	DATE	2/03/2016	APP'D		DATE		SCALE	N.T.S.	SHEET	1 OF 2	JOB NO.				PROJECT ID:	PXXXX			<table border="1"> <tr><td colspan="2">Mountain Valley PIPELINE</td></tr> <tr><td colspan="2">DESIGN ENGINEERING</td></tr> <tr><td>DRAWING NO.</td><td>MVP-36A</td></tr> <tr><td>REV.</td><td>0</td></tr> </table>	Mountain Valley PIPELINE		DESIGN ENGINEERING		DRAWING NO.	MVP-36A	REV.	0
DRAWN	TDD	DATE	2/03/2016																														
CHECKED	MMF	DATE	2/03/2016																														
APP'D		DATE																															
SCALE	N.T.S.	SHEET	1 OF 2																														
JOB NO.																																	
PROJECT ID:	PXXXX																																
Mountain Valley PIPELINE																																	
DESIGN ENGINEERING																																	
DRAWING NO.	MVP-36A																																
REV.	0																																

File Path: X:\CADD\Pittsburgh\EQ17157 - MVP10 - General\References\10-12-15 Added to Set\MVP-36a.dwg

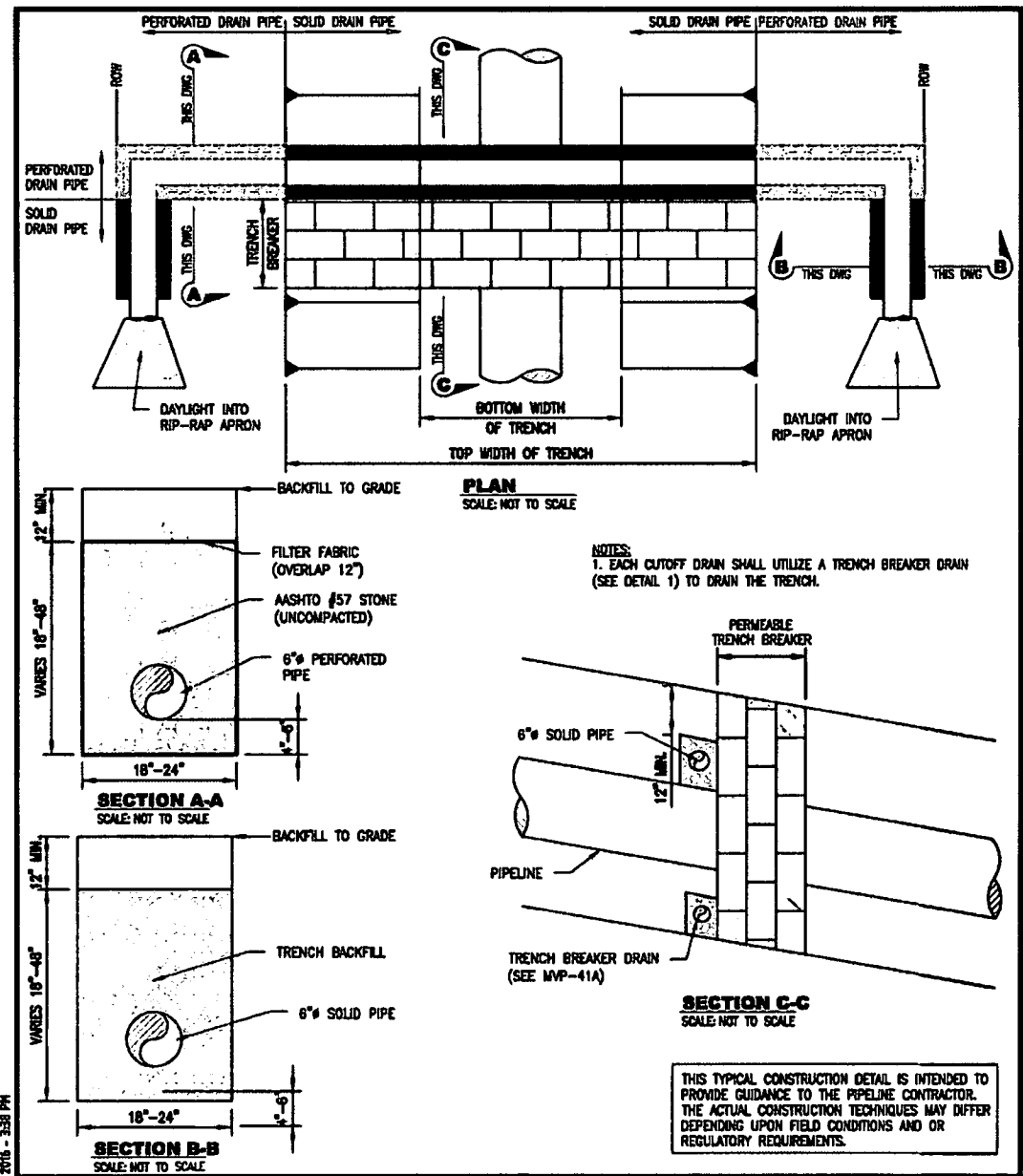


<p>THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.</p>																																	
<table border="1"> <tr><td>DRAWN</td><td>TDD</td><td>DATE</td><td>2/03/2016</td></tr> <tr><td>CHECKED</td><td>MMF</td><td>DATE</td><td>2/03/2016</td></tr> <tr><td>APP'D</td><td></td><td>DATE</td><td></td></tr> <tr><td>SCALE</td><td>N.T.S.</td><td>SHEET</td><td>2 OF 2</td></tr> <tr><td>JOB NO.</td><td colspan="3"></td></tr> <tr><td>PROJECT ID:</td><td colspan="3">PXXXX</td></tr> </table>	DRAWN	TDD	DATE	2/03/2016	CHECKED	MMF	DATE	2/03/2016	APP'D		DATE		SCALE	N.T.S.	SHEET	2 OF 2	JOB NO.				PROJECT ID:	PXXXX			<table border="1"> <tr><td colspan="2">Mountain Valley PIPELINE</td></tr> <tr><td colspan="2">DESIGN ENGINEERING</td></tr> <tr><td>DRAWING NO.</td><td>MVP-36B</td></tr> <tr><td>REV.</td><td>0</td></tr> </table>	Mountain Valley PIPELINE		DESIGN ENGINEERING		DRAWING NO.	MVP-36B	REV.	0
DRAWN	TDD	DATE	2/03/2016																														
CHECKED	MMF	DATE	2/03/2016																														
APP'D		DATE																															
SCALE	N.T.S.	SHEET	2 OF 2																														
JOB NO.																																	
PROJECT ID:	PXXXX																																
Mountain Valley PIPELINE																																	
DESIGN ENGINEERING																																	
DRAWING NO.	MVP-36B																																
REV.	0																																

File Path: X:\CADD\Pittsburgh\EQ17157 - MVP10 - General\References\10-12-15 Added to Set\MVP-36b.dwg

SLIP PREVENTION DETAIL

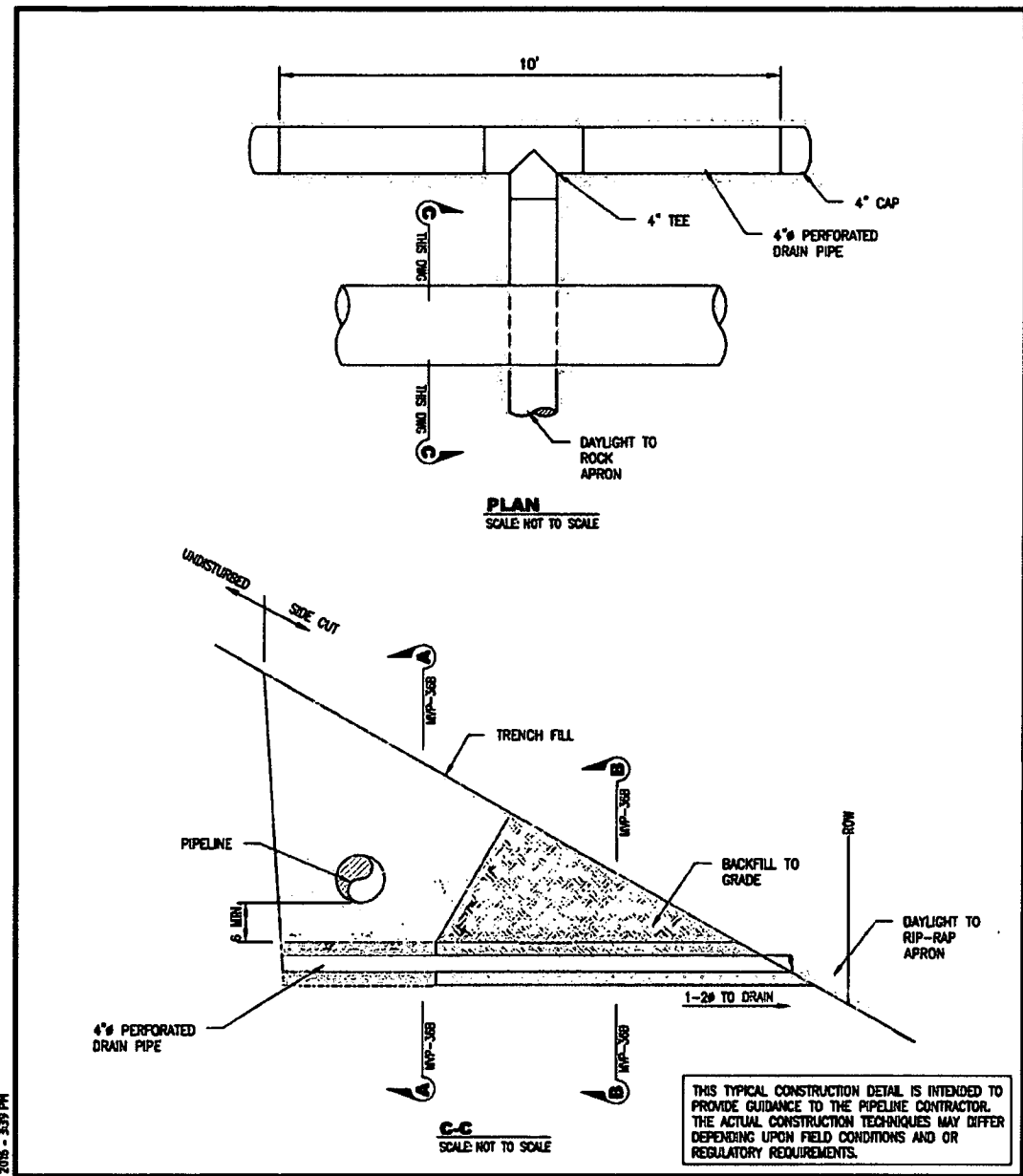
<p>Mountain Valley PIPELINE</p> <p>EROSION AND SEDIMENT CONTROL DETAILS</p> <p>MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE</p>													
<p>MOUNTAIN VALLEY PIPELINE, LLC</p> <p>555 SOUTHPOINTE BOULEVARD, SUITE 200</p> <p>CANONSBURG, PA 15317</p>													
<p>TETRA TECH</p> <p>complex world. CLEAR SOLUTIONS™</p> <p>651 ANDERSON DRIVE</p> <p>FOSTER PLAZA 7</p> <p>PITTSBURGH, PA 15220</p>													
<p>THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.</p>													
<table border="1"> <tr><td>DRAWN BY:</td><td>KAL</td></tr> <tr><td>CHECKED BY:</td><td>HT</td></tr> <tr><td>APPROVED BY:</td><td>RE</td></tr> <tr><td>DATE:</td><td>2/19/2016</td></tr> <tr><td>SCALE:</td><td>AS SHOWN</td></tr> <tr><td>SHT. NO.</td><td>0.11 OF 0.21</td></tr> </table>		DRAWN BY:	KAL	CHECKED BY:	HT	APPROVED BY:	RE	DATE:	2/19/2016	SCALE:	AS SHOWN	SHT. NO.	0.11 OF 0.21
DRAWN BY:	KAL												
CHECKED BY:	HT												
APPROVED BY:	RE												
DATE:	2/19/2016												
SCALE:	AS SHOWN												
SHT. NO.	0.11 OF 0.21												
<p>REVISIONS:</p> <table border="1"> <tr><th>NO.</th><th>DATE</th><th>ORIG.</th><th>CHG.</th><th>APPL.</th><th>DESCRIPTION</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>		NO.	DATE	ORIG.	CHG.	APPL.	DESCRIPTION						
NO.	DATE	ORIG.	CHG.	APPL.	DESCRIPTION								



DRAWN	TDD	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE		TYPICAL CONSTRUCTION DETAIL	
DESIGN ENGINEERING		CUTOFF DRAIN-PLANAR	
DRAWING NO.	MVP-37	REV.	0

File Path: X:\CADD\Pittsburgh\EQT\7157 - MVP\0 - GeneralReferences\10-12-16 Added to Set\MVP-37.dwg



DRAWN	TDD	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley PIPELINE		TYPICAL CONSTRUCTION DETAIL	
DESIGN ENGINEERING		TRANSVERSE TRENCH DRAIN	
DRAWING NO.	MVP-38A	REV.	0

File Path: X:\CADD\Pittsburgh\EQT\7157 - MVP\0 - GeneralReferences\10-12-16 Added to Set\MVP-38A.dwg

SLIP PREVENTION DETAIL

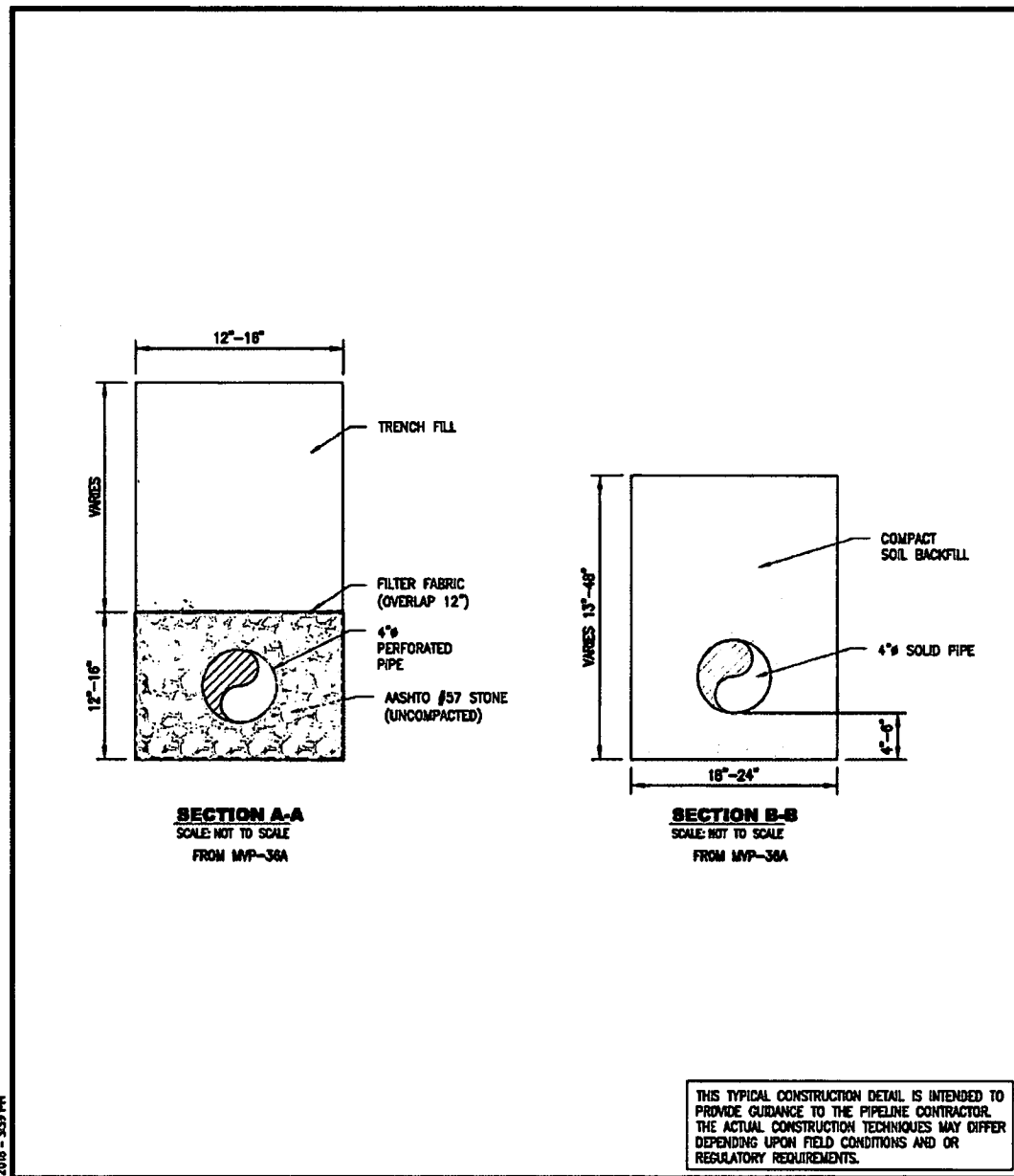
NO.	DATE	BY	CHKD	APPL	DESCRIPTION

Mountain Valley
EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H6000 LINE
MOUNTAIN VALLEY PIPELINE, LLC
655 SOUTHPOINTE BOULEVARD, SUITE 200
CHAMBERSBURG, PA 15317

TETRA TECH
complex world CLEAR SOLUTIONS™
661 ANDERSEN DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN BY:	MMF
CHECKED BY:	HT
APPROVED BY:	RE
DATE:	2/16/2016
SCALE:	AS SHOWN
SHT. NO.	012 OF 021



Modified by Lutz, Keith on October 18, 2016 - 3:39 PM

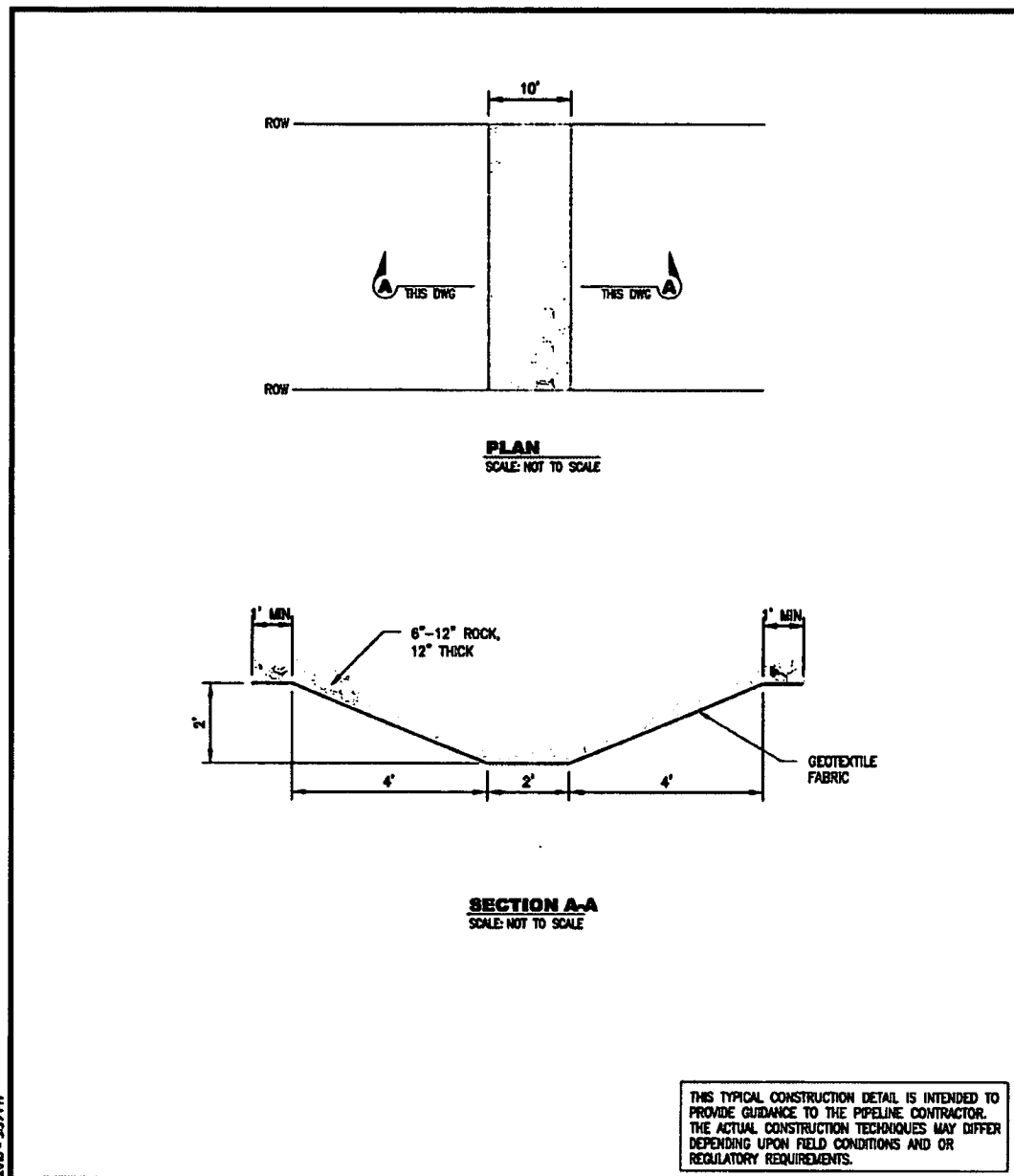
DRAWN	TDD	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
PXXXX			

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
TRANSVERSE TRENCH DRAIN	
DRAWING NO.	REV.
MVP-38B	0

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

File Path: X:\CADD\Pittsburgh\EQT\7157 - MVP\0 - General\References\10-12-16 Added to Set\MVP-38B.dwg



Modified by Lutz, Keith on October 18, 2016 - 3:39 PM

DRAWN	TDD	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:			
PXXXX			

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
ROCK LINED SWALE	
DRAWING NO.	REV.
MVP-39	0

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

File Path: X:\CADD\Pittsburgh\EQT\7157 - MVP\0 - General\References\10-12-16 Added to Set\MVP-39.dwg

SLIP PREVENTION DETAIL

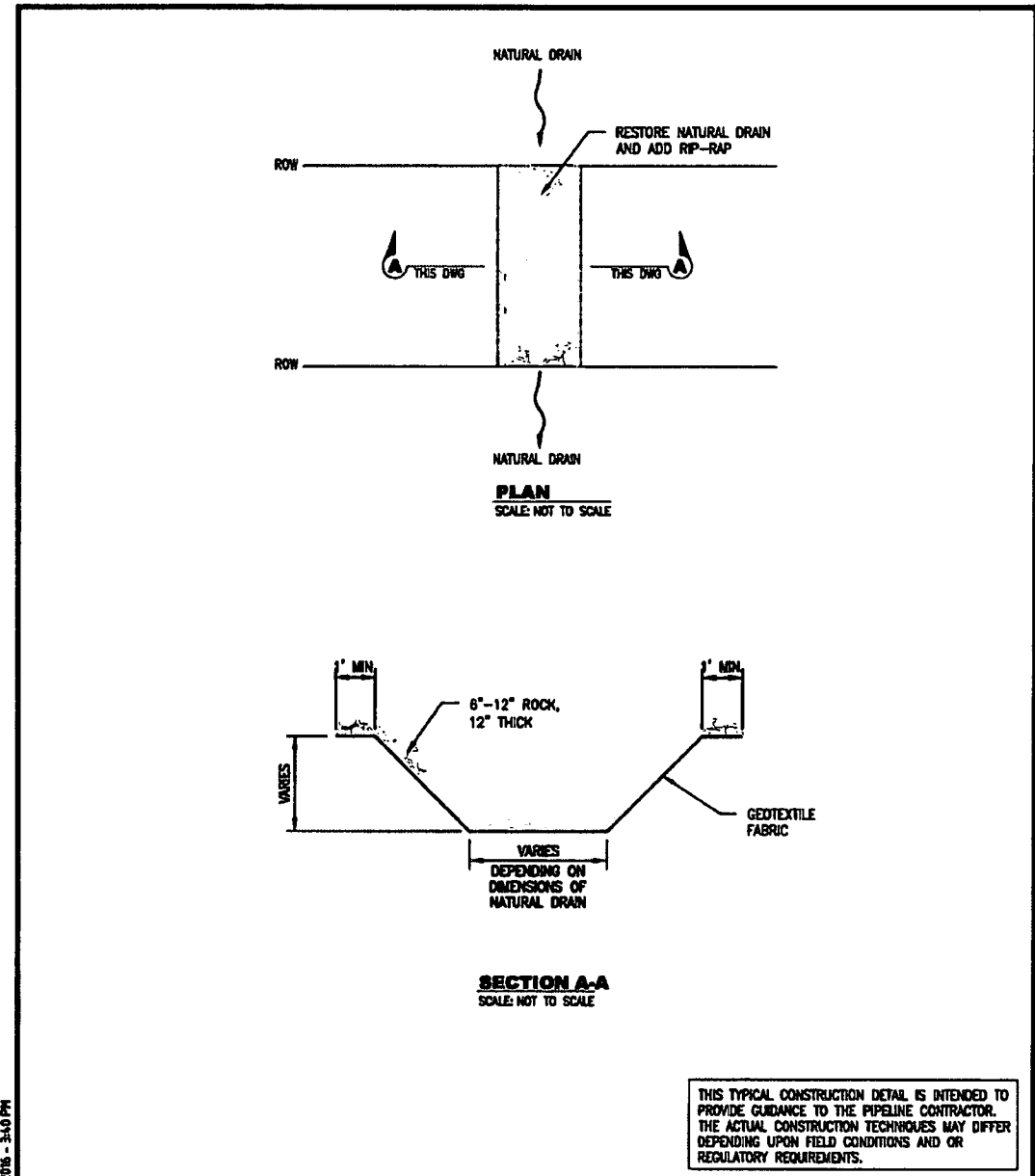
NO.	DATE	BY	CHKD.	APPR.	DESCRIPTION

EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE
MOUNTAIN VALLEY PIPELINE, LLC
 555 SOUTHPOINTE BOULEVARD, SUITE 200
 CHANDLER, PA 15317

TETRA TECH
 complex world. CLEAR SOLUTIONS.SM
 661 ANDERSEN DRIVE
 FOSTER PLAZA 7
 PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN BY	KAL
CHECKED BY	HT
APPROVED BY	RE
DATE	2/18/2016
SCALE	AS SHOWN
SHT. NO.	013 OF 031



DRAWN	TDD	DATE	2/03/2018
CHECKED	MMF	DATE	2/03/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley
PIPELINE

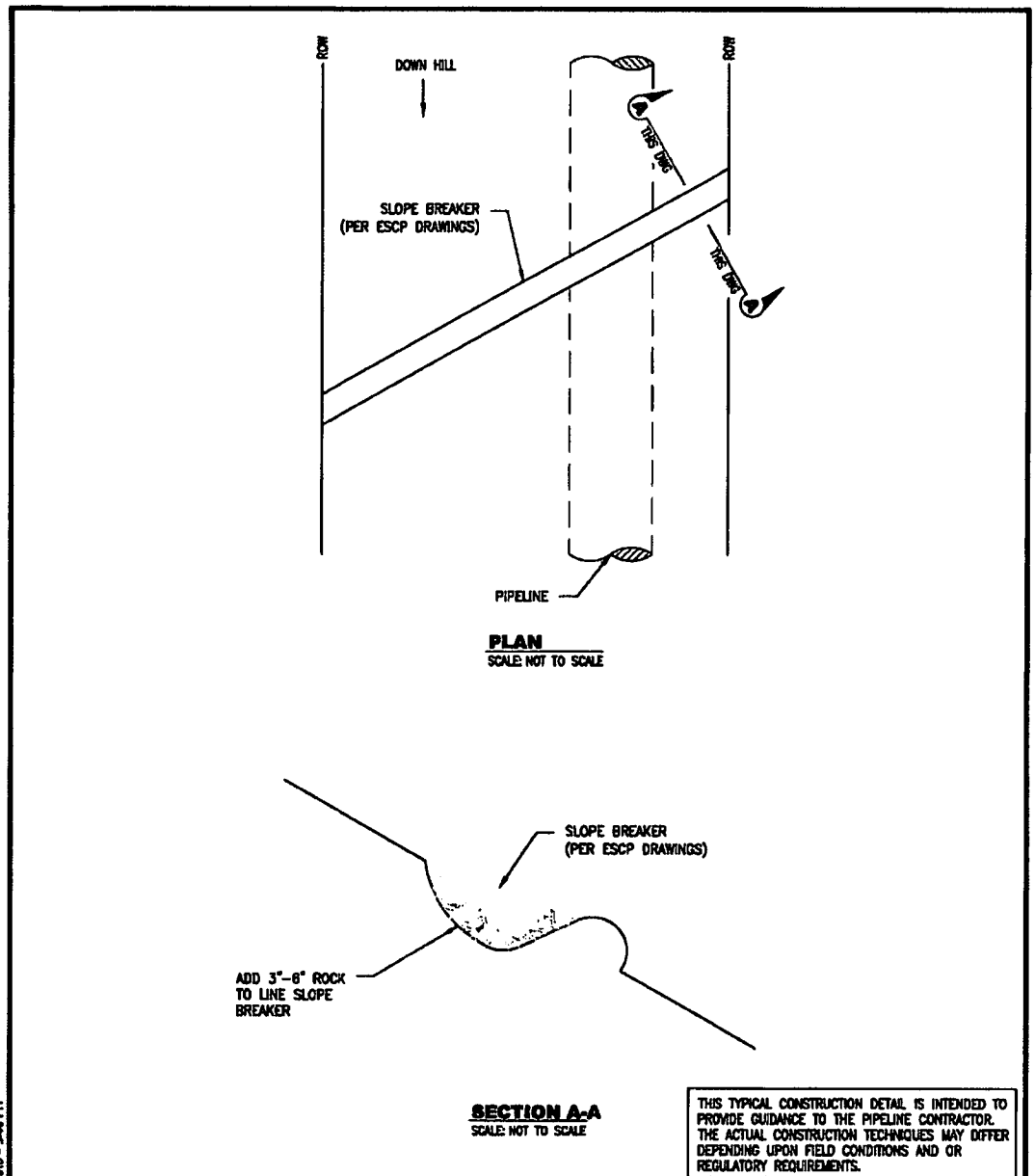
DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL

RIP-RAP NATURAL DRAIN

DRAWING NO.	MVP-40
REV.	0

File Path: X:\CADD\Pittsburgh\EQ1\757 - MVP10 - General\References\10-12-16 Added to Set\MVP-40.dwg



DRAWN	TDD	DATE	2/03/2018
CHECKED	MMF	DATE	2/03/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley
PIPELINE

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL

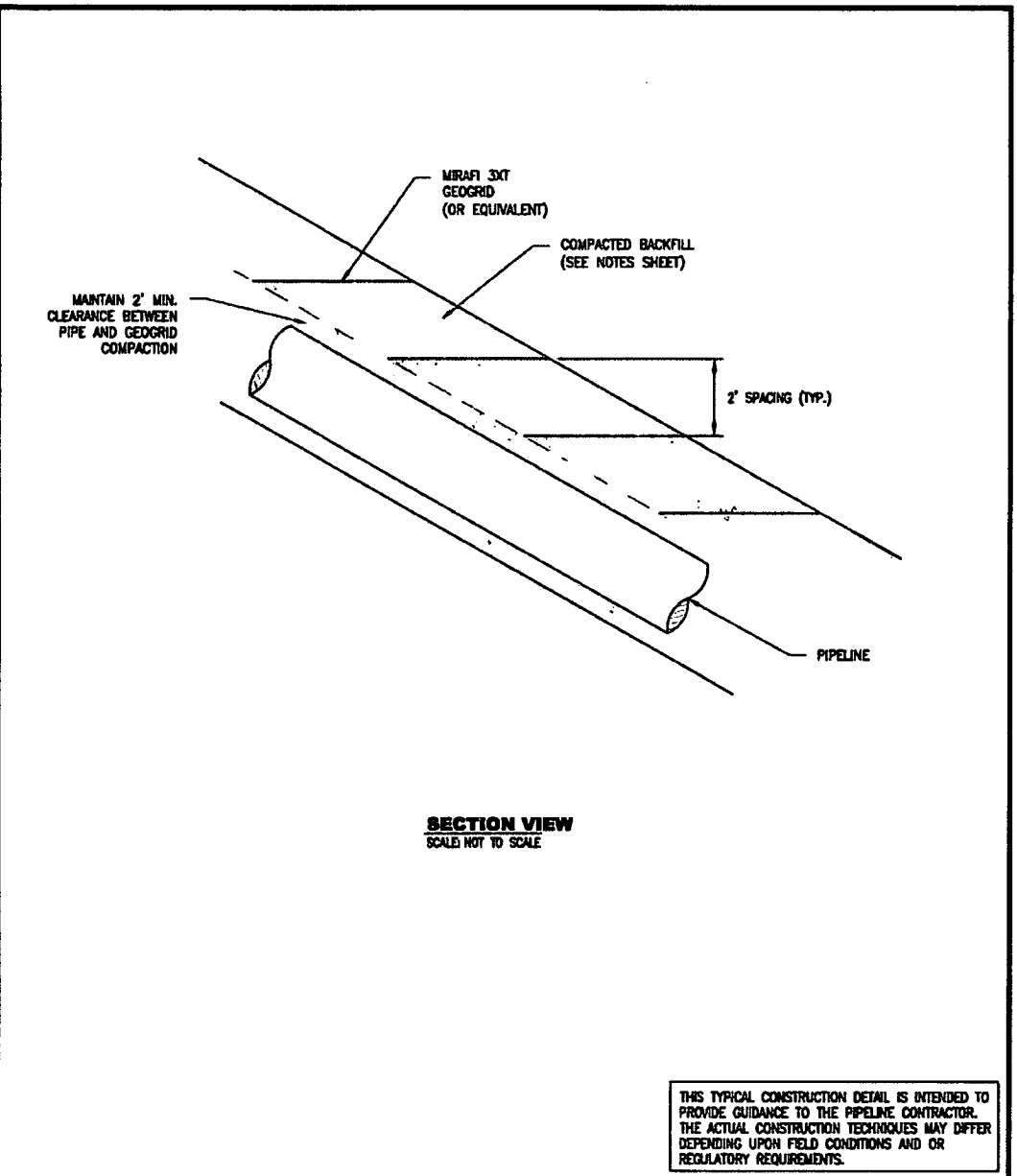
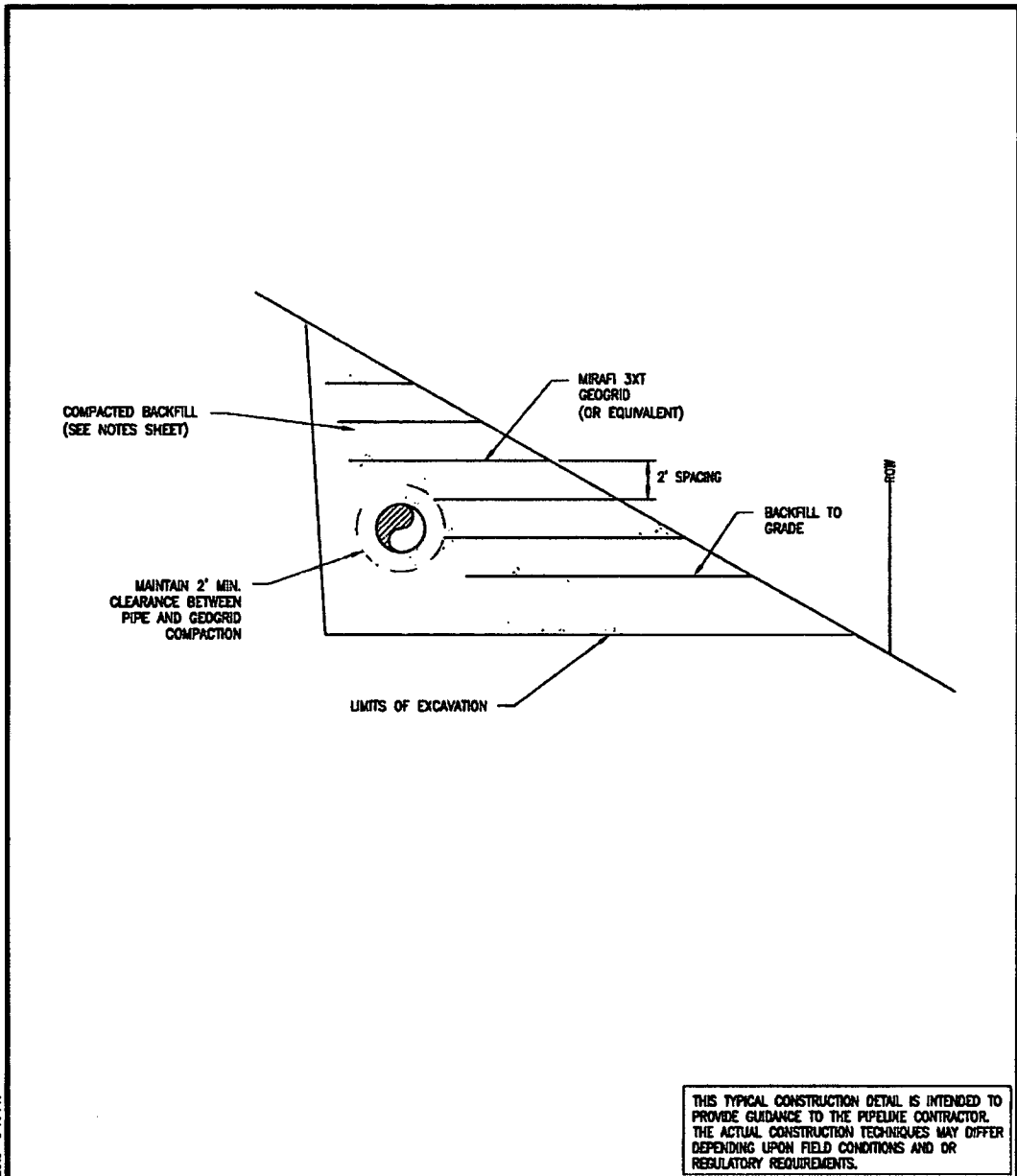
RIP-RAP SLOPE BREAKERS

DRAWING NO.	MVP-41
REV.	0

File Path: X:\CADD\Pittsburgh\EQ1\757 - MVP10 - General\References\10-12-16 Added to Set\MVP-41.dwg

SLIP PREVENTION DETAIL

<p>Mountain Valley PIPELINE</p> <p>EROSION AND SEDIMENT CONTROL DETAILS</p> <p>MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE</p>	<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> <th>APPL</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	BY	CHKD	APPL	DESCRIPTION						
NO.	DATE	BY	CHKD	APPL	DESCRIPTION								
<p>TETRA TECH</p> <p>complex world CLEAR SOLUTIONS™</p> <p>661 ANDERSEN DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220</p>													
<p>THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.</p>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DRAWN BY:</td> <td>NAL</td> </tr> <tr> <td>CHECKED BY:</td> <td>HT</td> </tr> <tr> <td>APPROVED BY:</td> <td>RE</td> </tr> <tr> <td>DATE:</td> <td>2/19/2018</td> </tr> <tr> <td>SCALE:</td> <td>AS SHOWN</td> </tr> <tr> <td>SHT. NO.</td> <td>014 OF 021</td> </tr> </table>		DRAWN BY:	NAL	CHECKED BY:	HT	APPROVED BY:	RE	DATE:	2/19/2018	SCALE:	AS SHOWN	SHT. NO.	014 OF 021
DRAWN BY:	NAL												
CHECKED BY:	HT												
APPROVED BY:	RE												
DATE:	2/19/2018												
SCALE:	AS SHOWN												
SHT. NO.	014 OF 021												



DRAWN	TDD	DATE	2/03/2018
CHECKED	MMF	DATE	2/03/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 3
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley
PIPELINE
DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
GEOGRID-SIDEHILL	
DRAWING NO.	REV.
MVP-42A	0

DRAWN	TDD	DATE	2/03/2018
CHECKED	MMF	DATE	2/03/2018
APP'D		DATE	
SCALE	N.T.S.	SHEET	2 OF 3
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley
PIPELINE
DESIGN ENGINEERING

SLIDE MITIGATION DETAIL	
GEOGRID-PLANAR	
DRAWING NO.	REV.
MVP-42B	0

Plotted by Lutz, Keith on October 18, 2018 - 3:48 PM

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

Plotted by Lutz, Keith on October 18, 2018 - 3:41 PM

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

File Path: X:\CADD\Pittsburgh\EQT\1757 - HVP\0 - General\References\10-12-16 Added to Set\MVP-42A.dwg

File Path: X:\CADD\Pittsburgh\EQT\1757 - HVP\0 - General\References\10-12-16 Added to Set\MVP-42B.dwg

SLIP PREVENTION DETAIL

Mountain Valley PIPELINE	
EROSION AND SEDIMENT CONTROL DETAILS	
MOUNTAIN VALLEY PIPELINE PROJECT - 1800 LINE	
MOUNTAIN VALLEY PIPELINE, LLC 555 SOUTHPOINTE BOULEVARD, SUITE 200 CARONSBURG, PA 15317	
TETRA TECH complex world. CLEAR SOLUTIONS™ 681 ANDERSEN DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220	
THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.	
DRAWN BY:	KAL
CHECKED BY:	HT
APPROVED BY:	RE
DATE:	2/19/2018
SCALE:	AS SHOWN
SHT. NO.	018 OF 021

COMPACTION NOTES

- 1) ALL ROCKS LARGER THAN 8 INCHES IN SIZE, AND MORE THAN 10 PERCENT BY VOLUME SHOULD BE REMOVED AND PROPERLY DISPOSED FROM THE BACKFILL MATERIAL.
- 2) THE SUBGRADE AT THE BASE OF THE EXCAVATION SHOULD BE PRODFOLLOWED WITH A PNEUMATIC TIRE ROLLER OR VEHICLE.
- 3) THE EXCAVATED AREA SHALL BE BACKFILLED WITH THE CLEANED EXCAVATED SOIL MATERIAL AND COMPACTED IN PLACE.
- 4) BACKFILL OPERATIONS SHALL BE PERFORMED WHEN SOIL IS SUITABLE FOR COMPACTION (I.E., NOT IMMEDIATELY FOLLOWING A LARGE RAIN, SNOW, OR ICE EVENT). FROZEN FILL SHALL NOT BE USED.
- 5) THE BACKFILL SHALL BE PLACED IN COMPACTED LIFTS NO GREATER THAN 12 INCHES.
- 6) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN COMPACTION ACTIVITY AND THE GAS PIPELINE.

GRAVEL DRAIN NOTES

- 1) GEOTEXTILE FABRIC SHALL BE TENCATE MIRAFL 140N OR APPROVED EQUIVALENT.
- 2) THE GEOTEXTILE FABRIC SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
- 3) DO NOT OPERATE CONSTRUCTION EQUIPMENT DIRECTLY ON THE GEOTEXTILE FABRIC.
- 4) DRAINAGE AGGREGATE SHALL MEET THE REQUIREMENTS OF MSHTD NO. 57 STONE.
- 5) DRAINAGE AGGREGATE SHALL NOT BE COMPACTED.

GEOGRID NOTES

- 1) GEOGRID REINFORCEMENT SHALL BE TENCATE MIRAFL 3XT OR APPROVED EQUIVALENT.
- 2) THE GEOGRID MATERIAL SHALL BE STORED UNDAMAGED PURSUANT TO MANUFACTURERS RECOMMENDATIONS.
- 3) GEOGRID SHALL BE PLACED HORIZONTALLY ON THE BACKFILL WITH THE PRINCIPAL STRENGTH DIRECTION PERPENDICULAR TO THE FACE OF THE SLOPE. ADJACENT PIECES OF PRIMARY GEOGRID SHALL NOT OVERLAP BUT ARE TO BE BUTTED SIDE TO SIDE.
- 4) REMOVE ALL SLACK IN THE GEOGRID MATERIAL AND ANCHOR AS NECESSARY WITH PINS, OR BAGS TO PREVENT SLACK FROM DEVELOPMENT DURING FILL PLACEMENT AND COMPACTION.
- 5) FILL IS TO BE PLACED AND SPREAD DIRECTLY ON THE GEOGRID MATERIAL WITH RUBBER TIRE EQUIPMENT ONLY. SPEEDS ARE TO BE KEPT SLOW WITH AS FEW STOPS AND TURNS AS PRACTICAL.
- 6) DO NOT OPERATE TRACKED EQUIPMENT DIRECTLY ON THE GEOGRID MATERIAL.
- 7) MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN GEOGRID MATERIAL AND THE GAS PIPELINE.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN	TDD	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	3 OF 3
JOB NO.			
PROJECT ID:			
PXXXX			



DESIGN ENGINEERING

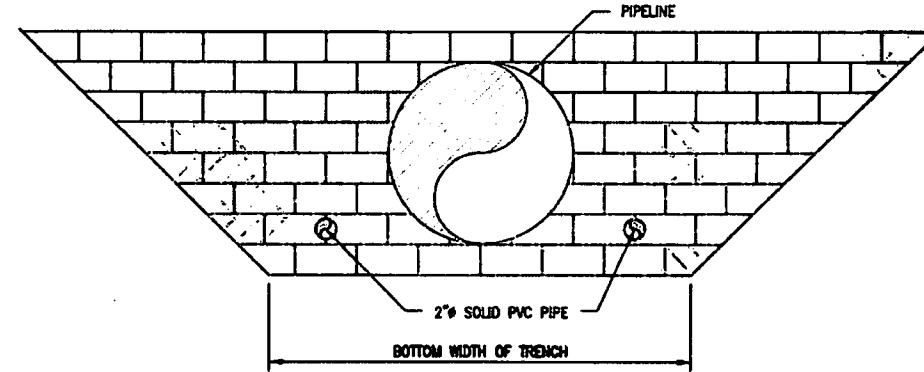
TYPICAL CONSTRUCTION DETAIL

GEOGRID NOTES

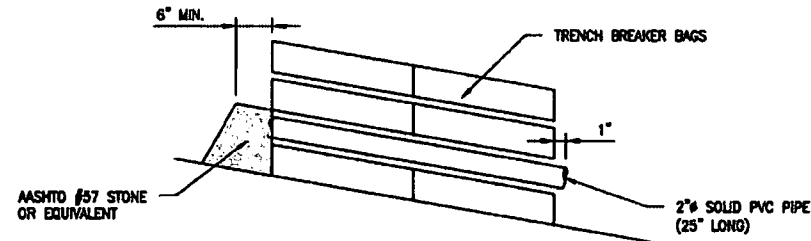
DRAWING NO.	REV.
MVP-42C	0

Plotted by: Lutz, Keith on October 18, 2016 - 3:41 PM

File Path: X:\CADD\Pittsburgh\EGT\T57 - MVP\0 - General\References\10-12-16 Added to Set\MVP-42C.dwg



FRONT VIEW
SCALE: NOT TO SCALE



SECTION VIEW
SCALE: NOT TO SCALE

NOTES:

1. PLACE PVC DRAIN PIPE ON FIRST LAYER OF TRENCH BREAKER BAGS.
2. PLACE PVC DRAIN PIPE EQUIDISTANT FROM THE OUTSIDE EDGE OF THE 30\"/>

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN	TDD	DATE	4/14/2016
CHECKED	MMF	DATE	4/14/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
PXXXX			



DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL

TRENCH BREAKER
PASS-THROUGH DRAIN

DRAWING NO.	REV.
MVP-43A	0

Plotted by: Lutz, Keith on October 18, 2016 - 3:41 PM

File Path: X:\CADD\Pittsburgh\EGT\T57 - MVP\0 - General\References\10-12-16 Added to Set\MVP-43A.dwg

SLIP PREVENTION DETAIL

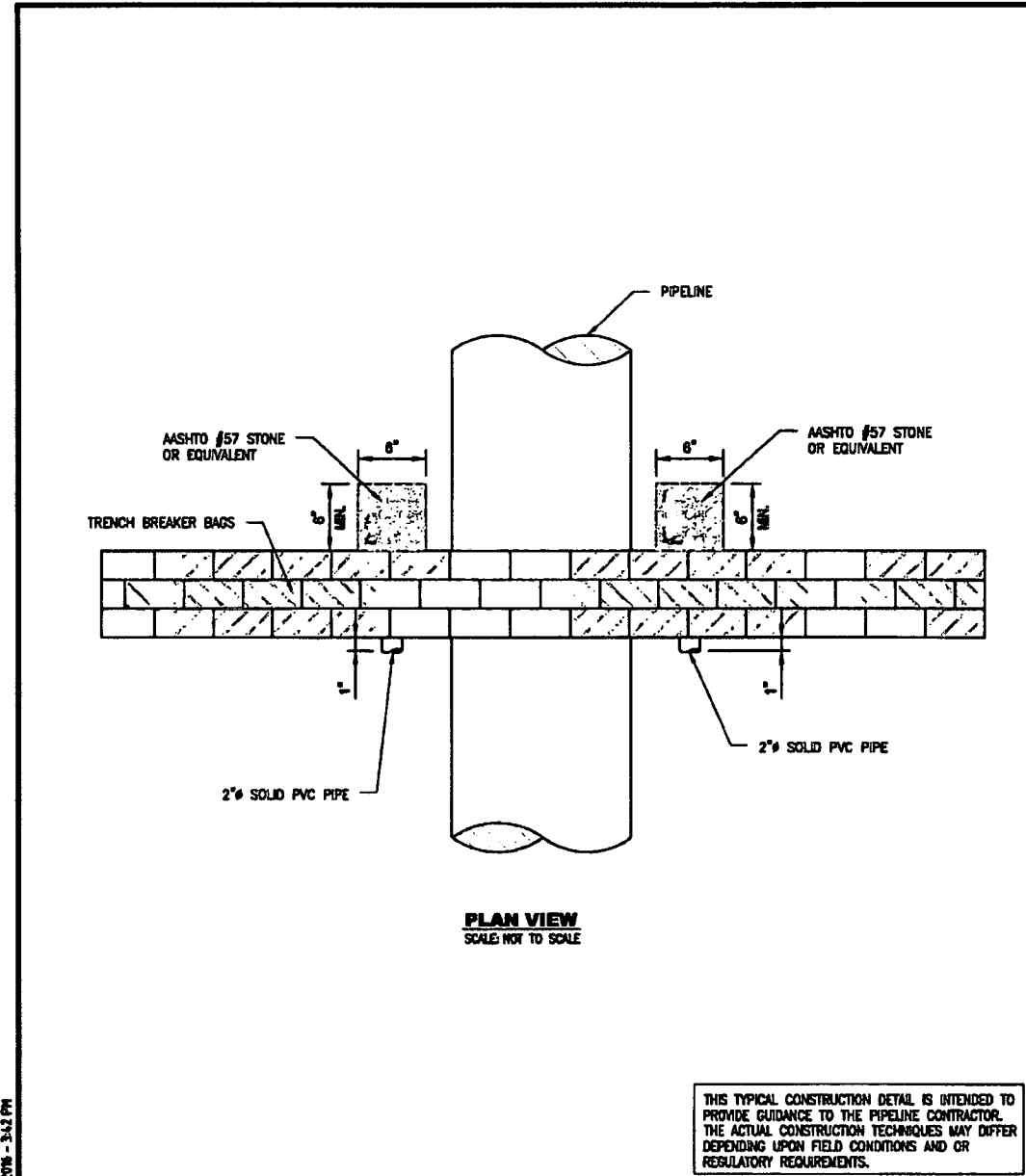
NO.	DATE	BY	DESCRIPTION

Mountain Valley
EROSION AND SEDIMENT CONTROL DETAILS
MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE
MOUNTAIN VALLEY PIPELINE, LLC
555 SOUTHPOINTE BOULEVARD, SUITE 200
CAMDEN, PA 15317

TETRA TECH
complex world. CLEAR SOLUTIONS™
661 ANDERSON DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND/OR REGULATORY REQUIREMENTS.

DRAWN BY:	KAL
CHECKED BY:	HT
APPROVED BY:	RE
DATE:	2/18/2016
SCALE:	AS SHOWN
SHT. NO.	0.18 OF 0.21



PLAN VIEW
SCALE: NOT TO SCALE

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	TDD	DATE	4/14/2016
CHECKED	MMF	DATE	4/14/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:			
PXXXX			

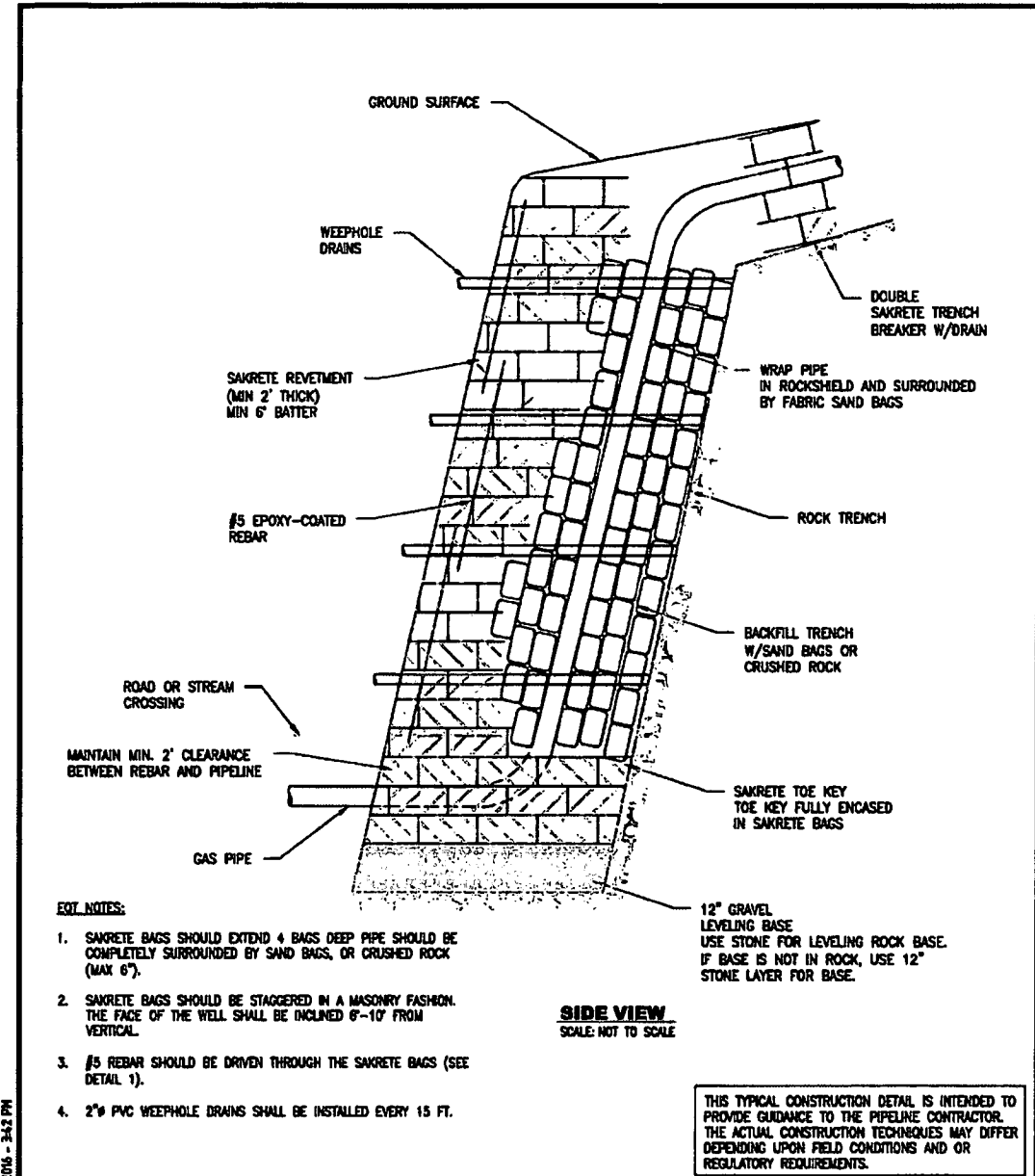
Mountain Valley PIPELINE

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
TRENCH BREAKER PASS-TROUGH DRAIN	
DRAWING NO.	REV.
MVP-43B	0

Plotted by: Lutz, Keith on October 18, 2016 - 3:42 PM

File Path: X:\CADD\Pittsburgh\EQT\1157 - MVP10 - General\References\10-12-16 Added to Set\MVP-43B.dwg



SIDE VIEW
SCALE: NOT TO SCALE

EQT NOTES:

1. SAKRETE BAGS SHOULD EXTEND 4 BAGS DEEP PIPE SHOULD BE COMPLETELY SURROUNDED BY SAND BAGS, OR CRUSHED ROCK (MAX 6").
2. SAKRETE BAGS SHOULD BE STAGGERED IN A MASONRY FASHION. THE FACE OF THE WELL SHALL BE INCLINED 6-10° FROM VERTICAL.
3. #5 REBAR SHOULD BE DRIVEN THROUGH THE SAKRETE BAGS (SEE DETAIL 1).
4. 2" PVC WEEPHOLE DRAINS SHALL BE INSTALLED EVERY 15 FT.

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN	OL	DATE	8/29/2016
CHECKED	MMF	DATE	-
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 2
JOB NO.			
PROJECT ID:			
PXXXX			

Mountain Valley PIPELINE

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL	
SLIDE MITIGATION HIGHWALL REVETMENT SIDE VIEW	
DRAWING NO.	REV.
MVP-44A	0

Plotted by: Lutz, Keith on October 18, 2016 - 3:42 PM

File Path: X:\CADD\Pittsburgh\EQT\1157 - MVP10 - General\References\10-12-16 Added to Set\MVP-44A.dwg

SLIP PREVENTION DETAIL

NO.	DATE	BY	REVISION

Mountain Valley PIPELINE

EROSION AND SEDIMENT CONTROL DETAILS

MOUNTAIN VALLEY PIPELINE PROJECT - 1800 LINE

MOUNTAIN VALLEY PIPELINE, LLC
585 SOUTHPOINTE BOULEVARD, SUITE 200
CHAMBERSBURG, PA 15317

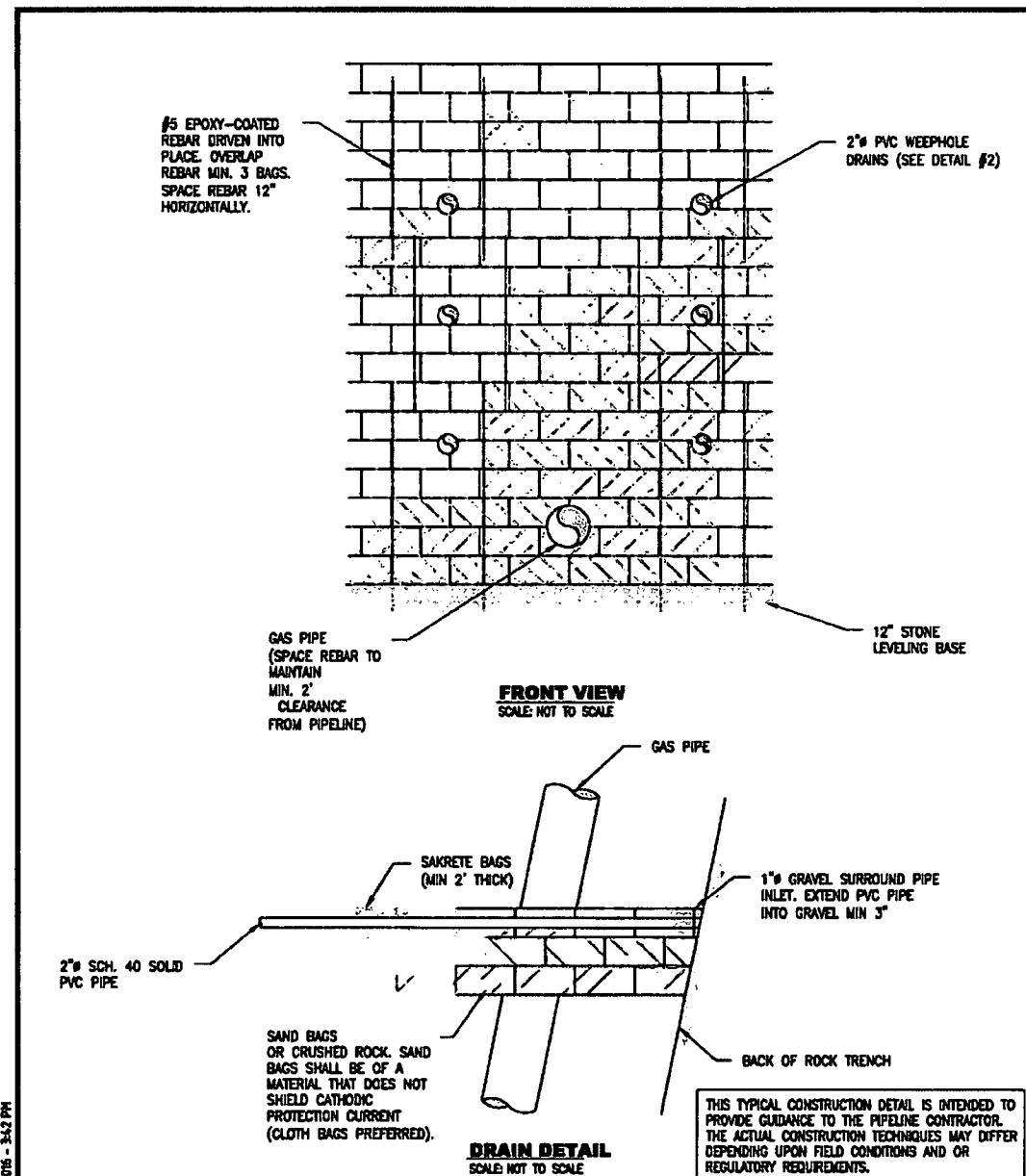
TETRA TECH

complex world. CLEAR SOLUTIONS™

661 ANDERSEN DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220

THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.

DRAWN BY:	KAL
CHECKED BY:	MT
APPROVED BY:	RE
DATE:	2/19/2016
SCALE:	AS SHOWN
SHT. NO.	017 OF 021



DRAWN	CL	DATE	6/29/2016
CHECKED	MMF	DATE	-
APP'D		DATE	
SCALE	N.T.S.	SHEET	2 OF 2
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley
PIPELINE

DESIGN ENGINEERING

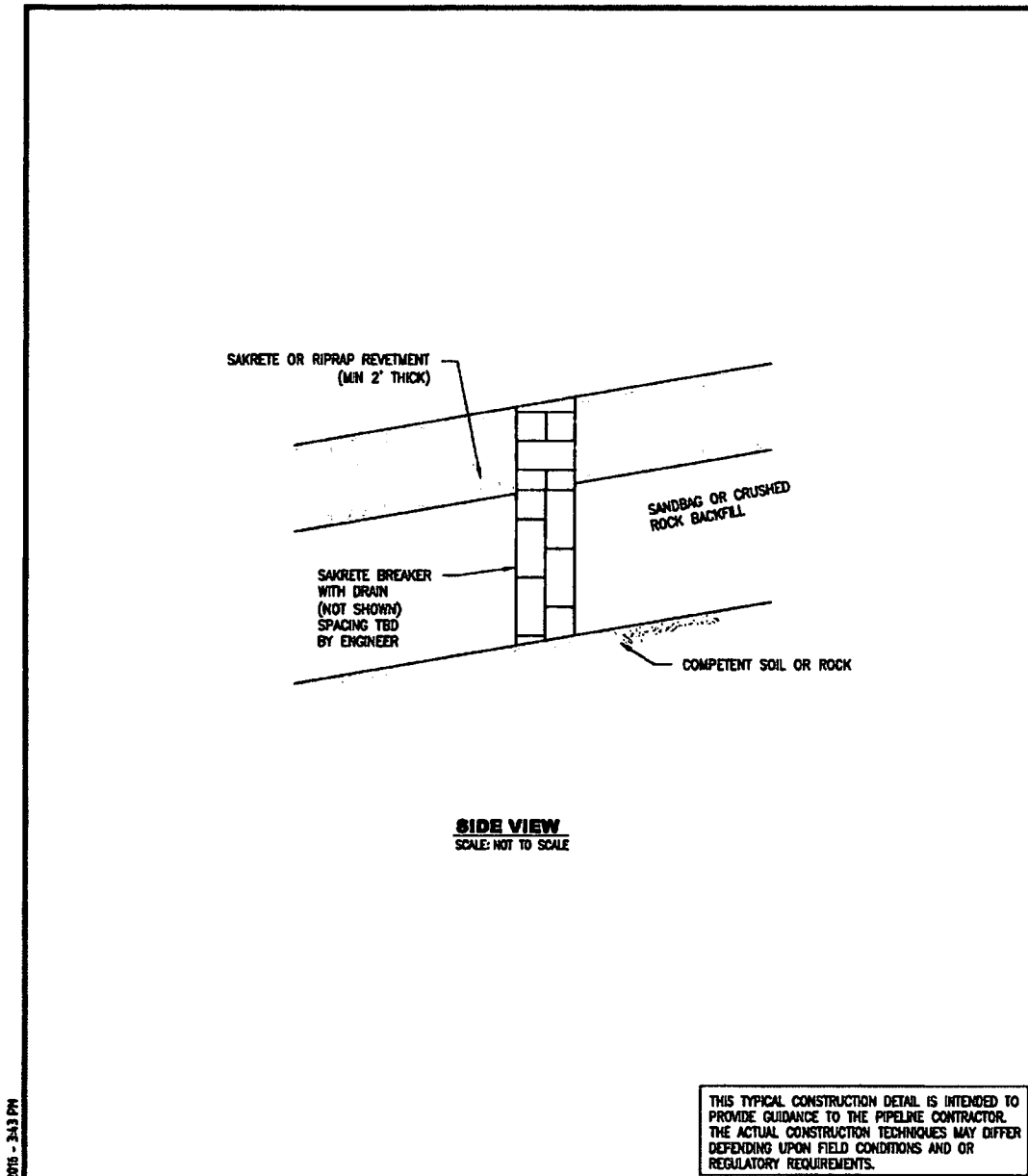
TYPICAL CONSTRUCTION DETAIL

SLIDE MITIGATION
HIGHWALL REVETMENT
FRONT VIEW AND DRAIN DETAIL

DRAWING NO. MVP-44B

REV. 0

File Path: X:\CADD\Pittsburgh\VEGT\1757 - MVP\0 - General\References\10-12-16 Added to Set\MVP-44B.dwg



DRAWN	TDD	DATE	2/03/2016
CHECKED	MMF	DATE	2/03/2016
APP'D		DATE	
SCALE	N.T.S.	SHEET	1 OF 1
JOB NO.			
PROJECT ID:	PXXXX		

Mountain Valley
PIPELINE

DESIGN ENGINEERING

TYPICAL CONSTRUCTION DETAIL

STEEP SLOPE REVETMENT

DRAWING NO. MVP-45

REV. 0

File Path: X:\CADD\Pittsburgh\VEGT\1757 - MVP\0 - General\References\10-12-16 Added to Set\MVP-45.dwg

SLIP PREVENTION DETAIL

<p>Mountain Valley PIPELINE</p> <p>EROSION AND SEDIMENT CONTROL DETAILS</p> <p>MOUNTAIN VALLEY PIPELINE PROJECT - H800 LINE</p> <p>MOUNTAIN VALLEY PIPELINE, LLC</p> <p>558 SOUTHPOINTE BOULEVARD, SUITE 200</p> <p>CAMBERSBURG, PA 17317</p>																					
<p>TETRA TECH</p> <p>complete works. CLEAR SOLUTIONS™</p> <p>681 ANDERSEN DRIVE FOSTER PLAZA 7 PITTSBURGH, PA 15220</p>																					
<p>THIS TYPICAL CONSTRUCTION DETAIL IS INTENDED TO PROVIDE GUIDANCE TO THE PIPELINE CONTRACTOR. THE ACTUAL CONSTRUCTION TECHNIQUES MAY DIFFER DEPENDING UPON FIELD CONDITIONS AND OR REGULATORY REQUIREMENTS.</p>																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DRAWN BY:</td> <td>KAL</td> </tr> <tr> <td>CHECKED BY:</td> <td>HT</td> </tr> <tr> <td>APPROVED BY:</td> <td>RE</td> </tr> <tr> <td>DATE:</td> <td>2/18/2018</td> </tr> <tr> <td>SCALE:</td> <td>AS SHOWN</td> </tr> <tr> <td>SHT. NO. 018</td> <td>OF 021</td> </tr> </table>										DRAWN BY:	KAL	CHECKED BY:	HT	APPROVED BY:	RE	DATE:	2/18/2018	SCALE:	AS SHOWN	SHT. NO. 018	OF 021
DRAWN BY:	KAL																				
CHECKED BY:	HT																				
APPROVED BY:	RE																				
DATE:	2/18/2018																				
SCALE:	AS SHOWN																				
SHT. NO. 018	OF 021																				
<p>REVISIONS:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>										NO.	DATE	BY	DESCRIPTION								
NO.	DATE	BY	DESCRIPTION																		

BEST MANAGEMENT PRACTICES (BMP) INSTALLATION & REMOVAL NOTES

TEMPORARY AND PERMANENT BMPs WILL BE USED DURING CONSTRUCTION ACTIVITIES TO AVOID AND/OR MINIMIZE ADVERSE ENVIRONMENTAL EFFECTS OF CONSTRUCTION ACTIVITIES.

THE FOLLOWING ARE GENERAL BMP INSTALLATION NOTES FOR PIPELINE CONSTRUCTION ACTIVITIES.

- A STONE CONSTRUCTION ENTRANCE, SHOWN ON DETAIL SHEET, SHALL BE PROVIDED AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL BE ACCESSING A PAVED ROAD DIRECTLY FROM A DISTURBED AREA.
- TEMPORARY SEDIMENT BARRIERS, INCLUDING APPROPRIATELY SIZED SILT FENCE OR COMPOST FILTER SOCK WILL BE PLACED AROUND SOIL STOCKPILES, AS NEEDED.
- APPROPRIATELY SIZED COMPOST FILTER SOCK WILL BE PLACED AROUND WETLANDS AND WATERBODIES IN AND ADJACENT TO THE WORK AREA PRIOR TO ANY TRENCHING ACTIVITIES.
- STOCKPILE SLOPES WILL BE 2:1 OR FLATTER, AND STOCKPILES WILL NOT EXCEED 35 FEET IN HEIGHT.
- TEMPORARY STREAM CROSSINGS SHALL BE INSTALLED AS INDICATED ON THE E&S PLAN SHEETS AND AS PER THE E&S DETAIL SHEETS.
- EXCAVATED TRENCH SPOIL MATERIAL WILL BE USED FOR TEMPORARY RIGHT OF WAY DIVERSIONS AS SHOWN IN THE DETAIL AT THE LOCATIONS INDICATED ON THE PLAN SHEETS.
- WATERBARS WILL BE INSTALLED IMMEDIATELY AFTER INITIAL DISTURBANCE OF THE SOIL IN ACCORDANCE WITH THE SPACING AND SIZING REQUIREMENTS SHOWN ON PLAN AND DETAIL SHEET. WATERBARS WILL BE CONSTRUCTED OF SOIL TO REDUCE RUNOFF VELOCITY AND DIVERT WATER OFF THE PIPELINE ROW.
- TRENCH DEWATERING, IF NEEDED, WILL BE CONDUCTED USING A PUMP AND HOSE. WATER WILL BE RELEASED INTO A FILTER BAG THAT WILL BE LOCATED IN A WELL-VEGETATED UPLAND AREA.
- TRENCH BREAKERS WILL BE INSTALLED ON SLOPES ADJACENT TO STREAMS, WETLANDS, AND ROAD CROSSINGS TO PREVENT SUBSURFACE EROSION. TRENCH BREAKERS WILL BE INSTALLED AS SHOWN ON THE DETAILS.
- THE WORK AREA WILL BE BACKFILLED FOLLOWING PIPELINE INSTALLATION OR OTHER EXCAVATION WORK. IN AREAS WHERE TOPSOIL HAS BEEN SEGREGATED, THE SUBSOIL WILL BE REPLACED FIRST, AND THEN THE TOPSOIL WILL BE SPREAD OVER THE AREA FROM WHICH IT WAS REMOVED. DISTURBED AREAS WILL BE RESTORED TO THEIR ORIGINAL TOPOGRAPHIC CONTOURS.
- PERMANENT WATERBARS WILL BE CONSTRUCTED WITH A TWO PERCENT (TYPICAL) OUTSLOPE TO DIVERT SURFACE FLOW TO A WELL VEGETATED STABLE AREA.
- IMMEDIATELY FOLLOWING BACKFILLING ALL DISTURBED AREAS WILL BE GRADED IN PREPARATION FOR SEEDING AND MULCHING. THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. ESTABLISHMENT OF FINAL COVER MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL GRADE. REFER TO TABLES ON THIS SHEET FOR TEMPORARY AND PERMANENT SEEDING SPECIFICATIONS.
- FOR 3:1 OR STEEPER SLOPES THE DISTURBED AREA WILL HAVE EROSION CONTROL BLANKETING INSTALLED AS INDICATED ON DETAIL SHEET.
- TEMPORARY SEDIMENT BARRIERS WILL BE MAINTAINED, UNTIL VEGETATION HAS BECOME ESTABLISHED WITH A UNIFORM COVERAGE OF DENSITY OF 70 PERCENT OR MORE WITHIN THE DISTURBED ROW. ONCE THIS COVERAGE HAS BEEN OBTAINED, APPROPRIATE CONTROLS WILL BE REMOVED FROM THE WORK AREA. AREAS DISTURBED DURING THE REMOVAL OF THE EROSION CONTROLS WILL BE STABILIZED IMMEDIATELY. THE 70 PERCENT REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT A PERCENT OF THE SITE.
- ALL WASTE MATERIAL WILL BE TRANSPORTED OFFSITE FOR RECYCLING AND/OR DISPOSAL AT A FACILITY APPROVED TO RECEIVE THE MATERIAL.
- IN NON-AGRICULTURAL AREAS THE VISUAL SURVEY SHALL BE COMPARED TO THE DENSITY AND COVER OF ADJACENT UNDISTURBED LANDS. IN AGRICULTURAL AREAS, THE VISUAL SURVEY SHALL BE COMPARED TO THE ADJACENT UNDISTURBED PORTIONS OF THE SAME FIELD, UNLESS THE EASEMENT AGREEMENT SPECIFIES OTHERWISE.
- WETLANDS ALONG THE PROPOSED PIPELINE ARE EXPECTED TO EXHIBIT VARYING DEGREES OF SATURATION AND WATER ELEVATION, REQUIRING A VARIETY OF PLANT SPECIES TO BE RE-ESTABLISHED. IN UNSATURATED WETLANDS, MOST VEGETATION WILL BE REPLACED BY SEEDING. SATURATED WETLANDS WILL TYPICALLY BE ALLOWED TO RE-VEGETATE NATURALLY. WETLAND REVEGETATION WILL BE CONSIDERED SUCCESSFUL WHEN THE COVER OF HERBACEOUS AND/OR WOODY SPECIES IS AT LEAST 80 PERCENT OF THE TYPE, DENSITY, AND DISTRIBUTION OF THE VEGETATION IN ADJACENT WETLAND AREAS THAT WERE NOT DISTURBED BY CONSTRUCTION. REVEGETATION EFFORTS WILL CONTINUE UNTIL WETLAND REVEGETATION IS SUCCESSFUL.

STREAM CROSSING PROCEDURES

GENERAL PROCEDURES THAT WILL BE FOLLOWED AT STREAM CROSSING LOCATIONS INCLUDE THE FOLLOWING:

- MINIMIZE CLEARING AND GRUBBING OF VEGETATION UP TO STREAMS, AS POSSIBLE, UNTIL THE TIME OF THE PIPELINE INSTALLATION;
- ONLY THAT AREA WHICH IS REQUIRED FOR PIPELINE INSTALLATION SHALL BE DISTURBED WITHIN THE PROPOSED LIMIT OF DISTURBANCE OR RIGHT-OF-WAY AT STREAM CROSSINGS; LOCATING STAGING AREAS 50 FEET AWAY FROM THE STREAM, WHERE POSSIBLE;
- STORING CHEMICALS, STORING EQUIPMENT, WASHING EQUIPMENT, OR REFUELING EQUIPMENT MUST BE DONE IN AREAS THAT ARE GREATER THAN 100 FEET AWAY FROM THE STREAM;
- SPOIL PILE PLACEMENT AND BMPs WILL BE MONITORED AT ALL TIMES DURING STREAM CROSSING PROCEDURES; ONCE WORK WITHIN A STREAM AREA IS STARTED, IT WILL BE CONDUCTED CONTINUOUSLY TO COMPLETION; EMPHASIS WILL BE PLACED ON MINIMIZING TIME OF DISTURBANCE;
- SPOILS FROM STREAM CROSSINGS MUST BE PLACED AT LEAST 10 FEET FROM THE WATER'S EDGE; AND
- CONSTRUCTION EQUIPMENT WILL NOT BE ALLOWED IN THE STREAM CHANNEL WHEN EXCAVATION CAN BE DONE FROM EITHER SIDE OR A TEMPORARY CROSSING WHILE WORKING AT THE STREAM CROSSING.
- SOME OF THE WATERSHEDS CROSSED BY THE PROJECT ARE CLASSIFIED AS WARM WATER OR TROUT STREAMS, REFER TO TABLES IN ATTACHMENT 2 OF THE NARRATIVE FOR A LISTING OF THE STREAMS. IN-STREAM WORK DESIGNATED WARM WATER STREAMS AND THEIR ADJACENT TRIBUTARIES IS RESTRICTED DURING THE FISH SPawning SEASON OF APRIL-JUNE. IN-STREAM WORK IN DESIGNATED TROUT WATER AND THEIR ADJACENT TRIBUTARIES IS RESTRICTED DURING THE SPawning SEASON SEPTEMBER 15-MARCH 31ST UNLESS A SPawning SEASON WAIVER IS GRANTED FROM THE WEST VIRGINIA DIVISION OF NATURAL RESOURCES, WILDLIFE RESOURCES SECTION. IN STREAM WORK MAY OCCUR DURING THE RESPECTIVE SPawning SEASON EPHEMERAL WATERS WITHOUT A WAIVER IF ALL REASONABLE MEASURES ARE TAKEN TO MINIMIZE TURBIDITY AND SEDIMENTATION DOWNSTREAM ASSOCIATED WITH THE PROPOSED PROJECT.

THE FOLLOWING SECTIONS DESCRIBE STREAM CROSSING TECHNIQUES THAT MAY BE USED DURING PIPELINE RELOCATION/INSTALLATION ACTIVITIES. REFER TO THE DETAIL SHEETS AND SWPPP FOR ADDITIONAL INFORMATION.

DRY CROSSING TECHNIQUES:

THESE TECHNIQUES WILL BE USED TO PERFORM PIPELINE WORK IN A RELATIVELY DRY WORKING CONDITION OR AROUND THE OPEN EXCAVATION. THESE TECHNIQUES INCLUDE PUMP AROUND AND FLUME PIPE CROSSING METHODS. THE LIMITING FACTORS FOR THESE TECHNIQUES ARE USUALLY STREAM SIZE, FLOW, AND WATER DEPTH.

DIRECTIONAL BORING IS ALSO A TECHNIQUE THAT CAN BE UTILIZED AS IT WILL LESSEN THE IMPACTS ON THE WATERBODIES.

E&S CONTROL MEASURES WILL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE AND ADDRESSED IF NECESSARY IMMEDIATELY AFTER DISTURBANCE OF THE WATERBODY.

FLUME PIPE METHOD: PLEASE SEE DETAIL SHEETS AND SWPPP FOR MORE INFORMATION ON THE FLUME PIPE METHOD. THIS PROCEDURE INVOLVES CONSTRUCTING TWO BULKHEADS, EITHER SANDBAGS OR PLASTIC DAMS, TO DIRECT THE STREAM FLOW THROUGH A FLUME PIPE PLACED OVER THE TRENCH PRIOR TO EXCAVATION. THE FLUME SHALL BE ALIGNED AS TO PREVENT BANK EROSION AND BED SCOUR. THE FLUME WILL NOT BE REMOVED DURING TRENCHING, PIPE LAYING OR BACKFILLING.

PUMP AROUND METHOD: PLEASE SEE THE DETAIL SHEETS AND SWPPP FOR MORE INFORMATION ON THE PUMP AROUND METHOD. THIS PROCEDURE INVOLVES CONSTRUCTING TWO BULKHEADS, EITHER SANDBAGS OR PLASTIC DAMS. THE UPSTREAM DAM WILL CAUSE THE WATER TO POND WHERE IT CAN BE PUMPED AROUND THE WORK AREA AND BE DISCHARGED BEHIND THE DOWNSTREAM BULKHEAD. PUMPS OF SUFFICIENT SIZE TO TRANSMIT THE FLOW DOWNSTREAM WILL BE USED. BACKUP PUMPS MUST BE ON-SITE. PUMP INTAKES MUST BE SCREENED. PUMP DISCHARGES MUST NOT CAUSE SCOUR.

TEMPORARY ROAD CROSSINGS:

TEMPORARY ROAD CROSSINGS, CONSISTING OF BRIDGES OF TIMBER MATS OR CLEAN ROCK FILL AND FLUME(S), WILL BE INSTALLED TO CROSS MINOR OR INTERMEDIATE STREAMS. TIMBER MATS SHALL BE USED TO CROSS SMALLER STREAMS WHERE THE SPAN OF THE MAT WILL STRETCH FROM BANK TO BANK, OTHERWISE IN STREAM SUPPORTS MAY BE INSTALLED. CLEAN ROCK FILL AND FLUMED CROSSINGS WILL BE UTILIZED WHERE IT IS NOT FEASIBLE TO UTILIZE TIMBER MATS. AS AN ALTERNATIVE, PORTABLE BRIDGES MAY BE USED INSTEAD FOR SMALL CROSSINGS. EQUIPMENT WILL NOT BE ALLOWED TO FORD FLOWING STREAMS DURING CONSTRUCTION ACTIVITIES. TEMPORARY ROAD CROSSINGS OF STREAMS MUST MAINTAIN FOR ADEQUATE FLOW DOWNSTREAM.

STREAM BANK STABILIZATION:

PERMANENT STABILIZATION SHALL OCCUR IMMEDIATELY UPON INSTALLATION, BACKFILLING, AND GRADING AT EACH STREAM CROSSING.

LEGEND

- 1160--- EXISTING CONTOUR (MAJOR)
- - - - - EXISTING CONTOUR (MINOR)
- - - - - EXISTING PROPERTY LINE
- - - - - EXISTING COUNTY LINE
- - - - - EXISTING ROAD
- EXISTING UTILITY POLE
- EXISTING GUY ANCHOR
- EXISTING GAS VALVE
- EXISTING GAS WELL
- EXISTING WATER WELL
- EXISTING UNKNOWN WELL
- EXISTING GATE POST
- EXISTING GATE POST
- FEMA 100 YEAR FLOODPLAIN
- EXISTING STREAM
- EXISTING WETLAND
- EXISTING FENCE
- EXISTING WATERLINE
- EXISTING COLUMBIA GAS PIPELINE
- EXISTING MOUNTAINEER GAS PIPELINE
- EXISTING REX GAS PIPELINE
- EXISTING EXT GAS PIPELINE
- EXISTING EAST RESOURCES GAS PIPELINE
- EXISTING DOMINION GAS PIPELINE
- EXISTING UNKNOWN GAS PIPELINE
- EXISTING OVERHEAD ELECTRIC
- 1160--- PROPOSED CONTOUR (MAJOR)
- - - - - PROPOSED CONTOUR (MINOR)
- - - - - PROPOSED LIMIT OF DISTURBANCE
- - - - - PROPOSED ACCESS ROAD CENTERLINE
- PROPOSED PIPELINE
- - - - - PROPOSED SILT FENCE (SEE NOTE 6)
- PROPOSED SUPER SILT FENCE
- ORANGE CONSTRUCTION SAFETY FENCE
- PROPOSED COMPOST FILTER SOCK
- PROPOSED REINFORCED FILTRATION DEVICE
- > > PROPOSED TEMPORARY RIGHT OF WAY DIVERSION AND OUTLET
- PROPOSED CULVERT WITH OUTLET PROTECTION
- TIMBER MAT
- STEEP SLOPE EROSION CONTROL (SEE NOTE 3)
- STEEP SLOPE (SEE NOTE 5)
- △ PROPOSED WATERBAR
- ▲ PROPOSED WATERBAR TEMP
- PROPOSED TRENCH PLUG
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- ROCK CHECK DAM

ACCESS ROAD LEGEND

- ① ROCK CONSTRUCTION ENTRANCE
- ② WETLAND CROSSING
- ③ STREAM CROSSING

NOTES:

- WATERBARS WITHIN AGRICULTURAL AREAS SHALL BE USED AS TEMPORARY FEATURES.
- NO EROSION CONTROL MATTING SHALL BE INSTALLED IN AGRICULTURAL AREAS.
- FLEXITERRA OR EQUIVALENT MAY BE USED AS A SUBSTITUTE TO EROSION CONTROL BLANKET AS DIRECTED BY MVP.
- CONTRACTOR IS RESPONSIBLE TO IDENTIFY ALL UTILITIES. THE UTILITY LINES SHOWN ON THE PLAN ARE FOR INFORMATIONAL PURPOSES ONLY AND DO NOT REPRESENT SURVEYED LINE INFORMATION.
- SLOPES OF 3:1 OR GREATER EXIST. CONSTRUCTION FOR STEEP SLOPES TO BE PERFORMED USING STEEP SLOPE TECHNIQUES IDENTIFIED IN THE DETAIL SHEETS.
- WHERE CONSTRUCTION CONDITIONS PRECLUDE THE USE OF DIVERSION DITCHES DUE TO SITE CONDITIONS THE CONTRACTOR WILL INSTALL SILT FENCE AT THE DIRECTION OF MVP.
- IMPROVEMENTS TO PERMANENT AND TEMPORARY ACCESS ROADS WILL BE PERFORMED AS NEEDED AND BMPs MAY BE SUBSTITUTED IF FIELD EVALUATIONS REQUIRE ADJUSTMENTS TO ACCOMMODATE FIELD VERIFIED CONDITIONS.

NO.	DATE	BY	CHKD.	APPR.	DESCRIPTION

Mountain Valley
PROJECT

GENERAL NOTES AND LEGEND

MOUNTAIN VALLEY PIPELINE PROJECT - H600 LINE
WETZEL COUNTY THROUGH MONROE COUNTY, WEST VIRGINIA

MOUNTAIN VALLEY PIPELINE, LLC
565 SOUTHPOINTE BOULEVARD, SUITE 200
CHARLESTON, PA 15317

TETRA TECH

complex world CLEAR SOLUTIONS™

661 ANDERSON DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220

CONSTRUCTION PLANS

DRAWN BY:	KAL
CHECKED BY:	HT
APPROVED BY:	RE
DATE:	2/19/2018
SCALE:	AS SHOWN
SHT. NO.	021 OF 021