

**SENDER: COMPLETE THIS SECTION**

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

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 *Henry Price*  Agent  
 Addressee

B. Received by (Printed Name)  
*B. Price*

C. Date of Delivery  
*5/25/17*

Delivery address different from item 1?  Yes  
 No  
 If YES, enter delivery address below:

Betty D. Garwood & Robert G. Price (Surv)  
 1452 Buffalo Calf  
 Salem, WV 26426



9590 9402 2016 6123 8110 83

2. Article Number (Transfer from service label)

3. Service Type

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

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.

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 *William B. Wells*  Agent  
 Addressee

B. Received by (Printed Name)  
*Cathy Wells*

C. Date of Delivery  
*5/25/17*

Delivery address different from item 1?  Yes  
 No  
 If YES, enter delivery address below:

William B. and Cathy D. Wells (Surv)  
 16 Gain St.  
 Salem, WV 26426



9590 9402 2016 6123 8110 90

2. Article Number (Transfer from service label)

3. Service Type

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

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

Domestic Return Receipt

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

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 *Deborah Mcie*  Agent  
 Addressee

B. Received by (Printed Name)  
*Deborah Mcie*

C. Date of Delivery  
*5/25/17*

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

Deborah Mcie (Life)  
 Rt 1 Box 403  
 Salem, WV 26426



9590 9402 2016 6123 8111 06

2. Article Number (Transfer from service label)

3. Service Type

<input type="checkbox"/> Adult Signature	<input type="checkbox"/> Priority Mail Express®
<input type="checkbox"/> Adult Signature Restricted Delivery	<input type="checkbox"/> Registered Mail™
<input type="checkbox"/> Certified Mail®	<input type="checkbox"/> Registered Mail Restricted Delivery
<input type="checkbox"/> Certified Mail Restricted Delivery	<input type="checkbox"/> Return Receipt for Merchandise
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<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

7052 695T 1000 DEHE 5102

# U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com)

## OFFICIAL USE

Certified Mail Fee  
\$ 3.35

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  
\$ .49

Total Postage and Fees  
\$ 6.59

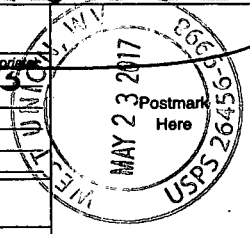
Sent To *Debora Mcie (life)*

Street and Apt. No., or PO Box No.  
*Rt 1 Box 403*

City, State, ZIP+4®  
*Salem, WV 26426*

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions



7015 3430 0001 1569 7538

# U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com)

## OFFICIAL USE

Certified Mail Fee  
\$ 3.35

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  
\$ .49

Total Postage and Fees  
\$ 6.59

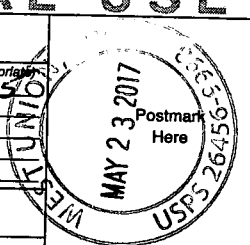
Sent To *William B + Cathy D. Wells (surv)*

Street and Apt. No., or PO Box No.  
*16 Gain St*

City, State, ZIP+4®  
*Salem, WV 26426*

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions



5452 695T 1000 DEHE 5102

# U.S. Postal Service™ CERTIFIED MAIL® RECEIPT

Domestic Mail Only

For delivery information, visit our website at [www.usps.com](http://www.usps.com)

## OFFICIAL USE

Certified Mail Fee  
\$ 2.35

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  
\$ .49

Total Postage and Fees  
\$ 6.59

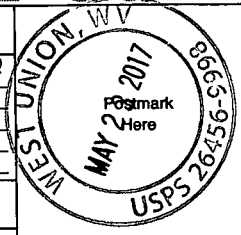
Sent To *Betty D. Garwood + Robert G. Price (Surv)*

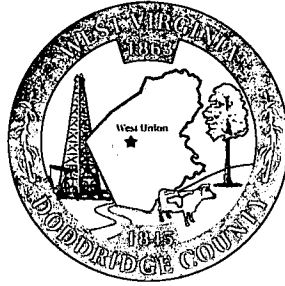
Street and Apt. No., or PO Box No.  
*1452 Buffalo Calk*

City, State, ZIP+4®  
*Salem, WV 26426*

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions





# Floodplain Development Permit

## Doddridge County, WV Floodplain Management

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

**Permit #: 17-468**

**Date Approved: June 26, 2017**

**Expires: June 26, 2018**

**Issued to: Antero Resources Inc.**

**POC: Rachel Grzybek 304-842-4008**

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

**Project Address: Buffalo Calf Rd**

**Firm: 54017C0165C**

**Lat/Long: 39.257792°N, 80.623308°W**

**Purpose of development: Slip Repairs**

**Issued by: George C. Edgel, CFM Doddridge County FPM (or designee)**

**Date: June 26, 2017**

---

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

---



ANTERO RESOURCES  
1615 WYNKOOP STREET  
DENVER, COLORADO 80202

COPY

Vendor Name	Vendor No.	Date	Check Number	Check Total
DODDRIDGE COUNTY COMMISSION	43312	Jun-26-2017	158993	\$1,064.16

INV #	INV DATE	DESCRIPTION	AMOUNT	DISCOUNTS	NET AMOUNT
MR33017	06/26/17	FLOODPLAIN PERMIT	1,064.16	0.00	1,064.16

Permit # 17-468

COPY

TOTAL INVOICES PAID ==> 1,064.16 0.00 1,064.16

DETACH AND RETAIN FOR TAX PURPOSES

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



ANTERO RESOURCES  
1615 WYNKOOP STREET  
DENVER, COLORADO 80202

Wells Fargo  
Denver, CO

Check No. 158993

11-24  
412

400 - AP ACCT WELLS FARGO

Void After 90 Days

CHECK NUMBER	DATE	PAY EXACTLY
158993	Jun-26-2017	\$1,064.16

PAY EXACTLY \$1,064.16

One Thousand Sixty Four Dollars and Sixteen Cents

TO THE ORDER OF

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

*[Signature]*

COPY

⑈ 158993 ⑆ ⑆ 04 2038 24 ⑆ 9647481952 ⑆



ANTERO RESOURCES  
1615 WYNKOOP STREET  
DENVER, COLORADO 80202

Vendor Name	Vendor No.	Date	Check Number	Check Total
DODDRIDGE COUNTY COMMISSION	43312	Jun-26-2017	158993	\$1,064.16

INV #	INV DATE	DESCRIPTION	AMOUNT	DISCOUNTS	NET AMOUNT
MR33017	06/26/17	FLOODPLAIN PERMIT	1,064.16	0.00	1,064.16

Permit # 17-468

## Doddridge County, West Virginia

RECEIPT NO: 9273

DATE: 2017/06/28

FROM: ANTERO RESOURCES

AMOUNT: \$ 1,064.16

ONE THOUSAND SIXTY FOUR DOLLARS AND 16 CENTS

FOR: #17-468 PERMIT

00000158993 FP-BUILDING PERMITS

020-318

TOTAL: \$1,064.16

MICHAEL HEADLEY  
SHERIFF & TREASURER

MEC  
CLERK

Customer Copy

DETACH AND RETAIN FOR TAX PURPOSES

**Doddridge County Flood Plain Application Fee Calculator (if in Flood Plain)****Buffalo Calf Slip Repair**

Estimated Construction Costs	\$112,831.86
Amount over \$100,000	\$12,831.86
Drilling Oil and Gas Well Fee	\$1,000.00
\$5 per \$1,000 over \$100,000	\$64.16
Amount Due with application	\$1,064.16

**FLOODPLAIN PERMIT #17-468**

7015 3430 0001 1569 7507

7015 3430 0001 1569 7538

7015 3430 0001 1569 7545

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	6-27-17	
US ARMY CORP. ENGINEERS (USACE)	N/A	
US FISH & WILDLIFE SERVICES (USFWS)	N/A	
WV DEPT. NATURAL RESOURCES (WVDNR)	N/A	
WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)	N/A	
STATE HISTORIC & PRESERVATION OFFICE (SHPO)	N/A	
OFFICE of LAND & STREAM (OLS)	N/A	
DATE OF COMMISSION READING	JUNE 16, 2017	
DATE AVAILABLE TO BE GRANTED	JUNE 26, 2017	
PERMIT GRANTED	6-26-17	
COMPLETE	6-26-17	



## **Doddridge County Floodplain Permits**

(Week of June 6, 2017)

Please take notice that on the **22nd** day of **May, 2017**, **Antero Resources Inc.** filed an application for a Floodplain Permit **#17-468** to develop land located at or about **80.623355, 39.257873 Buffalo Calf**. The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. Any interested persons who desire to comment shall present the same in writing by **June 26, 2017** (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Clerk of the County Court at 108 Court Street Ste. 1, West Union, WV 26456. **This project is for Slip Repairs on Buffalo Calf.**





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

March 30, 2017

Doddridge County Commission  
Attn: George Eidel, Doddridge County Floodplain Manager  
108 Court Street, Suite 1  
West Union, WV 26456

Mr. Eidel:

Antero Resources Corporation would like to submit a Doddridge County Floodplain permit application for our *Buffalo Calf Slip Repair*. Our project is located in Doddridge County, Greenbrier District where the slip is located at approximate coordinates 39.25806N, 80.62318W. Per the FIRM Map #54017C0165C, this location is in the floodplain.

Attached you will find the following:

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

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

Thank you in advance for your consideration.

Sincerely,

Rachel Grzybek  
Environmental Specialist II  
Floodplain Engineer  
Antero Resources Corporation

MAY19 17 1:11PM

Enclosures



Permit# \_\_\_\_\_

Project Name: \_\_\_\_\_

Permittees Name: \_\_\_\_\_

## ***Doddridge County, WV***

# Floodplain Development Permit Application

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

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

MAY 19 17 1:11PM

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 \_\_\_\_\_

DATE \_\_\_\_\_

*AK*  
5/15/17

Doddridge County Commercial/Industrial  
Floodplain Development Permit Application

**Applicant Information:**

*Please provide all pertinent data.*

<b>Applicant Information</b>		
<b>Responsible Company Name: Antero Resources Corporation</b>		
<b>Corporate Mailing Address: 1615 Wynkoop Street</b>		
<b>City: Denver</b>	<b>State: CO</b>	<b>Zip: 80202</b>
<b>Corporate Point of Contact (POC):</b>		
<b>Corporate POC Title:</b>		
<b>Corporate POC Primary Phone:</b>		
<b>Corporate POC Primary Email:</b>		
<b>Corporate FEIN:</b>	<b>Corporate DUNS:</b>	
<b>Corporate Website: <a href="http://www.anteroresources.com">www.anteroresources.com</a></b>		
<b>Local Mailing Address: 535 White Oaks Blvd</b>		
<b>City: Bridgeport</b>	<b>State: WV</b>	<b>Zip: 26330</b>
<b>Local Project Manager (PM):</b>		
<b>Local PM Primary Phone:</b>		
<b>Local PM Secondary Phone:</b>		
<b>Local PM Primary Email:</b>		
<b>Person Filing Application: Rachel Grzybek</b>		
<b>Applicant Title: Environmental Specialist II</b>		
<b>Applicant Primary Phone: (304) 842-4008</b>		
<b>Applicant Secondary Phone: (304) 641-2396</b>		
<b>Applicant Primary Email: <a href="mailto:rgrzybek@anteroresources.com">rgrzybek@anteroresources.com</a></b>		



Doddridge County Commercial/Industrial  
Floodplain Development Permit Application

**Proposed Development:**

*Please check all elements of the proposed project that apply.*

**DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES)**

**A. STRUCTURAL DEVELOPMENT**

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

**B. OTHER DEVELOPMENT ACTIVITIES:**

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

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Doddridge County Commercial/Industrial  
Floodplain Development Permit Application

**Development Site/Property Information:**

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

Property Designation:   1   of   1  

<b>Site/Property Information:</b>		
Legal Description: BUFFALO CALF 31 AC		
Physical Address/911 Address: RT. 42		
Decimal Latitude/Longitude: 39.257792° N, 80.623308° W		
DMS Latitude/Longitude: 39° 15' 28.05" N, 80° 37' 23.91" W		
District: 4	Map: 4	Parcel: 10.2
Land Book Description:		
Deed Book Reference: Book 207, Page 6		
Tax Map Reference: 09-04-0004-0010-0002		
Existing Buildings/Use of Property: The property is mostly fields with a driveway to a house.		

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

Doddridge County Commercial/Industrial  
Floodplain Development Permit Application

**Property Owner Data:**

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

Property Designation: <u>  1  </u> of <u>  1  </u>
--

<b>Property Owner Data:</b>		
Name of Primary Owner (PO): Betty D. Garwood		
PO Address: 1452 Buffalo Calf		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

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

## Doddridge County Commercial/Industrial Floodplain Development Permit Application

### Contractor Data:

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

**Property Designation:** \_\_\_ of \_\_\_

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

<b>Engineer Firm Information:</b>		
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.

<b>Adjacent Property Owner Data: Upstream</b>		
Name of Primary Owner (PO): MCIE DEBORAH (LIFE)		
Physical Address: RT. 1 Box 403		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

<b>Adjacent Property Owner Data: Upstream</b>		
Name of Primary Owner (PO): William B. and Cathy D. Wells (SURV)		
Physical Address: 16 Gain St		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

<b>Adjacent Property Owner Data: Downstream</b>		
Name of Primary Owner (PO): Betty D. Garwood and Robert G. Price (SURV)		
Physical Address: 1452 Buffalo Calf		
City: Salem	State: WV	Zip: 26426
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

## Site Plan

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

### **A SITE PLAN MUST CONTAIN THE FOLLOWING INFORMATION:**

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

## Applicant

Please read print name, sign and date below:

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

Applicant Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Applicant Printed Name: \_\_\_\_\_

LAUDY KLEBERDANZ



Civil & Environmental Consultants, Inc.

March 29, 2017

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

Subject: Antero Resources Corporation  
Buffalo Calf Slip Repair  
No-Rise Certificate  
Doddridge County, West Virginia  
CEC Project 171-546

Civil & Environmental Consultants, Inc. (CEC) is pleased to evaluate the potential floodplain impacts for the above referenced project on behalf of Antero Resources Corporation, 535 White Oaks Blvd, Bridgeport, WV 26330. Antero Resources Corporation proposes to repair a slip that has occurred along County Route 42. The proposed work involves excavating a portion of the slip material and reconstructing the road shoulder and slope with reinforced shotcrete and soil nails. The length of the repair is approximately 46 feet. The proposed work will take place within the Buffalo Calf Zone A Flood Hazard Area, according to the Flood Insurance Rate Map for Doddridge County, Map Panel #54017C0165C, with a map revised date of October 4, 2011. Since material from the existing slope will be excavated to install the reinforced shotcrete and soil nails, the proposed work will not result in a decrease of the available floodplain storage area and will not have an adverse impact to the existing base flood elevation of Buffalo Calf.

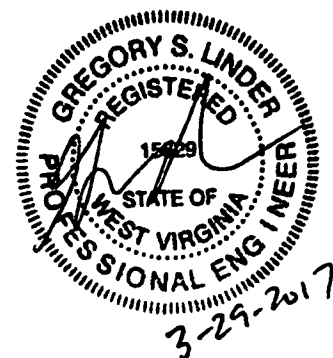
This no-rise certificate is provided in support of the floodplain development permit application. Your time and effort in reviewing this floodplain development permit application is appreciated. Please feel free to contact me at 304-933-3119 or via e-mail at [glinder@cecinc.com](mailto:glinder@cecinc.com)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

Respectfully submitted,

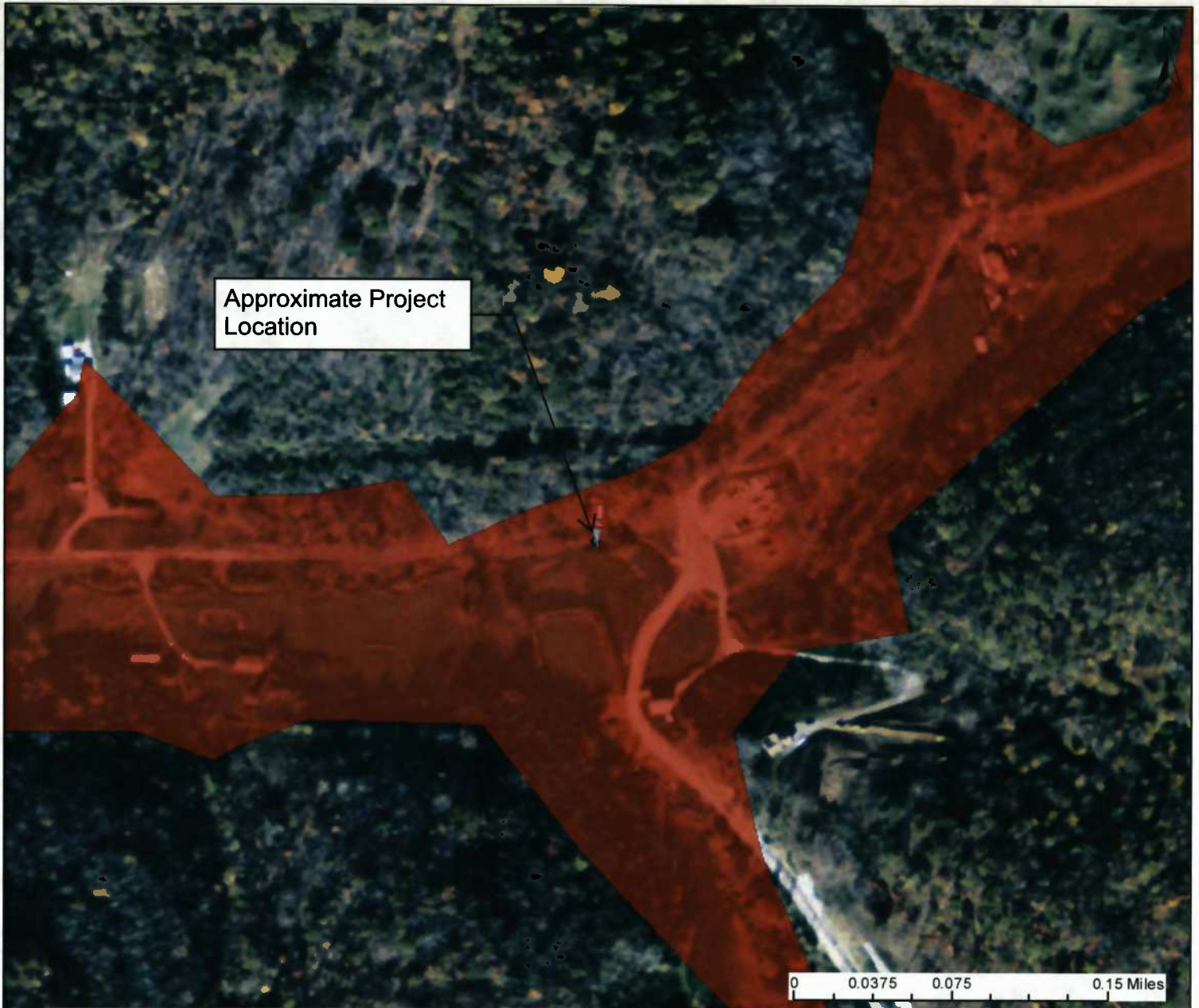
CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Andrew Darnell, EIT  
Assistant Project Manager

Greg Linder, P.E.  
Senior Project Manager



# Buffalo Calf Slip Repair



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

### User Notes:

Map created on March 29, 2017

 Flood Hazard Zone

 Flood Point of Interest

### Disclaimer:

The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at [www.msc.fema.gov](http://www.msc.fema.gov).  
*WV Flood Tool (<http://www.MapWV.gov/flood>) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.*

### Flood Hazard Area:

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

**FEMA Issued Flood Map:** 54017C0165C

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

**Elevation:** About 894 ft

**Location (long, lat):** (80.623355 W, 39.257873 N)

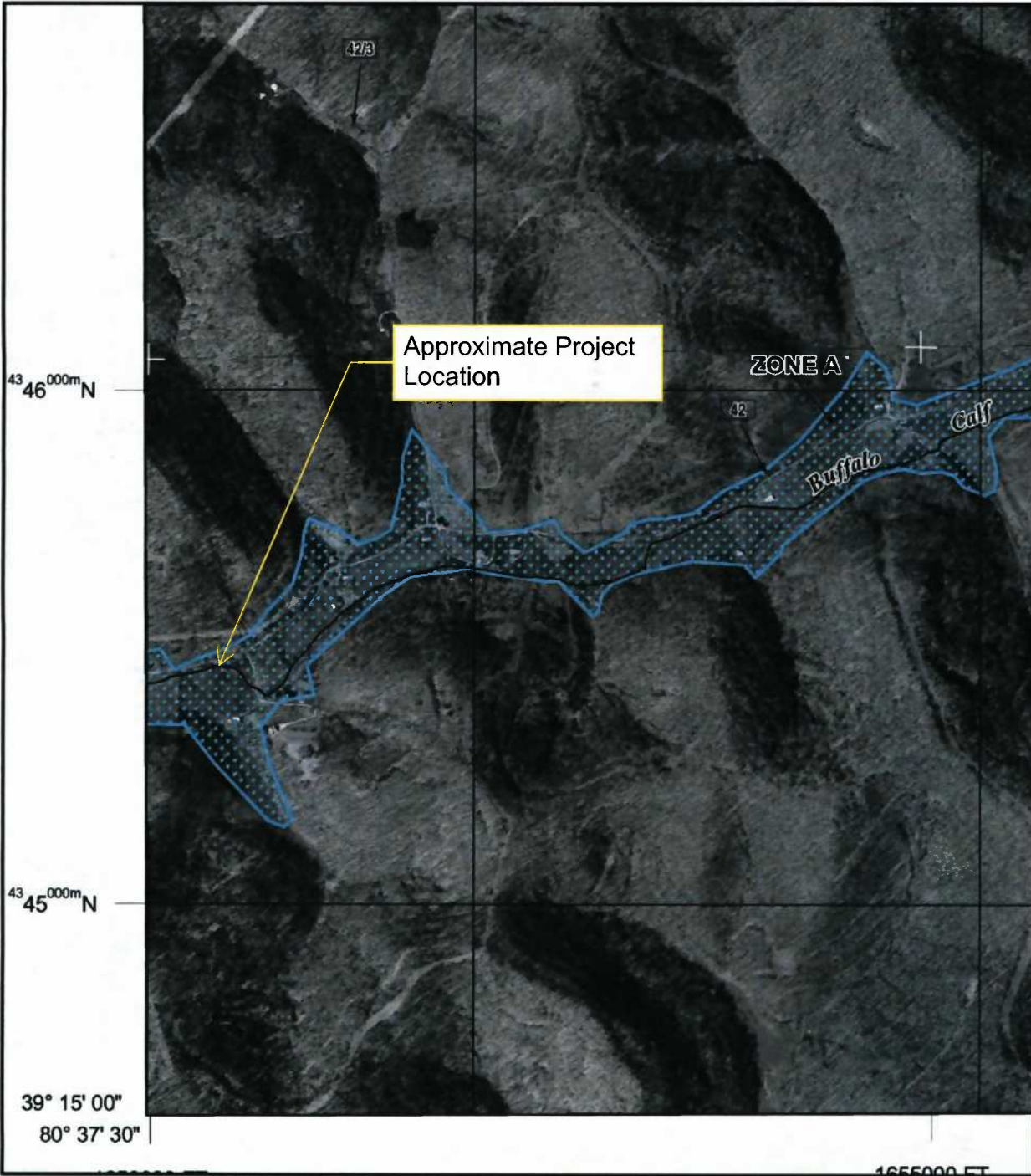
**Location (UTM 17N):** (532496, 4345460)

**Contacts:** Doddridge

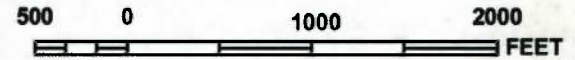
**CRS Information:** N/A

**Parcel Number:** No Parcel





MAP SCALE 1" = 1000'



NFIP

PANEL 0165C

# FIRM

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

PANEL 165 OF 325  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0165	C

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



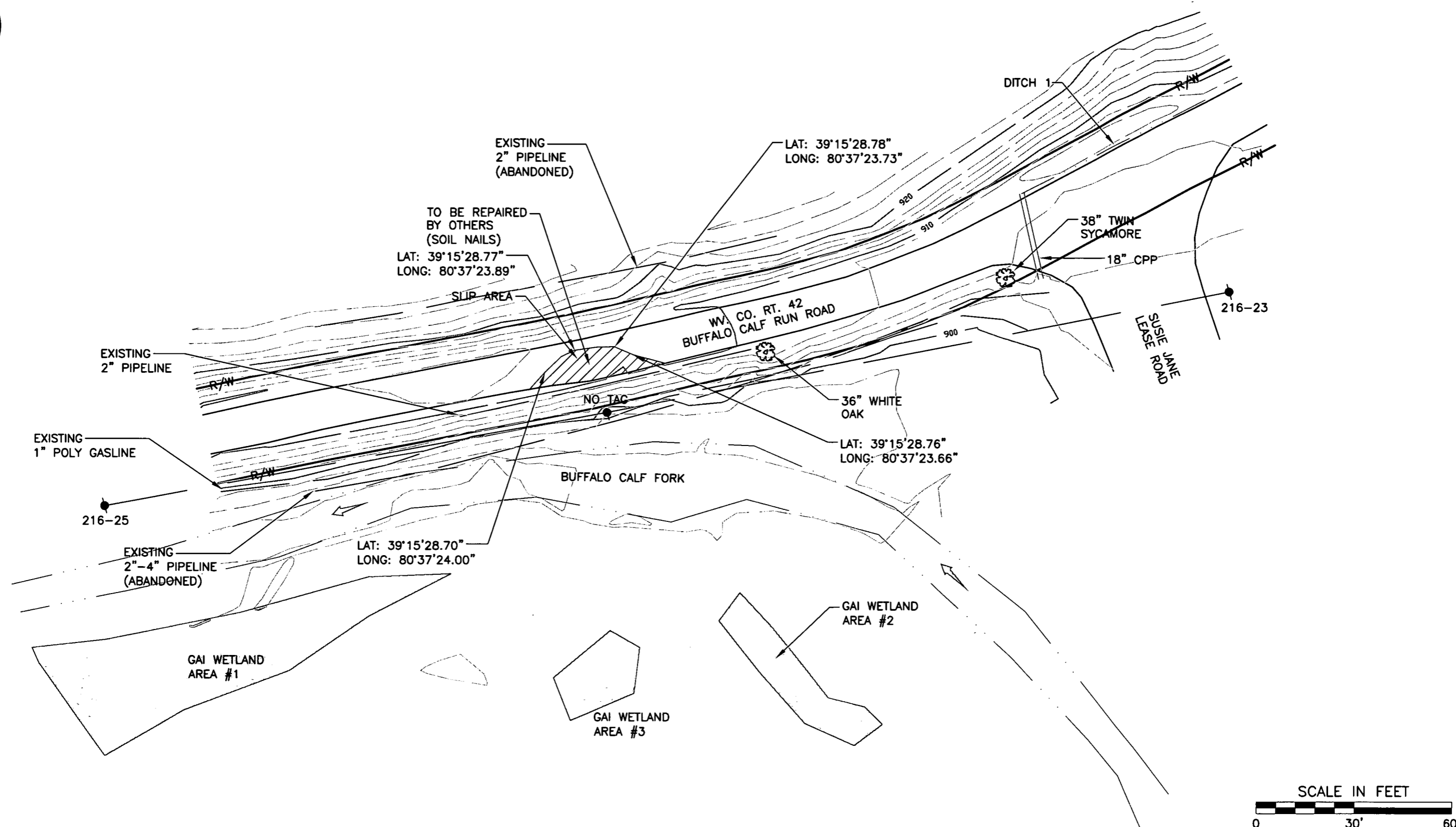
MAP NUMBER  
54017C0165C

MAP REVISED  
OCTOBER 4, 2011

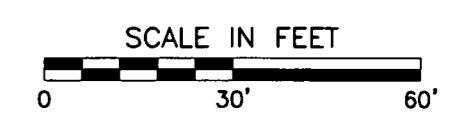
Federal Emergency Management Agency

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

1655000.FT



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COORDINATES ARE IN WV NORTH NAD83

**CEC**  
**Civil & Environmental Consultants, Inc.**  
 600 Marketplace Ave · Suite 200 · Bridgeport, WV 26330  
 Ph: 304.933.3119 · Fax: 304.933.3327  
 www.cecinc.com

ANTERO RESOURCES  
 BUFFALO CALF SLIP  
 WV CO. RT. 42

---

GREENBIER DISTRICT  
 DODDRIDGE COUNTY, WV

---

DRAWN BY:	DRAFT	CHECKED BY:	DRAFT
DATE:	MARCH, 2017	DWG SCALE:	1"=30'
APPROVED BY:	DRAFT	PROJECT NO.:	171-246
FIGURE NO.:			<b>1</b>

# Slope Stabilization Details

CR 42 MP 1.43 Buffalo Calf Road

Doddridge County, WV

WVDOH - District 4

Vicinity Map



Approximate Project Location  
GPS: 39.25806, -80.62318

(Not to Scale)

## Sheet Index

1. Cover Sheet
2. General Notes
3. Typical Cross-Section and Elevation Detail
4. SuperNail® Detail
5. Typical Shoulder Build-Out

This drawing is furnished solely for the use of or in connection with this project and the proprietary information shown hereon is not to be transmitted to any other organization without specific authorization by GeoStabilization International. (GSI). The design is only valid if constructed and supervised by GSI or its authorized subcontractor.

Sheet Revision	
Date:	By:

Cover Sheet			
Project:		Project No.	
CR 42 MP 1.43 Buffalo Calf Road		170067WV01	
Date:	Drawn By:	Checked By:	Sheet No.:
March 22, 2017	DSC	MJ	1



**GeoStabilization International**  
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 Grand Junction, CO 81502  
 P: 970.210.6170  
 F: 970.245.7737  
[www.geostabilization.com](http://www.geostabilization.com)



**Construction Sequence/Work Schedule:**

- WVDOH or its contractor will clear, excavate, haul off excavated material, provide traffic control, perform all guard rail work, paving, striping, and final landscaping.
- GSI will provide and install the specified soil nails and surface treatment per the construction documents.

**Size and Spacing of Nails:**

- GSI will mark the locations of the proposed soil nails with survey marking paint.
- The Soil Nails will be injected with grout. The grout will be a Type I,II,or III Portland Cement. The water/cement ratio will be 0.50 to 0.60. No additional aggregate or admixtures will be added to the grout.

**Facing and Drainage System:**

- Drain strips will be provided and installed between the soil nails every 6-feet along the face of the excavation. The drain strips shall be placed with the geotextile side against the ground. Drain strips will be continuous and any splices shall be made with a one-foot minimum overlap such that the flow of water is not impeded. Drain strips shall extend beyond the face of the shotcrete at the downhill face.

**Reinforcing Steel Placement:**

- Welded wire mesh will be placed along the face of the excavation with a separation of approximately 2 inches between the wire mesh and the soil.
- No. 4 Rebar will be tied to the wire mesh. Vertical bars will extend for approximately 24 inches and the horizontal bars will be continuous (with overlap splices) in the shotcrete.

**Bearing Plate Placement:**

- 8" x 8" x 3/8" galvanized steel bearing plates will be placed over the nails and attached either with a hex nut or by welding to the nail to secure the wire mesh and rebar during shotcrete placement. If the soil nails extend beyond the hex nuts or welded plates, they will be trimmed.

**Shotcrete Application:**

- Shotcrete will be placed from the lower part of the area upwards to prevent accumulation of rebound. The nozzle will be oriented a proper distance from and approximately perpendicular to the working face so that rebound will be minimal and compaction will be maximized. Care will be taken while encasing reinforcing steel and mesh to keep the front face of the reinforcement clean during placement operations, so that shotcrete builds up from behind, to encase the reinforcement and prevent voids or pockets from forming.

**GSI Employee Certifications:**

- ACI Shotcrete Nozzlemen Certification
- 10-hour Occupational Safety and Health Training Course in Construction Safety & Health
- American Red Cross Standard First Aid Training
- American Red Cross Bloodborne Pathogens Training: PDT
- Erosion Control Supervisor Training

**House Keeping:**

- The site will be organized and clear of any trash or debris. All trash will be placed in a proper container and removed at the end of each work day.

**Safety:**

- All safety plans for lifting, hearing, dust control, PPE etc. are in place and will be followed accordingly. PPE will include safety vest, steel toed shoes, hard hat, safety glasses, and gloves.

**Shotcrete Mix Design:**

Shotcrete shall comply with the requirements of ACI 506.2, "Specifications for Materials, Proportioning and Application of Shotcrete", except as otherwise specified. Shotcreting consists of applying one or more layers of concrete conveyed through a hose pneumatically projected at a high velocity against a prepared surface.

The wet-mix process consists of thoroughly mixing all the ingredients, introducing the mixture into the delivery equipment and delivering it, by positive displacement, to the nozzle. Air jet the wet-mix shotcrete from the nozzle at high velocity onto the surface.

Material	Weight per Cubic Yard
3/8" Rock	650 lbs
Sand	1800 lbs
Cement	750 lbs
Water	300 lbs
Fly Ash	150 lbs
Air Entrainment	6% (1.6 cubic feet)

0.40 to 0.50 water/cement ratio

**Grout Mix Design:**

Water/Cement Ratio= 0.5 to 0.6

(Batch Weight Per Cubic Yard)

Material	Weight	Volume	
Cement	2063 to 1837 lbs	10.4 to 9.3 Cubic Feet	22 to 19.5 bags (94#)
Water	1031.5 to 1102 lbs	16.6 to 17.7 Cubic Feet	123.5 to 132 gallons
Total		1 Cubic Yard	

(Per 94# Bag of Cement)

Material	Weight	Volume	
Cement	94 lbs	0.48 Cubic Feet	1 bag (94#)
Water	47 to 56.4 lbs	0.8 to 0.9 Cubic Feet	5.6 to 6.8 gallons

**Design Parameters:**

The design bond stress = 400 lb/ft (2.66 psi)  
Minimum drill hole diameter = 4 inches

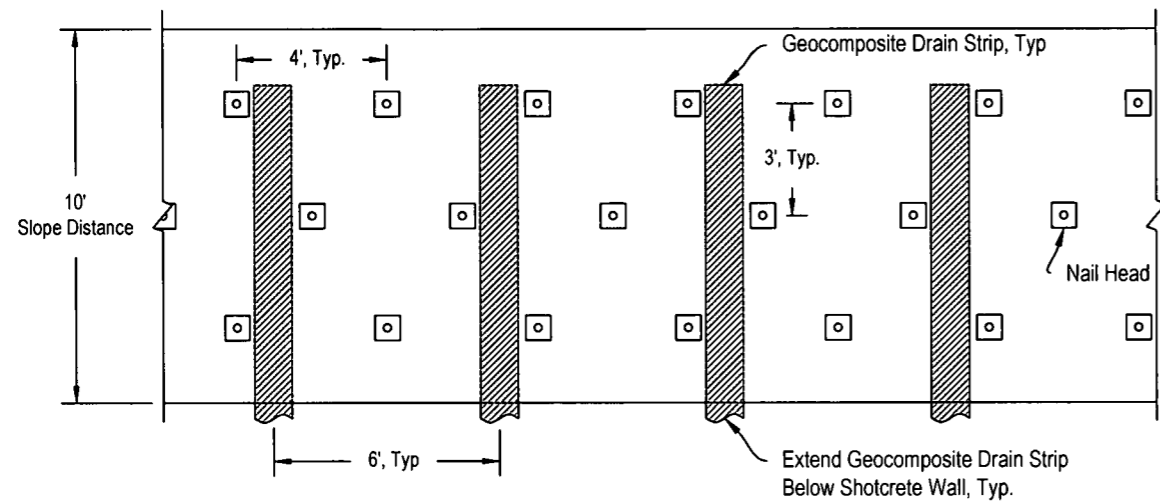
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Sheet Revision	
Date:	By:

General Notes			
Project:		Project No.	
CR 42 MP 1.43 Buffalo Calf Road		170067WV01	
Date:	Drawn By:	Checked By:	Sheet No.:
March 22, 2017	DSC	MJ	2

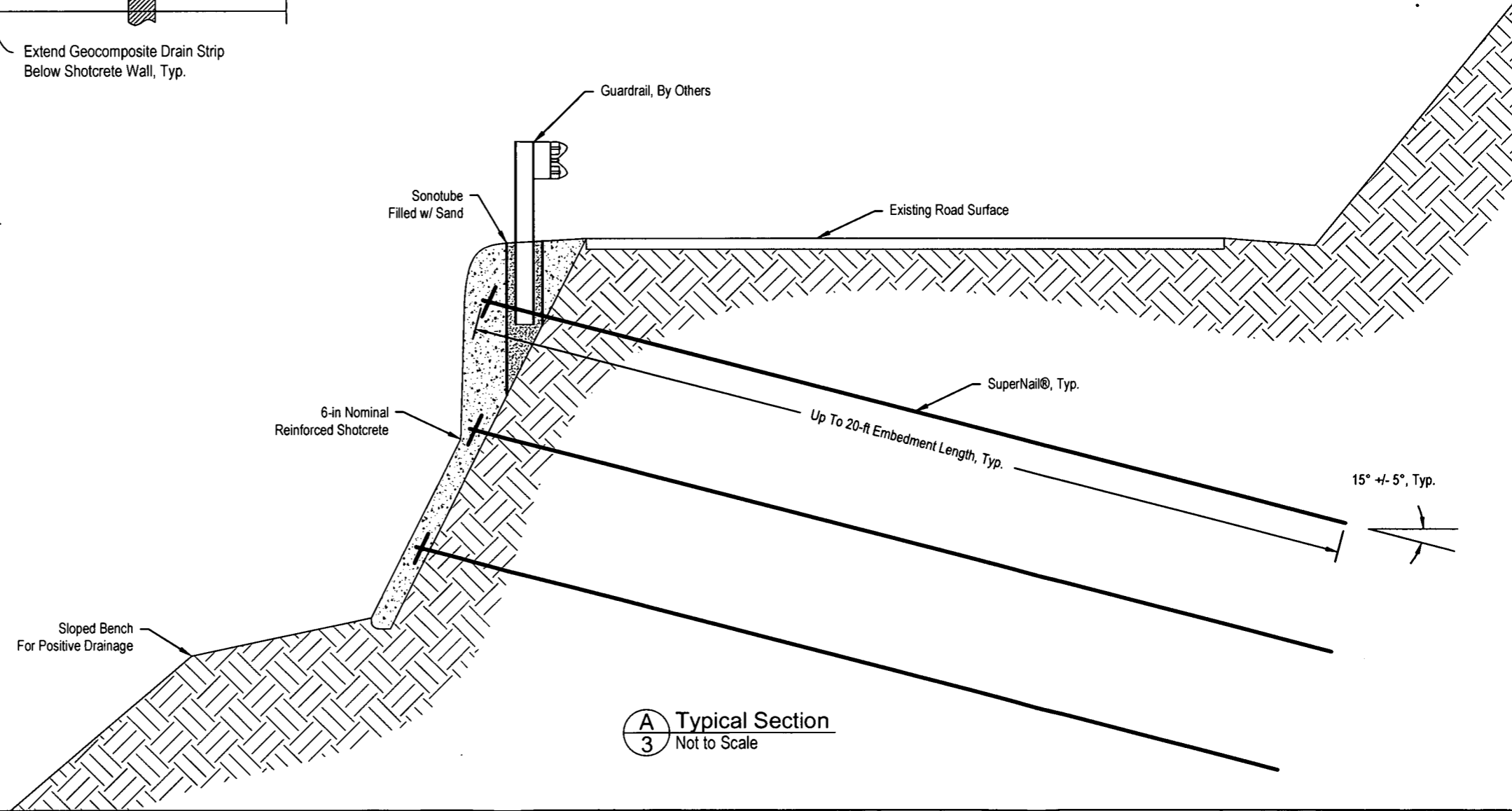


**GeoStabilization International**  
Corporate Address: PO Box 4709  
Grand Junction, CO 81502  
P: 970.210.6170  
F: 970.245.7737  
www.geostabilization.com



Note: 46 L.F. of Stabilization As Shown

**B** Elevation Detail  
3 Not to Scale



**A** Typical Section  
3 Not to Scale

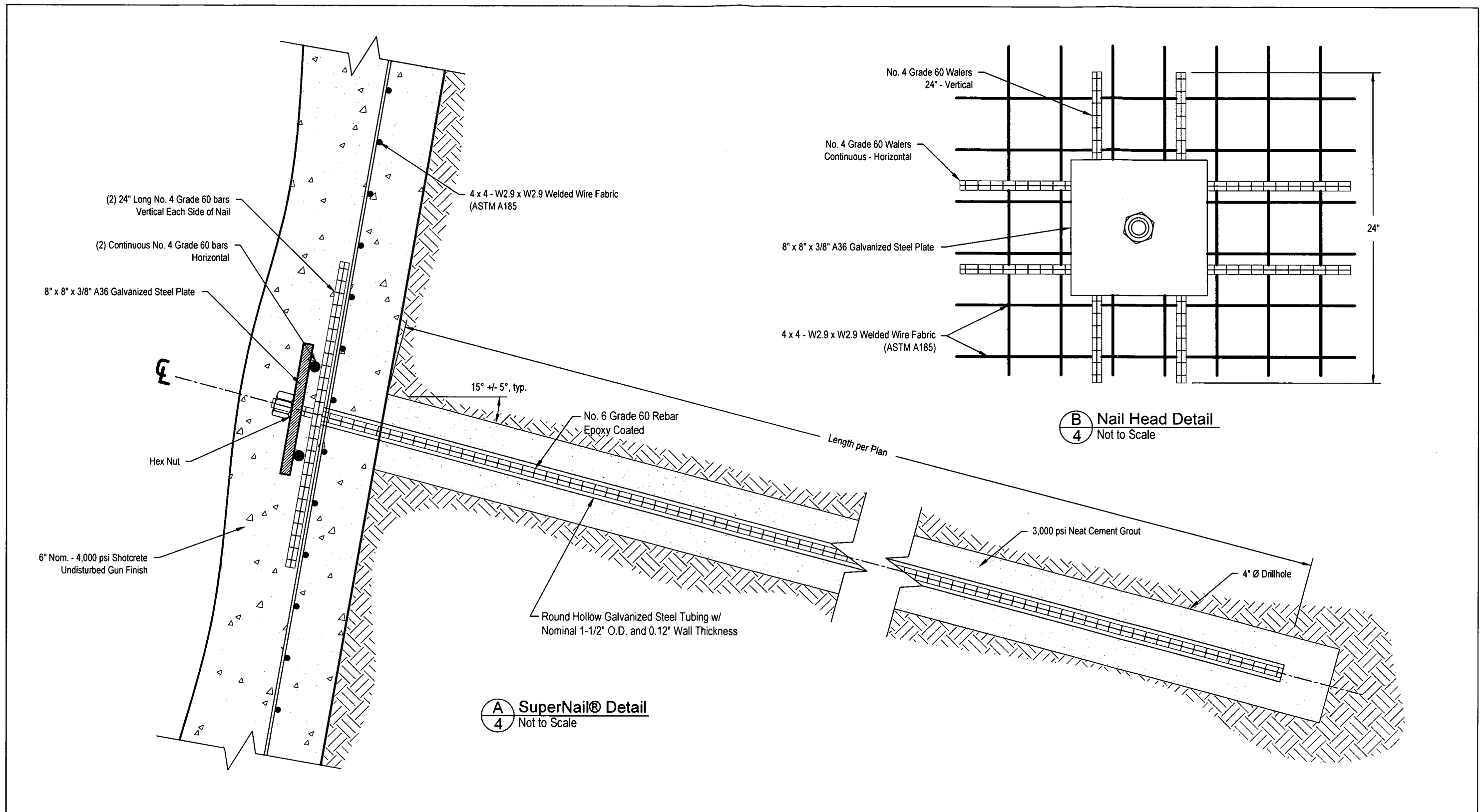
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Sheet Revision	
Date:	By:

Typical Cross-Section & Elevation View			
Project:		Project No.	
CR 42 MP 1.43 Buffalo Calf Road		170067WV01	
Date:	Drawn By:	Checked By:	Sheet No.:
March 22, 2017	DSC	MJ	3



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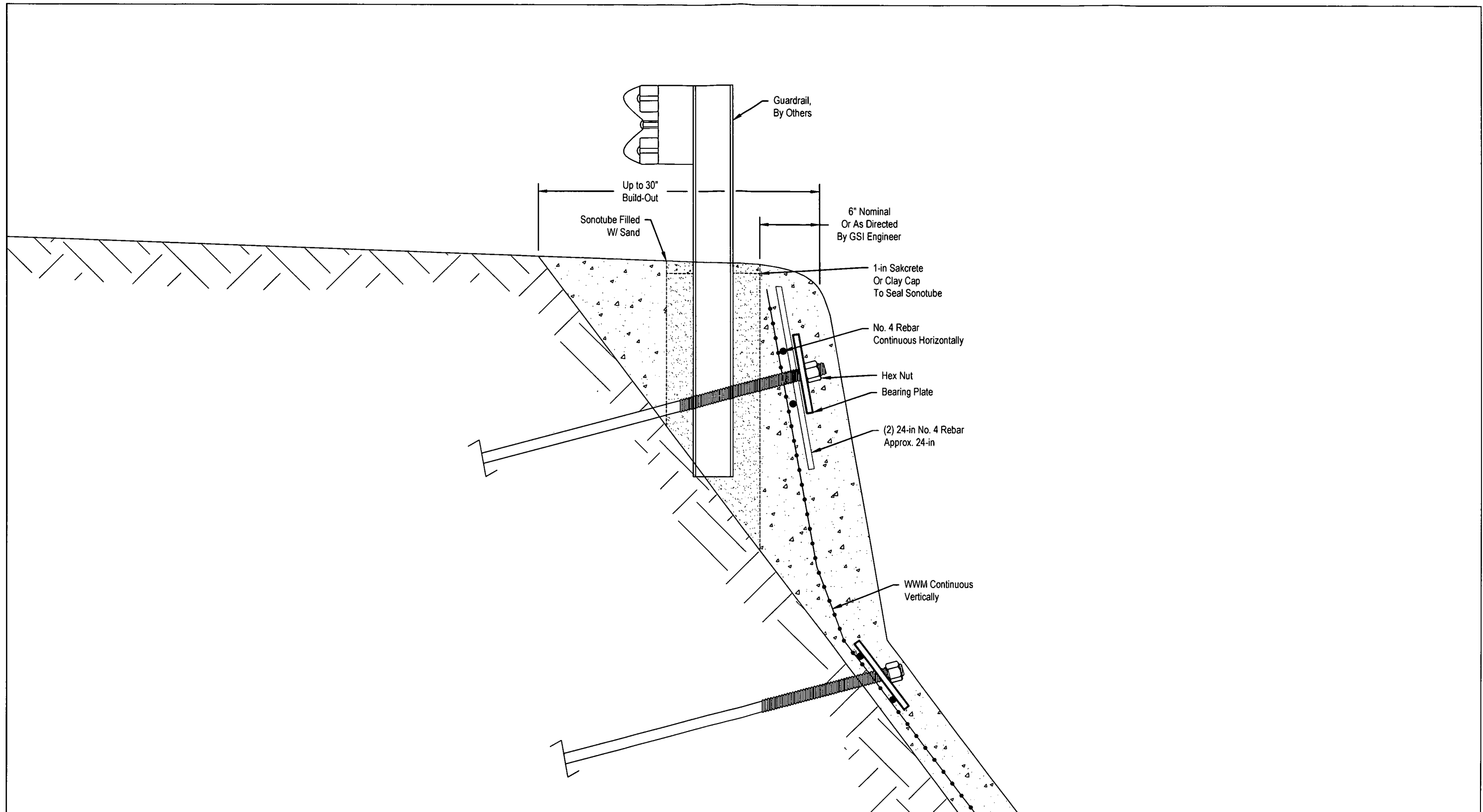
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Sheet Revision	
Date:	By:

<b>SuperNail® Detail</b>			
Project:		Project No.	
CR 42 MP 1.43 Buffalo Calf Road		170067WV01	
Date:	Drawn By:	Checked By:	Sheet No.:
March 22, 2017	DSC	MJ	4



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Sheet Revision	
Date:	By:

<b>Typical Shoulder Build-Out Detail</b>			
Project:		Project No.	
CR 42 MP 1.43 Buffalo Calf Road		170067WV01	
Date:	Drawn By:	Checked By:	Sheet No.:
March 22, 2017	DSC	MJ	5



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 www.geostabilization.com



George Eidel <doddridgecountyfpm@gmail.com>

---

## EMERGENCY Buffalo Calf Slip Repair

---

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

Tue, Mar 28, 2017 at 11:16 AM

Hi George,

Antero would like to request verbal approval for an emergency slip repair on Buffalo Calf Run Road (CR42) that is within the floodplain. This slip is both a safety and environmental concern due to it being along a county road that is also above a stream.

The repair will require removal of a small amount of loose material to make an area for construction to drill, install, and grout soil nails.

Attached you will find a design sheet, and the WV Flood Tool Map.

Once verbally approved, we will proceed to assemble the floodplain permit application package.

Let me know if you have any questions.

Thanks!

***Rachel Grzybek***

*Environmental Specialist II*

*Antero Resources Corporation*

535 White Oaks Boulevard

Bridgeport, WV 26330

Phone: (304) 842-4008

Cell: (304) 641-2396

Fax: (304) 842-4102

[rgrzybek@anteroresources.com](mailto:rgrzybek@anteroresources.com)



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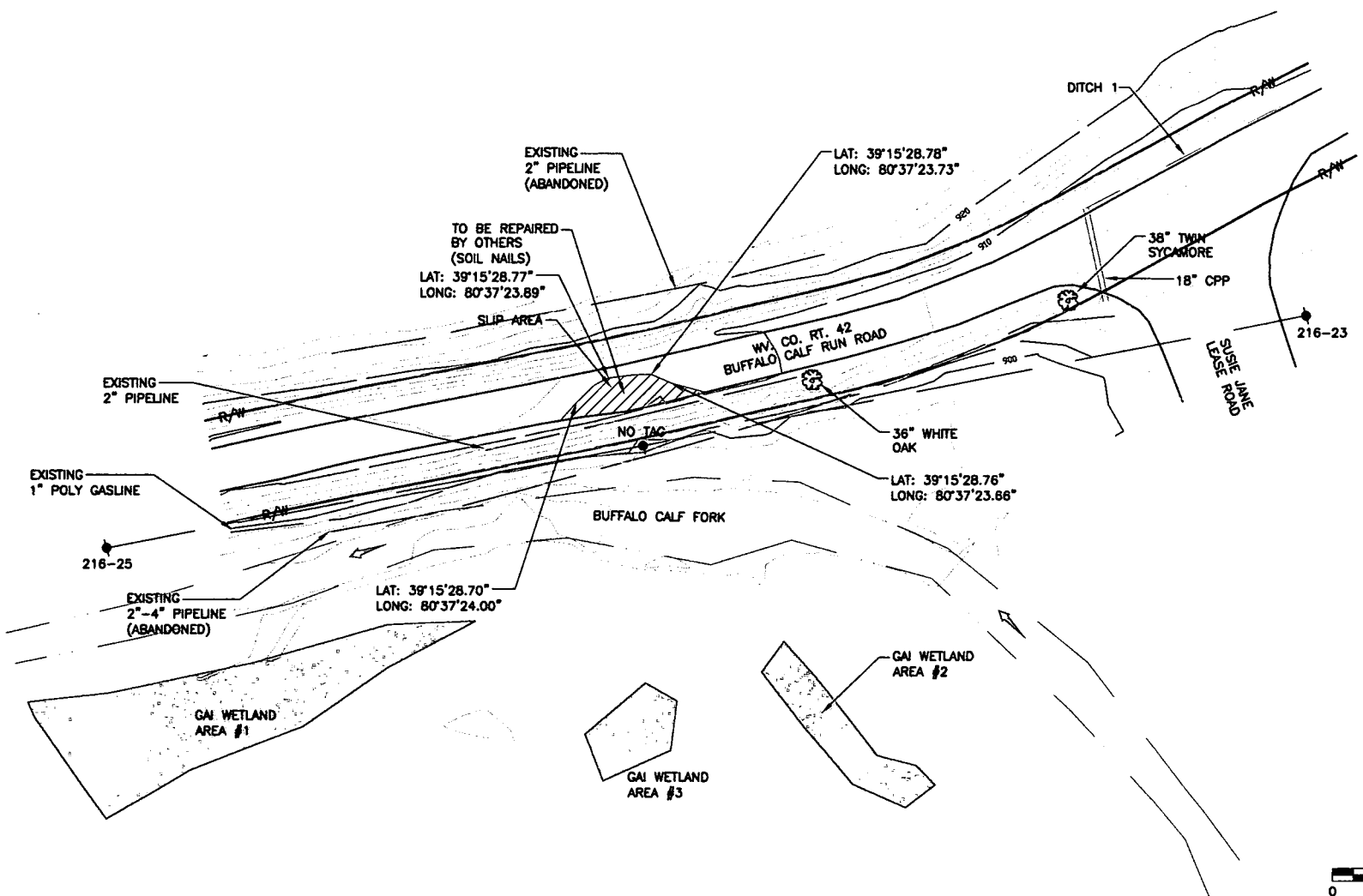
**2 attachments**

 **171246-SRV-BASE.PDF**  
116K

 **WV Flood Tool Map.pdf**  
266K



NORTH



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COORDINATES ARE IN WV NORTH NAD83

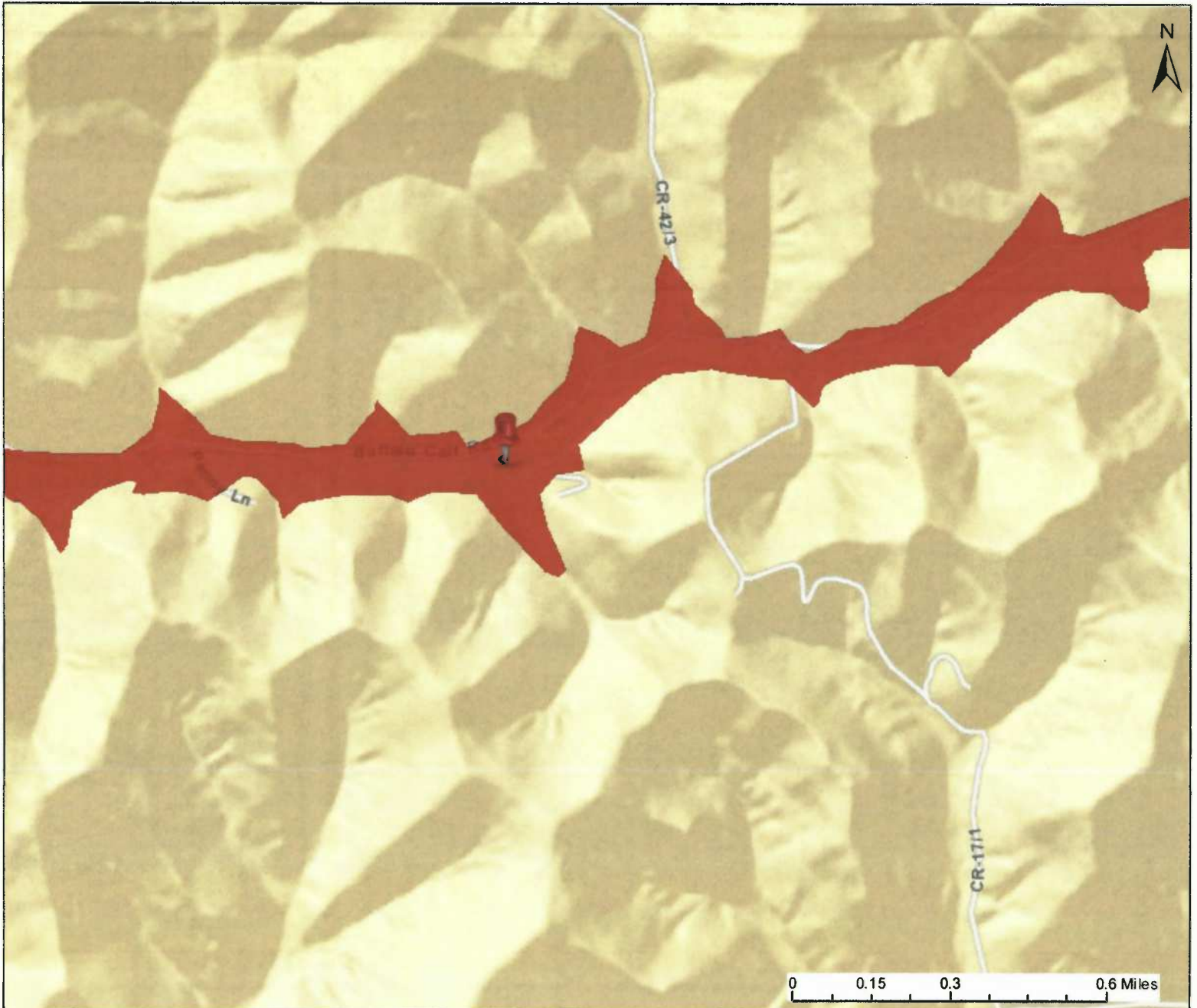
**CEC**  
**Civil & Environmental Consultants, Inc.**  
 600 Marketplace Ave - Suite 200 - Bridgeport, WV 26330  
 Ph: 304.933.3119 - Fax: 304.933.3327  
 www.ceclnc.com

ANTERO RESOURCES  
 BUFFALO CALF SLIP  
 WV CO. RT. 42

GREENBIER DISTRICT  
 DODDRIDGE COUNTY, WV

DRAWN BY:	DRAFT	CHECKED BY:	DRAFT	APPROVED BY:	DRAFT	FIGURE NO.:
DATE:	MARCH, 2017	DWG SCALE:	1"=30'	PROJECT NO.:	171-246	<b>1</b>

# WV Flood Map



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

### User Notes:

Map created on March 28, 2017

 Flood Hazard Zone

 Flood Point of Interest

### Disclaimer:

The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at [www.msc.fema.gov](http://www.msc.fema.gov).  
 WV Flood Tool (<http://www.MapWV.gov/flood>) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.

### Flood Hazard Area:

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

**FEMA Issued Flood Map:** 54017C0165C

**Watershed (HUC8):** Little Musingum-Middle Island

**Elevation:** About 899 ft

**Location (long, lat):** (80.623378 W, 39.257634 N)

**Location (UTM 17N):** (532494, 4345434)

**Contacts:** Doddridge

**CRS Information:** N/A

**Parcel Number:** No Parcel