

Floodplain Development Permit

Doddridge County, WV Floodplain Management

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

Permit: #20-564

Date Approved: March 9, 2020 Expires: March 9, 2021

Issued to: Antero Midstream P

POC: Daniel Buliam

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

Project Address: Riggins Run Road

Firm: 54017C0040C Lat/Long: 39.395844N, -80.690708W

Purpose of Development: Access Road & Slip Repairs

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

Date: March 9, 2020

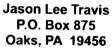
Doddridge County Office of Emergency Management George Eidel, Floodplain Manager 105 Court Street, Suite 3 West Union, WV 26456



7018 3090 0001 0402 5505







NIXIE 0002/11/20 175 DE 1 RETURN TO SENDER REFUSED UNABLE TO FORWARD

REF

BC: 26456201205 *1871-06622-06-42 այնյոնվ[[Մ]]իրուանանակություրներին][[[Մ]]Մ][[[[Մ]]][[[[[[

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.

TOaks, PA 19456

Attach this card to the back of the mailpiece,

or on the front if space permits. Article Addressed to:





2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

If YES, enter delivery address below:

Service Type

☐ Adult Signature Restricted Delivery

☐ Certified Mail Restricted Delivery

☐ Insured Mail Restricted Delivery

☐ Collect on Delivery Restricted Delivery

☐ Adult Signature

☐ Certified Mail®

☐ Insured Mail

(over \$500)

☐ Collect on Delivery

- A. Signature □ Agent ☐ Addressee
- B. Received by (Printed Name) C. Date of Delivery ☐ Yes D. Is delivery address different from item 1?

□ No

□ Priority Mail Express® □ Registered Mail™ □ Registered Mail Restricted · Delivery

☐ Return Receipt for Merchandise □ Signature Confirmation™ □ Signature Confirmation

900

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,

February 5, 2020

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

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

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

Respectfully yours,

George Eidel, CFM, OEM Director/Floodplain Manager

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
Complete items 1, 2, and 3.	A. Signature
Print your name and address on the reverse so that we can return the card to you.	X Dulow Surgaddressee
Attach this card to the back of the mailpiece, or on the front if space permits.	B. Received by (Printed Name) C. Date of Delivery 2/12/2021
Article Addressed to:	D. Is delivery address different from item 1?
Darbara M. Curimar	
Barbara M. Swiger 14660 WV Rt. 23	
West Union, WV 26456	
9590 9402 4783 8344 2626 50	3. Service Type ☐ Priority Mail Express®☐ Registered Mail™☐ Adult Signature Restricted Delivery☐ Certified Mail®☐ ☐ Certified
Article Number (Transfer from service label)	☐ Collect on Delivery Sestricted Delivery Signature Confirmation™ ☐ 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.	COMPLETE THIS SECTION ON DELIVERY A. Signature
 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. 	B. Received by (Printed Name) C. Date of Delivery
	11 1) Is delivery address different nominant
1 Article Addressed to:	If YES, enter delivery address below: ☐ No
Arnold Lee Bonnell 5095 Riggins Run West Union, WV 26456	If YES, enter delivery address below.
Arnold Lee Bonnell 5095 Riggins Run	3. Service Type Adult Signature Registered Mail™ Registered Mail™ Registered Mail™ Registered Mail Restricted Delivery Certified Mail® Restricted Delivery Return Receipt for Merchandise Cellect on Delivery Return Receipt for Merchandise Registered Mail Restricted Delivery Return Receipt for Merchandise Return Receipt for Merchandise
Arnold Lee Bonnell 5095 Riggins Run West Union, WV 26456	3. Service Type



Doddridge County Floodplain Permits

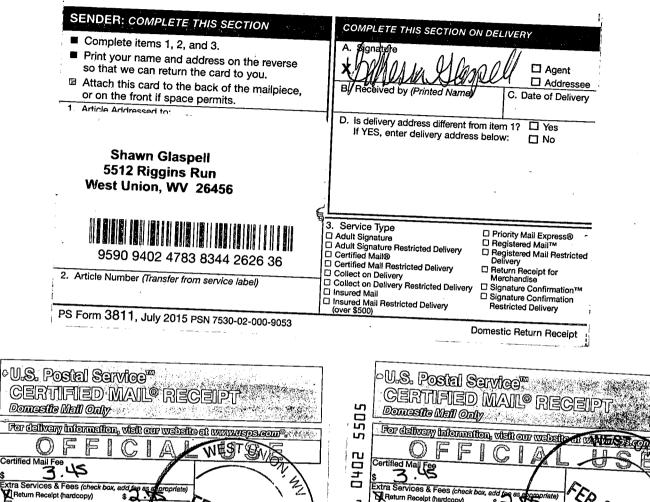
(Week of February 10, 2020)

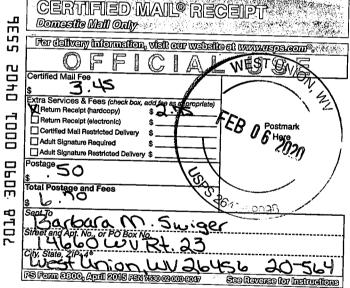
Please take notice that on the (3RD) of (February), 2020, (Antero Resources) filed an application for a Floodplain Permit (#20-564) to develop land located at or about (Riggins Run Rd); Coordinates: 39.395844, -80.690708. The Application is on file with the Floodplain Manager of the County and may be 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 (March 9, 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

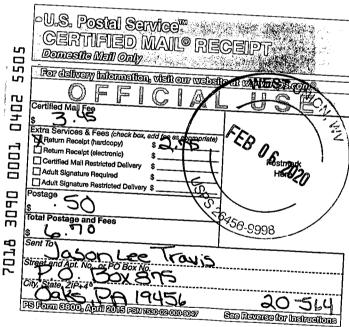
Access road and slip repairs

GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager





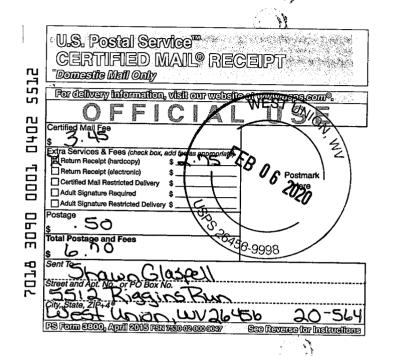


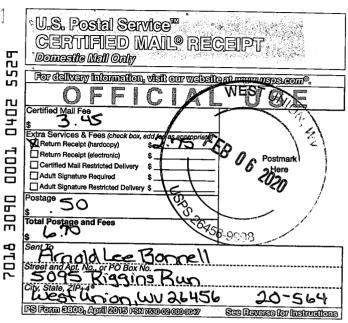
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- Thingston	COV COPY
11	KLEINFELDER OFFICE CHECKING STORE SUITE 1200
THE COURSE	SAN DIEGO, CA 92101 DATE 1/27/2020 19-10/1250
zwieduje -	ORDER OF Doddridge County Commission \$ 500.00
illi e	hive - hundred PP DOLLARS 1 BOLLARS 1
Attres County	USbank.
Section 1	FOR Antero North Canton 186+00 1 216+50 Slips Ju M.
المراسين	Floodplain III I FED PEN CES 7 5 1 9 B B 9 PEL IV
	20-2-0-4-3 - I manage - I

FP#20-564

COPY





FLOODPLAIN PERMIT #20-564

Antero Riggins Run Rd, access road and slip repairs 39.395844, -80.690708

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	2/3/2020	
US ARMY CORP. ENGINEERS		
(USACE)		
US FISH & WILDLIFE		
SERVICES (USFWS)		
WV DEPT. NATURAL		
RESOURCES (WVDNR)		
WV DEPT. ENVIROMENTAL	≈121.	
PROTECTION (WVDEP)	2/3/2020	
STATE HISTORIC &		
PRESERVATION OFFICE		
(SHPO)		
OFFICE of LAND & STREAM		
(OLS)		
DATE OF COMMISSION		
READING	2/18/2020	
DATE AVAILABLE TO BE		
GRANTED	3/9/2020	
PERMIT GRANTED		
COMPLETE		

\NTQ 3040 0007 0405 2202	
 7018 3090 0001 0402 5529	
 7018 3090 0001 0402 5512	
7018 3090 0001 0402 5536	



Doddridge County Floodplain Permits

(Week of February 10, 2020)

Please take notice that on the (3RD) of (February), 2020, (Antero Resources) filed an application for a Floodplain Permit (#20-564) to develop land located at or about (Riggins Run Rd); Coordinates: 39.395844, -80.690708. 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 (March 9, 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

Access road and slip repairs

GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager



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

33 111 14105M

TRANSMITTAL

To: Date: January 31, 2020
Mr. George Eidel

Floodplain Manager 105 Court Street, Suite #3 West Union, WV 26456

cc: Project File

Subject:		• •			
		Ø	Attached		Under separate cover
Via: Messenger/0 First Class M FedEx United Parce DHL Lone Star Or Freight Other Transmitted: As Requeste For Approval For Review 8	fail vernight ed I	Remarks:	facilitate yeapplication Attachmen Attachmen Attachmen Copies of a	our reviewn: at A - Floo at B - No I at C - Perr remaining once receive for fee is lain is less	\$500.00. The site budget within s than \$100,000.00 bringing the

By: Matthew Albright Project Manager



ATTACHMENT A FLOODPLAIN APPLICATION



Permit # 20-569
North Can

Permittees Name: ANtero Resources

Doddridge County, WV

Floodplain Development **Permit Application**

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

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

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

APPLICANT'S SIGNATURE_		JHZ/
DATE	01/31	12020

Applicant Information:

Please provide all pertinent data.

Applicantinformation	The second secon					
Responsible Company Name: Antero Midstream	1					
Corporate Mailing Address: 1615 Wynkoop Stre	eet					
ity: Denver State:CO Zip: 80202						
Corporate Point of Contact (POC): N/A	•	1				
Corporate POC Title: N/A						
Corporate POC Primary Phone: N/A						
Corporate POC Primary Email: N/A						
Corporate FEIN: N/A	Corporate DUN	NS: N/A				
Corporate Website: www.anteroresources.com	·					
Local Mailing Address: 535 White Oaks Blvd						
City: Bridgeport	State: WV	Zip: 26330				
Local Project Manager (PM): Daniel Bulian	l					
Local PM Primary Phone: 304 842 4093						
Local PM Secondary Phone: N/A						
Local PM Primary Email: dbulian@anteroresou	rces.com					
Person Filing Application: Daniel Bulian						
Applicant Title: Environmental Specialist III						
Applicant Primary Phone: 304 842 4093						
Applicant Secondary Phone: N/A						
Applicant Primary Email: dbulian@anteroresources.com						

Project Narrative:

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

ProjectNarrative:
Antero Midstream is proposing the installation of less than 6-inches of stone to construct a permanent access road and the placement of a temporary air bridge across Riggins Run (KLF_Stream5) from County Route 5 (Riggins Run Road) to access an area along the North Canton Connector for slip repair activities. The proposed air bridge will be located at 39.395844, -80.690708. The majority of the work will be performed in the floodplain, which will require minimal earth work to restore the ground surface to approximate original contours in the vicinity of the slip. Once site activities are completed, the air bridge will be removed and the stone from the access road will remain.

Proposed Development:

Please check all elements of the proposed project that apply.

DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES)

A. STRUCTURAL DEVELOPMENT

	<u>AC</u>	TIVITY				STRUCTU	RAL TYPE
[]	New Struct	ure			[]	Residential	(1 – 4 Family)
[]	Addition				[]	Residential	(more than 4 Family)
[]	Alteration				[]	Non-resider	ntial (floodproofing)
[]	Relocation				[]	Combined U	Jse (res. & com.)
[]	Demolition	1			[]	Replacemer	nt
[]	Manufactu	ıred/Mo	bil Home				
В.	OTHER DE	VELOPI	MENT ACTI	VITIES:			
[x]	Fill	[]	Mining	[]	Drilling	g []	Pipelining
[x]	Grading						
[]	Excavation	(except	for STRUCTUR	AL DEVE	LOPMENT	T checked ab	ove)
[]	Watercour	se Altera	tion (including	g dredgir	ng and cha	annel modific	cation)
[]	Drainage Ir	nprovem	nents (includin	g culvert	t work)		
[]	Road, Stree	et, or Brid	dge Constructi	on			
[]	Subdivision	ı (includi	ng new expan	sion)			
[]	Individual \	Nater or	Sewer System	1			
[]	Other (plea	ise speci	fy)				
					"		

Development Site/Property Information:

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

Property Designation: _1_ of	_1				
Site/Property Information:	100 h	A STATE OF THE STA	of a sold free		
Legal Description: Riggins Run					
Physical Address/911 Address:	County Route 5				
Decimal Latitude/Longitude: 39	9.395844				
DMS Latitude/Longitude: -80.69	90708				
District: 09	Map: 05		Parcel:	11-34	
Land Book Description: N/A					
			-		
Deed Book Reference: N/A					
Tow Man Deference, N/A					
Tax Map Reference: N/A					
Existing Buildings/Use of Property: N/A					
Floodplain Location Data: (to be	e completed by Flo	oodblain Manag	er ör desi	iaĥeë)	
	mber: Tached	Panel: AP		Suffix:	
Location (Lat/Long):		ApproximateE	levation	:	
Estimated BFE:					
Is the development in the floods	way?	Is the developr	nent in t	he floodplain?	
$\square_{\mathrm{Yes}} \square_{\mathrm{No}}$	□ _{Yes} □ _{No} □ _{Yes} □ _{No} Zone:				
Notes:					

Property Owner Data:

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

Property Designation:1_ of _1		
Property Owner Data:		The state of the s
Name of Primary Owner (PO): Shawn Glaspel		
PO Address: 5512 Riggins Run		
City: West Union	State: WV	Zip: 26456
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		
		,
Surface Rights Owner Data:	n in	The second secon
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A	· · · · · · · · · · · · · · · · · · ·	
PO Primary Email: N/A		#1 HIS 10 F 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Mineral Rights Owner Data: (As Applicable)	านค้า ของ เกลา	
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

Contractor Data:

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

Property Designation: __1 of _1 Contractor/Sub--Contractor (C/SC) Information: C/SC Company Name: One contractor to be selected from the following: DAC Energy Contractors (WV050789), Mason Dixon Energy Services (WV057129), or Litman Excavating Inc. (WV023019). C/SC WV License Number: See Above C/SC FEIN: TBD C/SC DUNS: TBD Local C/SC Point of Contact (POC): TBD Local C/SC POC Title: TBD C/SC Mailing Address: TBD City: TBD State: TBD Zip-•-Code: TBD Local C/SC Office Phone: TBD Local C/SC POC Phone: TBD Local C/SC POC E-•-Mail: TBD

Engineer Fir	m DUNS: N/A
C): Samantha Pret	zel
ofessional	
aks Blvd., Suite 1	10
State: WV	Zip-•-Code: 26330
	<u> </u>
-8978	
@Kleinfelder.com	<u></u>
	Engineer Fir C): Samantha Pred ofessional Daks Blvd., Suite 1 State: WV

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: Upst	ream					
Name of Primary Owner (PO): - Arno	old Lee Bonnell Parcel#	09-05-0017-0003-0007				
Physical Address: 5095 Riggins Run	(Mailing Address)					
City: West Union State: WV Zip: 26456						
PO Primary Phone: N/A						
PO Secondary Phone: N/A						
PO Primary Email: N/A						

Adjacent Property Ówner, Data: U	pstream						
Name of Primary Owner (PO): Ar	nold Lee Bonnell # 09-05-0	017-0003-0013					
Physical Address: 5095 Riggins R	un (Mailing Address)						
City: West Union State: WV Zip: 26456							
PO Primary Phone: N/A		•					
PO Secondary Phone: N/A							
PO Primary Email: N/A							

Adjacent Property Owner Da	ta: Downstream					
Name of Primary Owner (PO): Jason Lee Travis Parcel # 09-0	5-0011-0014-0002				
Physical Address: PO Box 87	5 (Mailing Address)					
City: Oaks State: PA Zip: 19456						
PO Primary Phone: N/A						
PO Secondary Phone: N/A						
PO Primary Email: N/A						

Adjacent Property Owner Data: Down	stream	7				
Name of Primary Owner Barbara M (LII	FE) Swiger - Parcel # 09-0	05-0011-0024-0000				
Physical Address: 14660 WV Route 23	(Mailing Address)					
City: West Union State: WV Zip: 26456						
PO Primary Phone: N/A						
PO Secondary Phone: N/A						
PO Primary Email: N/A						

Site Plan

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

A SITE PLAN MUST CONTAIN THE FOLLOWING INFORMATION:

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

Applicant

Please read print name, sign and date below:

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

Applicant Signature: Danie Bulium

Date: 01/31/2020



ATTACHMENT B NO RISE CERTIFICATION



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

It is further to certify that based on the information provided to me, and the attached technical data supports the fact that the proposed North Canton Connector Slip 216+50 (Site) will not impact the 100-year flood elevation of Riggins Run at the published section in the Flood Insurance Study for Doddridge County (Community ID 540024) effective 10/04/2011 and will not impact the 100-year flood elevation at unpublished cross-sections in the vicinity of the proposed development.

The Site involves the installation of less than 6-inches of stone to construct a permanent access road and the placement of a temporary air bridge across Riggins Run to access an area along the North Canton Connector for slip repair activities. The majority of the work will be performed in the floodplain, which will require minimal earth work to restore the ground surface to approximate original contours in the vicinity of the slip. Once Site activities are completed, the air bridge will be removed and the stone from the access road will remain. The total watershed (drainage basin) for the Site was shown to be 4.31 square miles, this was calculated utilizing the National Streamflow Statistics (NSS) application available online. A HEC-RAS analysis was completed, based on the drainage area above and associated flows, to verify that no influence will occur due to the proposed activities within the floodplain for Riggins Run. The flows compared for the affected area are attached.

Attached are the following documents that support my findings:

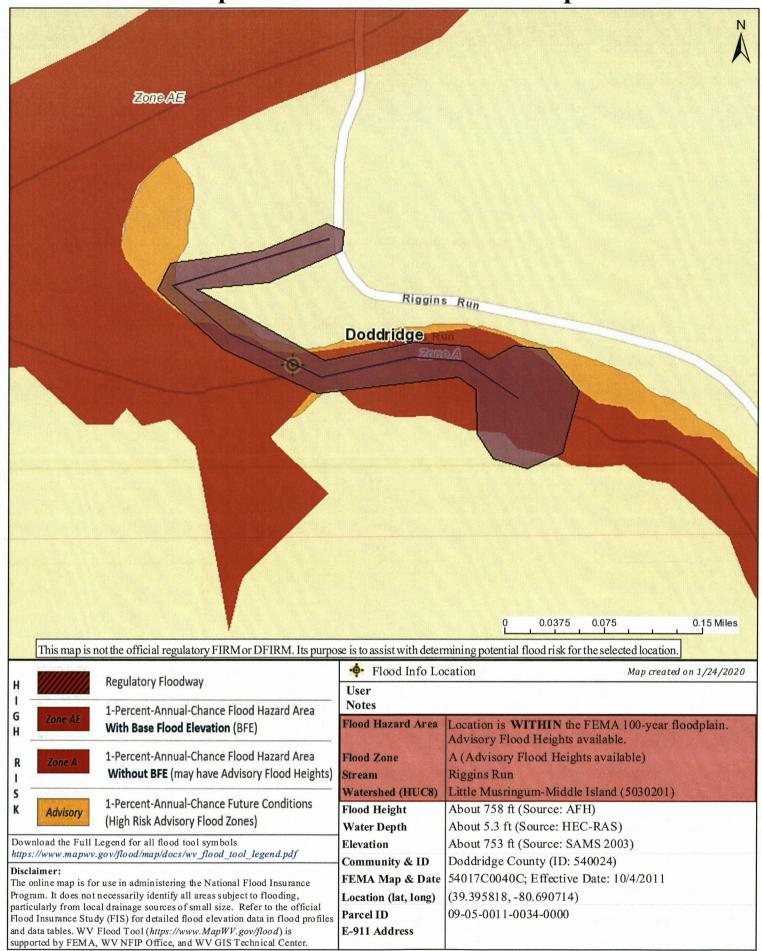
Map of the Site from the West Virginia Flood Tool
Aerial Imagery Map of the Site
National Streamflow Statistics – Drainage Area
Comparison for Calculated Flows – HEC-RAS Excel Data

Date:	01/28/2020	
Signa	ture: Satle Protzel	
Ü	Senior Professional	
Title	Sellioi i Tolessioliai	



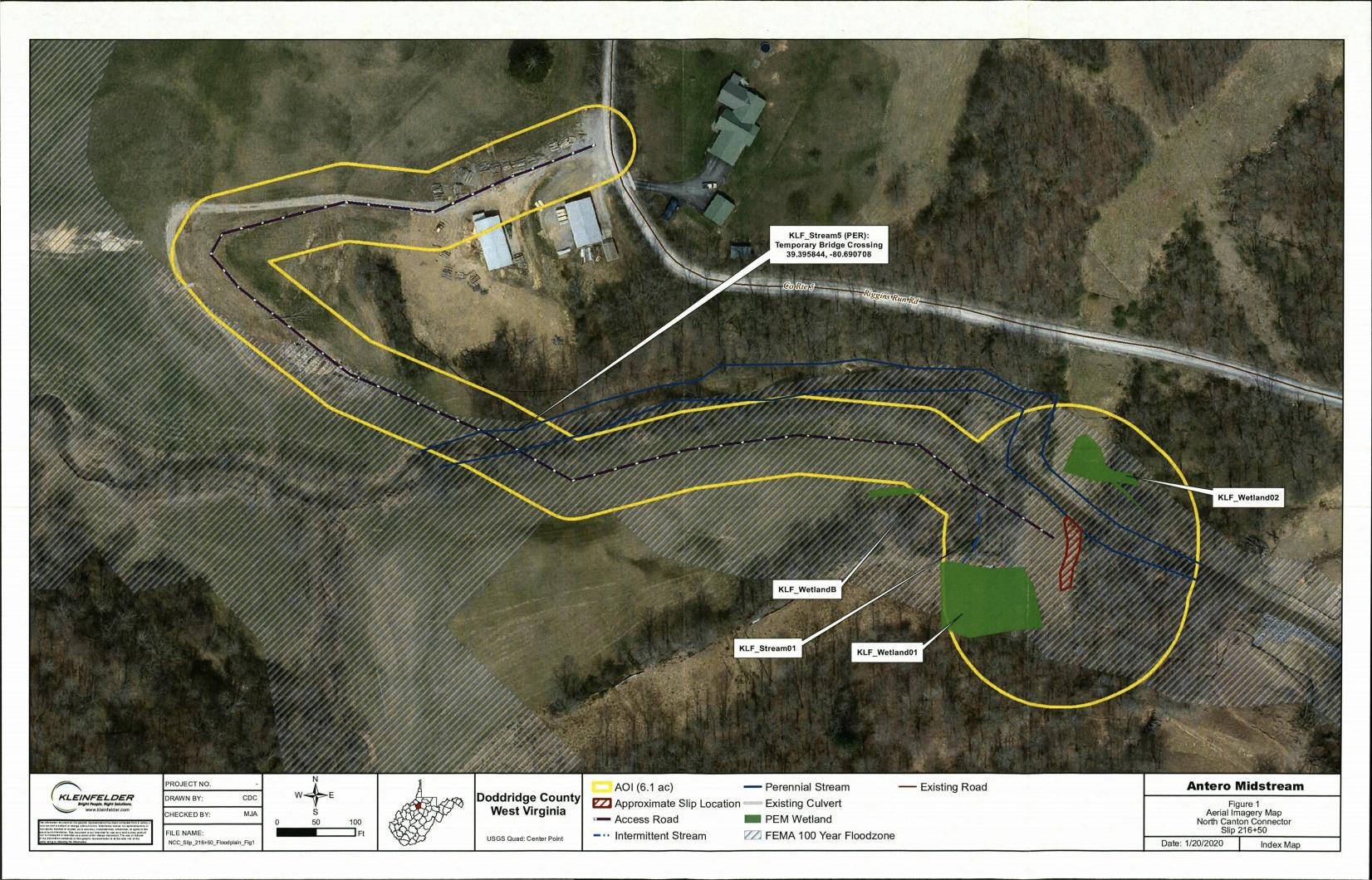
Appendix A West Virginia Flood Tool Map

WV Flood Map-North Canton Connect Slip 216+50





<u>Appendix B</u> Aerial Imagery Map





Appendix C National Streamflow Statistics (NSS) Riggins Run – Doddridge County, WV

Legend

Basins

Layers

Basemaps

Input Coordinate

examples:

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

39.395844, -80.690708.

Lat/Lon WGS 1984

☑ zoom to point

Go

7Q10 Query Results

Stream Name Riggins Run
Stream Code OMN-13-CH-22
WV Code WVOMI-30-K
Drainage Area 4.310 sq mi

Exceptions and Warnings

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

Gage-based Estimates

Method

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

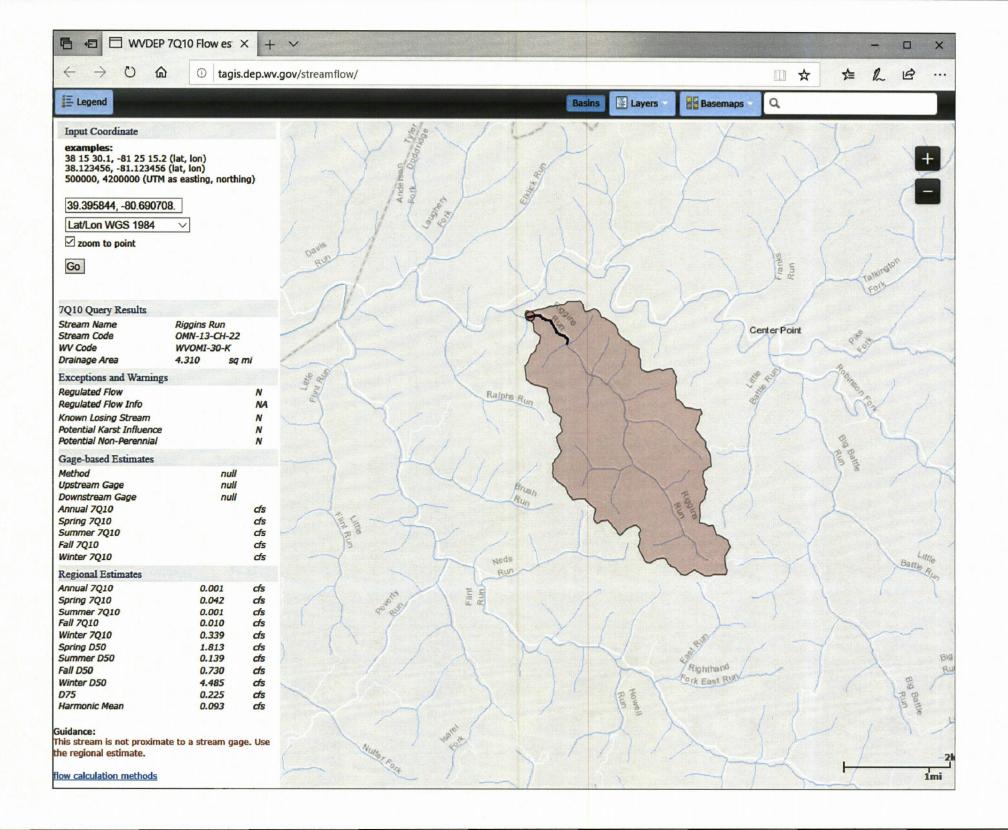
null

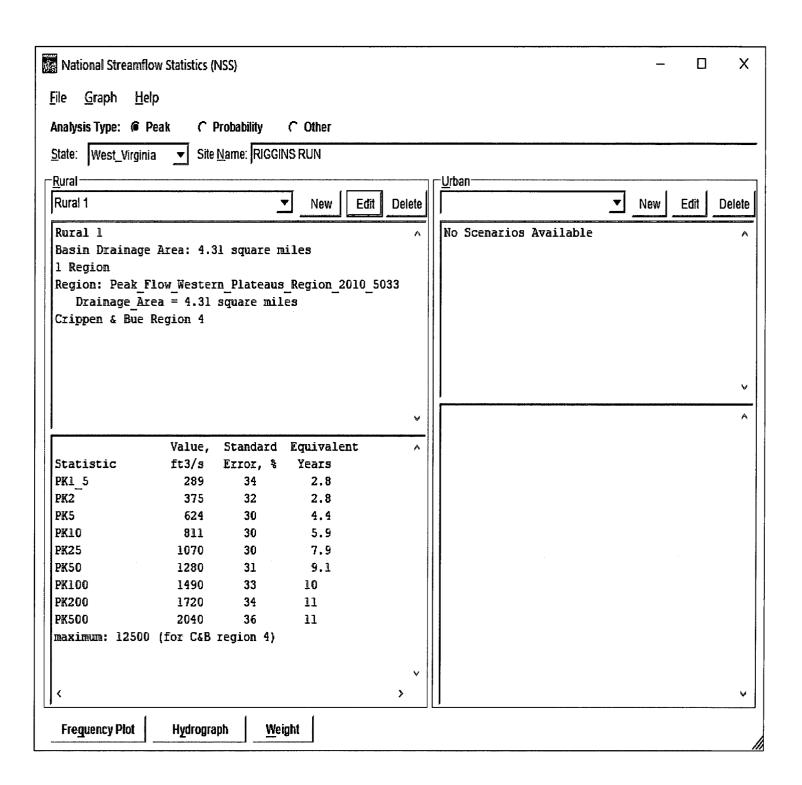
Regional Estimates

Annual 7Q10 0.001 cfs Spring 7Q10 0.042 cfs Summer 7Q10 0.001 cfs Fall 7Q10 0.010 cfs Winter 7Q10 0.339 cfs Spring D50 1.813 cfs Summer D50 0.139 cfs Fall D50 0.730 cfs Winter D50 cfs 4.485 D75 0.225 cfs Harmonic Mean 0.093 cfs

Guidance:

This stream is not proximate to a stream gage. Use the regional estimate.







Appendix D HEC-RAS Flow Comparison – Excel Sheet

HEC-RAS River: RIGGINS RUN Reach: RIGGINS RUN

Desert	1	1		07.4.1	14' OL EL	W 0 51
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev
D100010 D101	1000.01			(cfs)	(ft)	(ft)
RIGGINS RUN	1069.21	PF 1	RR EXIST	375.00	755.10	758.05
RIGGINS RUN	1069.21	PF 1	RR PROP	375.00	755.10	758.05
RIGGINS RUN	1069.21	PF 2	RR EXIST	811.00	755.10	759.31
RIGGINS RUN	1069.21	PF 2	RR PROP	811.00	755.10	759.31
RIGGINS RUN	1069.21	PF 3	RR EXIST	1070.00	755.10	759.94
RIGGINS RUN	1069.21	PF 3	RR PROP	1070.00	755.10	759.94
RIGGINS RUN	1069.21	PF 4	RR EXIST	1280.00	755.10	760.40
RIGGINS RUN	1069.21	PF 4	RR PROP	1280.00	755.10	760.40
RIGGINS RUN	1069.21	PF 5	RR EXIST	1490.00	755.10	760.82
RIGGINS RUN	1069.21	PF 5	RR PROP	1490.00	755.10	760.82
RIGGINS RUN	844.07	PF 1	RR EXIST	375.00	753.10	757.05
RIGGINS RUN	844.07	PF 1	RR PROP	375.00	753.10	757.05
RIGGINS RUN	844.07	PF 2	RR EXIST	811.00	753.10	758.73
RIGGINS RUN	844.07	PF 2	RR PROP	811.00	753.10	758.73
RIGGINS RUN	844.07	PF 3	RR EXIST	1070.00	753.10	759.50
RIGGINS RUN	844.07	PF 3	RR PROP	1070.00	753.10	759.50
RIGGINS RUN	844.07	PF 4	RR EXIST	1280.00	753.10	759.99
RIGGINS RUN	844.07	PF 4	RR PROP	1280.00	753.10	759.99
RIGGINS RUN	844.07	PF 5	RR EXIST	1490.00	753.10	760.30
RIGGINS RUN	844.07	PF 5	RR PROP	1490.00	753.10	760.34
RIGGINS RUN	789.19	PF 1	RR EXIST	375.00	753.10	757.05
RIGGINS RUN	789.19	PF 1	RR PROP	375.00	753.10	757.05
RIGGINS RUN	789.19	PF 2	RR EXIST	811.00	753.10	758.74
RIGGINS RUN	789.19	PF 2	RR PROP	811.00	753.10	758.74
RIGGINS RUN	789.19	PF 3	RR EXIST	1070.00	753.10	759.51
RIGGINS RUN	789.19	PF 3	RR PROP	1070.00	753.10	759.50
RIGGINS RUN	789.19	PF 4	RR EXIST	1280.00	753.10	759.99
RIGGINS RUN	789.19	PF 4	RR PROP	1280.00	753.10	760.00
RIGGINS RUN	789.19	PF 5	RR EXIST	1490.00	753.10	760.31
RIGGINS RUN	789.19	PF 5	RR PROP	1490.00	753.10	760.35
				1.00.00	700.10	700.00
RIGGINS RUN	724.61	PF 1	RR EXIST	375.00	753.10	757.05
RIGGINS RUN	724.61	PF 1	RR PROP	375.00	753.10	757.05
RIGGINS RUN	724.61	PF 2	RR EXIST	811.00	753.10	758.74
RIGGINS RUN	724.61	PF 2	RR PROP	811.00	753.10	758.74
RIGGINS RUN	724.61	PF 3	RR EXIST	1070.00	753.10	759.51
RIGGINS RUN	724.61	PF 3	RR PROP	1070.00	753.10	759.51
RIGGINS RUN	724.61	PF 4	RR EXIST	1280.00	753.10	760.00
RIGGINS RUN	724.61	PF 4	RR PROP	1280.00	753.10	760.00
RIGGINS RUN	724.61	PF 5	RR EXIST	1490.00	753.10	760.00
	 		1	 		
RIGGINS RUN	724.61	PF 5	RR PROP	1490.00	753.10	760.36
DICCING DUN	644.76	DE 1	DD EVICT	275.00	750.40	757.00
RIGGINS RUN	644.76	PF 1	RR EXIST	375.00	753.10	757.00
RIGGINS RUN	644.76	PF 1	RR PROP	375.00	753.10	757.00
RIGGINS RUN	644.76	PF 2	RR EXIST	811.00	753.10	758.68
RIGGINS RUN	644.76	PF 2	RR PROP	811.00	753.10	758.68
RIGGINS RUN	644.76	PF 3	RR EXIST	1070.00	753.10	759.45
RIGGINS RUN	644.76	PF 3	RR PROP	1070.00	753.10	759.45
RIGGINS RUN	644.76	PF 4	RR EXIST	1280.00	753.10	759.94

HEC-RAS River: RIGGINS RUN Reach: RIGGINS RUN (Continued)

HEC-RAS River:	RIGGINS RUN	Reach: RIG	JINS KUN (CO	ntinuea)		
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev
				(cfs)	(ft)	(ft)
RIGGINS RUN	644.76	PF 4	RR PROP	1280.00	753.10	759.94
RIGGINS RUN	644.76	PF 5	RR EXIST	1490.00	753.10	760.25
RIGGINS RUN	644.76	PF 5	RR PROP	1490.00	753.10	760.29
RIGGINS RUN	455.28	PF 1	RR EXIST	375.00	753.00	756.33
RIGGINS RUN	455.28	PF 1	RR PROP	375.00	753.00	756.33
RIGGINS RUN	455.28	PF 2	RR EXIST	811.00	753.00	757.70
RIGGINS RUN	455.28	PF 2	RR PROP	811.00	753.00	757.70
RIGGINS RUN	455.28	PF 3	RR EXIST	1070.00	753.00	758.29
RIGGINS RUN	455.28	PF 3	RR PROP	1070.00	753.00	758.28
RIGGINS RUN	455.28	PF 4	RR EXIST	1280.00	753.00	758.80
RIGGINS RUN	455.28	PF 4	RR PROP	1280.00	753.00	758.79
RIGGINS RUN	455.28	PF 5	RR EXIST	1490.00	753.00	759.41
RIGGINS RUN	455.28	PF 5	RR PROP	1490.00	753.00	759.37
RIGGINS RUN	350.01	PF 1	RR EXIST	375.00	752.90	756.46
RIGGINS RUN	350.01	PF 1	RR PROP	375.00	752.90	756.46
RIGGINS RUN	350.01	PF 2	RR EXIST	811.00	752.90	757.99
RIGGINS RUN	350.01	PF 2	RR PROP	811.00	752.90	757.99
RIGGINS RUN	350.01	PF 3	RR EXIST	1070.00	752.90	758.69
RIGGINS RUN	350.01	PF 3	RR PROP	1070.00	752.90	758.69
RIGGINS RUN	350.01	PF 4	RR EXIST	1280.00	752.90	759.18
RIGGINS RUN	350.01	PF 4	RR PROP	1280.00	752.90	759.18
RIGGINS RUN	350.01	PF 5	RR EXIST	1490.00	752.90	759.62
RIGGINS RUN	350.01	PF 5	RR PROP	1490.00	752.90	759.60
	000.01			1 100.00	7.02.00	700.00
RIGGINS RUN	281.62	PF 1	RR EXIST	375.00	752.90	756.33
RIGGINS RUN	281.62	PF 1	RR PROP	375.00	752.90	756.33
RIGGINS RUN	281.62	PF 2	RR EXIST	811.00	752.90	757.84
RIGGINS RUN	281.62	PF 2	RR PROP	811.00	752.90	757.84
RIGGINS RUN	281.62	PF 3	RR EXIST	1070.00	752.90	758.52
RIGGINS RUN	281.62	PF 3	RR PROP	1070.00	752.90	758.52
RIGGINS RUN	281.62	PF 4	RR EXIST	1280.00	752.90	759.01
RIGGINS RUN	281.62	PF 4	RR PROP	1280.00	752.90	759.01
RIGGINS RUN	281.62	PF 5	RR EXIST	1490.00	752.90	759.45
RIGGINS RUN	281.62	PF 5	RR PROP	1490.00	752.90	759.45
KIGGINS KUN	201.02	rı 3	KKEKOE	1490.00	732.90	739.43
RIGGINS RUN	227.26	PF 1	RR EXIST	375.00	752.80	755.40
RIGGINS RUN	227.26	PF 1	RR PROP	375.00	752.80	755.40
RIGGINS RUN	227.26	PF 2				
RIGGINS RUN	227.26	PF 2	RR EXIST	811.00	752.80	756.59
			RR PROP	811.00	752.80	756.59
RIGGINS RUN	227.26	PF 3	RR EXIST	1070.00	752.80	757.12
RIGGINS RUN	227.26	PF 3	RR PROP	1070.00	752.80	757.12
RIGGINS RUN	227.26	PF 4	RR EXIST	1280.00	752.80	757.57
RIGGINS RUN	227.26	PF 4	RR PROP	1280.00	752.80	757.57
RIGGINS RUN	227.26	PF 5	RR EXIST	1490.00	752.80	757.93
RIGGINS RUN	227.26	PF 5	RR PROP	1490.00	752.80	757.93
DIG ON IC TITLE	450.00		DD 51/25			
RIGGINS RUN	152.63	PF 1	RR EXIST	375.00	751.93	754.29
RIGGINS RUN	152.63	PF 1	RR PROP	375.00	751.93	754.32
RIGGINS RUN	152.63	PF 2	RR EXIST	811.00	751.93	755.02

HEC-RAS River: RIGGINS RUN Reach: RIGGINS RUN (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev
				(cfs)	(ft)	(ft)
RIGGINS RUN	152.63	PF 2	RR PROP	811.00	751.93	755.42
RIGGINS RUN	152.63	PF 3	RR EXIST	1070.00	751.93	755.43
RIGGINS RUN	152.63	PF 3	RR PROP	1070.00	751.93	755.94
RIGGINS RUN	152.63	PF 4	RR EXIST	1280.00	751.93	755.70
RIGGINS RUN	152.63	PF 4	RR PROP	1280.00	751.93	756.33
RIGGINS RUN	152.63	PF 5	RR EXIST	1490.00	751.93	755.99
RIGGINS RUN	152.63	PF 5	RR PROP	1490.00	751.93	756.65
RIGGINS RUN	99.80	PF 1	RR EXIST	375.00	751.40	754.38
RIGGINS RUN	99.80	PF 1	RR PROP	375.00	751.40	754.38
RIGGINS RUN	99.80	PF 2	RR EXIST	811.00	751.40	755.54
RIGGINS RUN	99.80	PF 2	RR PROP	811.00	751.40	755.54
RIGGINS RUN	99.80	PF 3	RR EXIST	1070.00	751.40	756.07
RIGGINS RUN	99.80	PF 3	RR PROP	1070.00	751.40	756.07
RIGGINS RUN	99.80	PF 4	RR EXIST	1280.00	751.40	756.47
RIGGINS RUN	99.80	PF 4	RR PROP	1280.00	751.40	756.47
RIGGINS RUN	99.80	PF 5	RR EXIST	1490.00	751.40	756.84
RIGGINS RUN	99.80	PF 5	RR PROP	1490.00	751.40	756.84
RIGGINS RUN	0	PF 1	RR EXIST	375.00	751.40	753.37
RIGGINS RUN	0	PF 1	RR PROP	375.00	751.40	753.37
RIGGINS RUN	0	PF 2	RR EXIST	811.00	751.40	754.31
RIGGINS RUN	0	PF 2	RR PROP	811.00	751.40	754.31
RIGGINS RUN	0	PF 3	RR EXIST	1070.00	751.40	754.74
RIGGINS RUN	0	PF 3	RR PROP	1070.00	751.40	754.74
RIGGINS RUN	0	PF 4	RR EXIST	1280.00	751.40	755.08
RIGGINS RUN	0	PF 4	RR PROP	1280.00	751.40	755.08
RIGGINS RUN	0	PF 5	RR EXIST	1490.00	751.40	755.38
RIGGINS RUN	0	PF 5	RR PROP	1490.00	751.40	755.38



ATTACHMENT C PERMITTING & COORDINATION



Table 1 - Permitting & Coordination for North Canton Connector Slip 216+50

Permitting Agency	Permit/Coordination Required	Submitted	Received (Anticipated)	Status
WVDNR-OLS1	Stream Activity Application	01/20/2020	(02/19/2020)	Pending
County Floodplain Manager	Doddridge County Floodplain Permit	01/31/2020	(03/01/2020)	Pending
WVDEP ²	Construction Stormwater General Permit	04/29/2014	06/04/2014	Approved

¹ West Virginia Division of Natural Resources Office of Land and Streams

² West Virginia Department of Environmental Protection

Matthew Albright

From: Thomas Woodrow

Sent: Wednesday, June 04, 2014 8:30 PM **To:** Matthew Albright; Heather Krepsik

Subject: FW: Approval for WVR310279, North Canton Connector, Doddridge Co., 95.20 Acres

Received NCC stormwater permit

Tom Woodrow, P.E., BCEE Senior Project Manager 230 Executive Drive, Suite 122 Cranberry Township, PA 16066 o | 724.831.5129 c | 724.321.9226

From: DEP NPDESEP [mailto:DEP.NPDESEP@wv.qov]

Sent: Wednesday, June 04, 2014 3:13 PM

To: DEP NPDESEP; <u>Islauter@anteroresources.com</u>

Cc: Thomas Woodrow; Hodge, Timothy W; Swiger, Bradley C; Minigh, Christina D

Subject: Approval for WVR310279, North Canton Connector, Doddridge Co., 95.20 Acres

Luz Slauter Antero Resources Appalachian Corporation 1625 17th Street Denver, CO 80202

Physical Site Location: Co. Rt. 5, Riggins Run Road, Smithburg

Please be advised that this e-mail constitutes approval for your project associated with Oil and Gas Construction Activities and your registration no. is WVR310279. You are now authorized to operate under WV General Water Pollution Control Permit No. WV0116815, issued on May 13, 2013.

You should carefully read the contents of this General Permit and become familiar with all requirements needed to remain in compliance with your permit. A "Notice of Termination" form is to be completed and submitted when all disturbed areas are stabilized. You can find the permit and Notice of Termination form via the Internet by visiting Permitting, Division of Water and Waste Management at www.dep.wv.gov

Your annual permit fee has been assessed as \$1500.00. You will be invoiced by this agency upon the anniversary date of this approval date. Failure to submit the annual fee within ninety (90) days of the due date will render your permit void upon the date you are mailed a certified written notice to that effect. Please be advised that a pro-rated annual permit fee may be assessed upon the completion date and proper stabilization.

If you have any questions relative to this approval, please do not hesitate to contact Joseph Cochran at (304) 926-0499 Ext. 1069 or by email at joseph.w.cochran@wv.gov

Scott G. Mandirola, Director WV DEP-Division of Water & Waste Mgt. 601 57th St. SE Charleston, WV 25304-2345 Phone: (304) 926-0495 Fax: (304) 926-0496