

Doddridge County Sheriff
Flood Plain Ordinance Fund

1041

69-217/515

DATE August 8, 2013

PAY TO THE ORDER OF ANTERO RESOURCES

\$ 23,800.00

Twenty Three Thousand Eight Hundred Dollars-----

DOLLARS  Security features included. Details on back



Ralph Sanderson Jr.
Beth A. Rogers
[Signature]

MEMO #13-053 Reimb. Canton East PL

⑈001041⑈ ⑆051502175⑆ 119649⑈9⑈



ANTERO RESOURCES CORPORATION
 1825 17th STREET, SUITE 300
 DENVER, COLORADO 80202

Vendor Name	Vendor No.	Date	Check Number	Check Total
DODDRIDGE COUNTY CLERK	45582	Jul-26-2013	34645	\$25,000.00

VOUCHER	VENDOR INV #	INV DATE	TOTAL AMOUNT	PRIOR PMTS & DISCOUNTS	NET AMOUNT
07-AP-11462	CANTONEAST2	07/26/13	25,000.00	0.00	25,000.00
TOTAL INVOICES PAID					25,000.00

By: BH - MEH - AML
 Asst. Chief Tax Deputy

W. C. Underwood Jr.
 Sheriff of Doddridge County

The Person paying Money into the Treasury shall forthwith file one of these Receipts with the County Clerk

Doddridge County, West Virginia

No. 235

Date: August 1, 2013
 Customer copy

Received: #13-053 Antero Canton East Pipeline \$25,000.00

In Payment For: 318 Building Permits (LP)

For: 12-Flood Plain Ordinance #20 Fund

By: BH - MEH - AML
 Asst. Chief Tax Deputy

W. C. Underwood Jr.
 Sheriff of Doddridge County

The one of these Receipts with the County Clerk

13-053
 Canton East Pipeline

DETACH AND RETAIN FOR TAX PURPOSES

Doddridge County Flood Plain Refund Calculator (if not in Flood Plain)**Canton East**

Estimated Construction Costs	\$9,504,000.00
Amount over \$100,000	\$9,404,000.00
Drilling Oil and Gas Well Fee	\$1,000.00
Deposit for additional charges	\$1,000.00
\$5 per \$1,000 over \$100,000	\$47,020.00
Amount Due with application (Total not to exceed \$25,000)	\$25,000.00
95% of Application Fee minus \$1,000 deposit	\$22,800.00
Cost for Permit	\$1,200.00
Total Refund (Includes 100% of 1,000 deposit)	\$23,800.00



July 26, 2013

Antero Resources
1625 17th Street
Denver, Colorado 80202
Office 303.357.7310
Fax 303.357.7315

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

Mr. Wellings:

Antero Resources Appalachian Corporation (Antero) would like to submit a Doddridge County Floodplain permit application for Canton East pipeline project. Our project is located in Doddridge County, Grant District and per FIRM maps #54017C0130C and 540170135C portions of this project are not located in the floodplain. This application is being submitted for the portion of the pipeline that is not located within the floodplain for determination.

Attached you will find the following:

- Doddridge County Floodplain Permit Application and required permit fees
- FIRM Map

If you have any questions please feel free to contact me at (303) 357-6820.

Thank you in advance for your consideration.

Sincerely,

Shauna Redican
Permit Representative
Antero Resources Appalachian Corporation

Enclosures

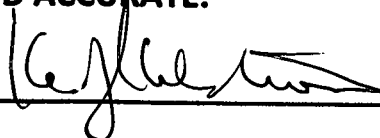
2013 JUL 30 AM 3:56
FIRM

DODDRIDGE COUNTY FLOODPLAIN DEVELOPMENT PERMIT APPLICATION

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.**

2013 JUL 30 AM 3:56
 RECEIVED
 DODDRIDGE COUNTY
 PERMITTING

APPLICANT'S SIGNATURE 

DATE July 26th, 2013

SECTION 2: PROPOSE DEVELOPMENT (TO BE COMPLETED BY APPLICANT).

IF THE APPLICANT IS NOT A NATURAL PERSON, THE NAME, ADDRESS, AND TELEPHONE NUMBER OF A NATURAL PERSON WHO SHALL BE APPOINTED BY THE APPLICANT TO RECEIVE NOTICE PURSUANT TO ANY PROVISION OF THE CURRENT DODDRIDGE COUNTY FLOODPLAIN ORDINANCE.

Antero Resources Appalachian Corporation - Kevin Kilstrom, Vice President of Production

APPLICANT'S NAME: _____

ADDRESS: 1625 17th Street, Denver, CO 80202

TELEPHONE NUMBER: Contact Shauna Redican: 303-357-6820

BUILDER'S NAME: Antero Resources Corporation

ADDRESS: 1625 17th Street, Denver, CO 80202

TELEPHONE NUMBER: (303) 357-7310

ENGINEER'S NAME: Kleinfelder

ADDRESS: 230 Executive Dr., SUite 122, Cranberry Township, PA 16066

TELEPHONE NUMBER: 724-772-7072

PROJECT LOCATION:

NAME OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)

Please see attached Exhibit A

ADDRESS OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)

Please see attached Exhibit A

DISTRICT: Grant

DATE/FROM WHOM PROPERTY

PURCHASED: N/A

LAND BOOK DESCRIPTION: Please see attached Exhibit A

DEED BOOK REFERENCE: Please see attached Exhibit A

TAX MAP REFERENCE: Please see attached Exhibit A

EXISTING BUILDINGS/USES OF PROPERTY: N/A

NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY Please see attached Exhibit A

ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY Please see attached Exhibit A

To avoid delay in processing the application, please provide enough information to easily identify the project location.

DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES)

A. STRUCTURAL DEVELOPMENT

ACTIVITY

STRUCTURAL TYPE

- | | |
|--|---|
| <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 Altercation (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)
-

C. STANDARD SITE PLAN OR SKETCH

1. **SUBMIT ALL STANDARD SITE PLANS, IF ANY HAVE BEEN PREPARED.**
2. **IF STANDARD SITE PLANS HAVE NOT BEEN PREPARED:**
SKETCH ON A SEPARATE 8 ½ X 11 INCH SHEET OF PAPER THE SHAPE AND LOCATION OF THE LOT. SHOW THE LOCATION OF THE INTENDED CONSTRUCTION OR LAND USE INDICATING BUILDING SETBACKS, SIZE & HEIGHT. IDENTIFY EXISTING BUILDINGS, STRUCTURES OR LAND USES ON THE PROPERTY.
3. **SIGN AND DATE THE SKETCH.**

ACTUAL TOTAL CONSTRUCTION COSTS OF THE COMPLETE DEVELOPMENT IRRESPECTIVE OF WHETHER ALL OR ANY PART OF THE SUBJECT PROPOSED CONSTRUCTION PROJECT IS WITHIN THE FLOODPLAIN \$ 9,504,000.00

D. ADJACENT AND/OR AFFECTED LANDOWNERS: *Please see attached bid sheet.
Permit Fee Submitted not to exceed \$25,000.00

1. NAME AND ADDRESS OF ALL OWNERS OF SURFACE TRACTS ADJACENT TO THE AREA OF THE SURFACE TRACT (UP & DOWN STREAM) UPON WHICH THE PROPOSED ACTIVITY WILL OCCUR AND ALL OTHER SURFACE OWNERS UP & DOWN STREAM) WHO OWN PROPERTY THAT MAY BE AFFECTED BY FLOODING AS IS DEMONSTRATED BY A FLOODPLAIN STUDY OR SURVEY (IF ONE HAS BEEN COMPLETED).

NAME: Please see attached Exhibit A

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

1. NAME AND ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON ANY ADJACENT PROPERTY AT THE TIME THE FLOODPLAIN PERMIT APPLICATION IS FILED AND THE NAME AND ADDRESS OF AT LEAST ONE ADULT RESIDING IN ANY HOME ON ANY PROPERTY THAT MAY BE AFFECTED BY FLOODING AS IS DEMONSTRATED BY A FLOODPLAIN STUDY OR SURVEY.

NAME: Please see attached Exhibit A

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

E. CONFIRMATION FORM

THE APPLICANT ACKNOWLEDGES, AGREES, AND CONFIRMS THAT HE/IT WILL PAY WITHIN 30 DAYS OF RECEIPT OF INVOICE BY THE COUNTY FOR ALL EXPENSES RELATIVE TO THE PERMIT APPLICATION PROCESS GREATER THAN THE REQUIRED DEPOSIT FOR EXPENSES INCLUDING:

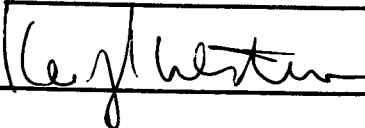
- (A) PERSONAL SERVICE OF PROCESS BY THE DODDRIDGE COUNTY SHERIFF AT THE RATES PERMITTED BY LAW FOR SUCH SERVICE.
- (B) SERVICE BY CERTIFIED MAIL RETURN RECEIPT REQUESTED.
- (C) PUBLICATION.

EXHIBIT A - Canton East Pipeline

Property Owner Name	Mailing Address	Tax Map	Deed Book Reference	Land Book Description
HOST PROPERTIES				
Ethlyn McMillan	39 Etna Lane, Weirton, WV 26062	3-6-26.9	254/160	22.25 AC
Nola S. McMillan	2075 20th Street SW, Akron, OH 44314	3-6-26.4	274/282	14.61 AC
Lucille B. McMillan, et al	301 Louise Avenue, West Union, WV 26456	3-6-26.3	254/118	22.94 AC
Donald E. Lowe, et al	HC 67 Box 34, West Union, WV 26456	3-6-26.8	WB41/125	21.36 AC
Eldora McMillan Evans (Life)	c/o Edward McMillan, 1063 Ellsworth Drive, Akron, OH 44313	3-6-26.2	276/646	21.48 AC
Dawnett Flye Wilson & Laura L. Kilsonyle	P.O. Box 4386, Soldotna, AK 99669	3-6-26.7	WB47/237	22.28 AC
George D. & Josephine J. Donnahoe	Rt. 2 Box 175, West Union, WV 26456	3-9-5, 3-9-5.1, 3-9-6, 3-10-1	WB31/4, WB31/4, WB31/4, WB31/4	112 AC, 48 AC, 17 AC, 23.14 AC
Douglas B. Housel	Rt. 4 Box 1112, Salem, WV 26426	3-6-22	213/528	102.56 AC
Norman I. & Victoria D. Sines	7126 Greenbank Road, Baltimore, MD 21220	3-10-2	264/430	200.53 AC
Dwayne A. & Wilma Z. Hill	Route 2 Box 195, West Union, WV 26456	3-10-9	167/750	36.25 AC
James A. & Wilma Z. Hill	4170 Big Flint Road, West Union, WV 26456	3-10-15	167/750	33.25 AC
Monzell R. & Dorothy C. Zickefoose	381 Narrow Run Road, West Union, WV 26456	3-10-22	204/576	104.75 AC
Dean R. Pennington	1203 East Run, West Union, WV 26456	3-10-23, 3-10-34, 3-10-35	266/688, 278/121, 278/121	77.19 AC, 34.84 AC, 34.35 AC
PROPERTY OWNERS ABUTTING HOST PROPERTIES OUTSIDE FLOODPLAIN				
Mary J. Sweeney	HC 67 Box 60, West Union, WV 26456	3-9-1.1, 3-9-1.2	AP16/482, 183/581	1/10 in 78 AC, 20.19 AC
Mary Edwina Marin	HC 67 Box 60, West Union, WV 26456	3-9-1.2	183/581	20.19 AC
Mirijana & Anka Beram	RT 2 Box 210-A, West Union, WV 26456	3-6-21.3, 3-6-21.2	244/24, 187/585	20.65 AC, 9.571 AC
Cecil Ratcliff	RT 2 Box 211, West Union, WV 26456	3-6-21	144/87	231.92 AC
Carol L. Irwin & Jacquelin J. Hetzer	RT 2 Box 210-B, West Union, WV 26456	3-6-21.4	233/297	15.128 AC
Coastal Forest Resources Co.	PO Box 709 Buckhannon, WV 26201	3-6-23.1	260/135	52 AC
Werner F. Blei	RT 2 Box 212A, West Union, WV 26456	3-6-23	272/340	52.50 AC
Steven M. & Mary Ellen Perna	19912 Bollinger Rd., Manchester, MD 21102	3-7-1, 3-7-9	213/254, 272/502	132.54 AC (1/2 int.), 4.91 AC
David A. Hoskinson	RT 2 Box 9, West Union, WV 26456	3-7-5	168/787	10.23 AC
Steven Richard & Rhonda A. Archer	684 Happy Valley Road, Parkersburg, WV 26104	5-23-19	247/599	127.6 AC
Oris M. & Mary G. Gaskins	2003 Dogwood Dr., Waldorf, MD 20601	5-23-20	248/129	105 AC
Norman I. & Victoria D. Sines	7126 Greenbank Road, Baltimore, MD 21220	3-10-3	264/366	34.73 AC
Cathy Jo Kelley	po Box 325, Salem, WV 26426	3-10-3.2	WB38/376	35.27 AC
John A. Yanoski	2109 Peles Rd. Glen Campbell, PA 15742	3-10-10	224/112	39.07 AC
Howard Russell Gain	PO Box 24 Salem, WV 26426	3-10-11, 3-10-16	252/600, 252/600	117.37 AC, 101 AC
S.L. Yerkey	RT 2 Box 208, West Union, WV 26456	3-10-24	15/459	50 AC
David Rush Hollandsworth	228 Heatherwood Rd., Marion, SC 29571	3-10-36	260/100	63.75 AC
Jeffrey L. Gaskins	RT 2 Box 204, West Union, WV 26456	3-10-35.1	278/121	7.87 AC
William Jackson & Angel Curran	RT 2 Box 206, West Union, WV 26456	3-10-33.3	250/201	13.11 AC
William Jackson, II & Carrie Curran	RT 3 Box 108, Salem, WV 26426	3-10-33.1	250/179	36.94 AC
Mary Jane & Cary E. Schafer	RT 2 Box 206A, West Union, WV 26456	3-10-33	250/194	6.52 AC
Lynda J. Curran	RT 2 Box 208, West Union, WV 26456	3-10-33.2, 3-10-23.2	WB39/136, WB39/136	3.08 AC, 16.25 AC
William Jackson & Angela Beth Curran	RT 2 Box 206, West Union, WV 26456	3-10-31	166/390	20.00 AC
Lisa D. Dotson	RT 2 Box 204-A, West Union, WV 26456	3-10-29	Not Available	129.48 AC
Deloris Gay Gaskins	RT 2 Box 204, West Union, WV 26456	3-10-29.1	218/689	.80 AC
Billy B. & Linda J. Cavins	1 First American Way, WestLake, TX 76262	3-10-20.8	273/694	2.08 AC
Wallace H. Baker	RT 5 Box 711, Clarksburg, WV 26301	3-10-21	WB25/31	4.9 AC
Margaret Arden Churchill	RT 2 Box 209-A, West Union, WV 26456	3-10-21.1	WB33/162	41.1 AC
James A. & Wilma Z. Hill	RT 2 Box 195, West Union, WV 26456	3-10-20, 3-10-8	167/750, 167/750	104.58 AC, 36.25 AC
Thomas Page Romine	PO Box 121, Sumerco, WV 25567	3-10-7.1	WB28/28	29 AC
Jack E. & Mary B. Boring	RT 2 Box 183, West Union, WV 26456	3-10-7.2	264/91	35 AC
Josephine J. Donnahoe	RT 2 Box 175, West Union, WV 26456	3-9-16	WB31/4	36.25 AC

- (D) COURT REPORTING SERVICES AT ANY HEARINGS REQUESTED BY THE APPLICANT.
- (E) CONSULTANTS AND/OR HEARING EXPERTS UTILIZED BY DODDRIDGE COUNTY FLOODPLAIN ADMINISTRATOR/MANAGER OR FLOODPLAIN APPEALS BOARD FOR REVIEW OF MATERIALS AND/OR TESTIMONY REGARDING THE EFFICACY OF GRANTING OR DENYING THE APPLICANT'S FLOODPLAIN PERMIT.

NAME (PRINT): Kevin Kilstrom

SIGNATURE:  DATE: 7/26/2013

After completing SECTION 2, APPLICANT should submit form to Floodplain Administrator/Manager or his/her representative for review.

SECTION 3: FLOODPLAIN DETERMINATION (to be completed by Floodplain Administrator/Manager or his/her representative)

THE PROPOSED DEVELOPMENT:

THE PROPOSED DEVELOPMENT IS LOCATED ON:

FIRM Panel: 130 + 135
 Dated: 10/04/2011

Is **NOT** located in a Specific Flood Hazard Area (Notify applicant that the application review is complete and **NO FLOODPLAIN DEVELOPMENT PERMIT IS REQUIRED**).

Is located in Special Flood Hazard Area.
 FIRM zone designation _____
 100-Year flood elevation is: _____ NGVD (MSL)

Unavailable

The proposed development is located in a floodway.
 FBFM Panel No. _____ Dated _____

See section 4 for additional instructions.

SIGNED

Don Wellings

DATE

07/31/2013

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by Floodplain Administrator/Manager or his/her representative)

The applicant must submit the documents checked below before the application can be processed.

- A plan showing the location of all existing structures, water bodies, adjacent roads, lot dimensions and proposed development.
- Development plans, drawn to scale, and specifications, including where applicable: details for anchoring structures, storage tanks, proposed elevation of lowest floor, (including basement or crawl space), types of water resistant materials used below the first floor, details of flood proffing of utilities located below the first floor and details of enclosures below the first floor. Also _____

- Subdivision or other development plans (If the subdivision or development exceeds 50 lots or 5 acres, whichever is the lesser, the applicant must provide 100-year flood elevations if they are not otherwise available).
- Plans showing the extent of watercourse relocation and/or landform alterations.
- Top of new fill elevation _____ Ft. NGVD (MSL).
For floodproofing structures applicant must attach certification from registered engineer or architect.
- Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood. A copy of all data and calculations supporting this finding must also be submitted.
- Manufactured homes located in a floodplain area must have a West Virginia Contractor's License and a Manufactured Home Installation License as required by the Federal Emergency Management Agency (FEMA).

Other:

SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Administrator/Manager or his/her representative)

I have determined that the proposed activity **(type is or is not)** in conformance with provisions of the Floodplain Ordinance adopted by the County Commission of Doddridge County on May 21, 2013. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED _____ DATE _____

If the Floodplain Administrator/Manager found that the above was not in conformance with the provisions of the Doddridge County Floodplain Ordinance and/or denied that application, the applicant may complete an appealing process below.

APPEALS: Appealed to the County Commission of Doddridge County? Yes No
Hearing Date: _____
County Commission Decision - Approved Yes No

CONDITIONS: _____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Compliance is issued).

The following information must be provided for project structures. This section must be completed by a registered professional engineer or a licensed land surveyor (or attach a certification to this application).

COMPLETE 1 OR 2 BELOW:

- 1 Actual (As-Built) Elevation of the top of the lowest floor (including basement or crawl space is _____ FT. NGVD (MSL)
- 2 Actual (As Built) elevation of floodproofing is _____ FT. NGVD (MSL)

Note: Any work performed prior to submittal of the above information is at risk of the applicant.

SECTION 7: COMPLIANCE ACTION (To be completed by the Floodplain Administrator/Manager or his/her representative).

The Floodplain Administrator/Manager or his/her representative will complete this section as applicable based on inspection of the project to ensure compliance with the Doddridge County Floodplain Ordinance.

INSPECTIONS:

DATE: _____ BY: _____
DEFICIENCIES ? Y/N

COMMENTS _____

SECTION 8: CERTIFICATE OF COMPLIANCE (To be completed by Floodplain Administrator/Manager or his/her representative).

Certificate of Compliance issued: DATE: _____ BY: _____

**CERTIFICATE OF COMPLIANCE
FOR DEVELOPMENT IN SPECIAL FLOOD HAZARD AREA
(OWNER MUST RETAIN)**

PERMIT NUMBER: _____

PERMIT DATE: _____

PURPOSE –

CONSTRUCTION LOCATION: _____

OWNER'S ADDRESS: _____

**THE FOLLOWING MUST BE COMPLETED BY THE FLOODPLAIN
ADMINISTRATOR/MANAGER OR HIS/HER AGENT.**

**COMPLIANCE IS HEREBY CERTIFIED WITH THE REQUIREMENT OF THE
FLOODPLAIN ORDINANCE ADOPTED BY THE COUNTY COMMISSION OF
DODDRIDGE COUNTY ON MAY 21, 2013.**

SIGNED _____ **DATE** _____

**ANTERO RESOURCES CORPORATION
CANTON EAST GATHERING PIPELINE**

Pipeline	Length of Line Pipeline (feet)	Construction in Floodplain (Y/N)	Installation Method	Unit Cost/Foot	Total
24" water line	23,760	No	Open Cut	\$ 200	\$ 4,752,000
20" gas line	11,458	No	Open Cut	\$ 200	\$ 2,291,600
16" gas line	12,302	No	Open Cut	\$ 200	\$ 2,460,400
			Total Construction Cost Estimate =		\$ 9,504,000



Doddridge County, WV – Floodplain Construction

Canton East Mainline Pipeline Installation

- A. Clearing – During clearing operations, all brush and trees will be felled into the construction work area to prevent off-construction work area damage to trees and structures. All cleared brush will be stacked to the side of the right-of-way, chipped or burned. Timber will be stacked or hauled away based on landowner requests. Stumps will be buried, ground or chipped in place.
- B. Grading – Grading will be kept to the minimum amount necessary and includes installation of erosion control devices (ECDs) such as Interceptor diversions, filter devices and equipment crossings of streams to minimize soil loss and eliminate sedimentation risks. Topsoil will be stripped, segregated and stockpiled in agland areas along the edge of right-of-way.
- C. Trenching – Typically, the trench will not remain open for more than 30 days in any one area. Open trench duration of streams and wetlands will be kept to a minimum. Temporary breakers are installed to reduce water velocity and erosion of the trench bottom. When the trench must remain open longer, appropriate erosion controls will be employed.
- D. Laying Pipe – The pipeline will be strung on the right-of-way, bent to fit the ditch, welded, coated and lowered into the ditch in an assembly line method of construction.
- E. Backfill – Once the pipe is installed in the trench, it will be backfilled with the stored spoil. No waste material will be placed in the trench. Trench line barriers will be placed in the trench spaced according to existing ground slope to prevent water movement and subsequent erosion.
- F. Final Grading, Restoration and Stabilization – Final grading will be completed after backfilling the trench. The right-of-way will be restored to pre-construction contours. Final erosion control devices will be installed during final grading. Restoration will begin after final grading, weather permitting. Fertilizer and lime will be disked into the soil to prepare a seedbed. Seeding and mulching will promptly follow seedbed preparation. Quantities and seed mixes will be applied per the established specifications for the project.
- G. Crews and Equipment – Construction crews and equipment to be utilized on the project will consist of approximately the following:
 - a. One to three environmental crews, separate crews for clearing, foreign utility locating, grading, ditching, stringing and bending the pipe, welding, coating, lowering in, backfilling, tying in and cleanup.
 - b. Major equipment to be used would consist of approximately 12 track dozers, 15 track backhoes, 12 track pipe layers and various rubber tire vehicles.



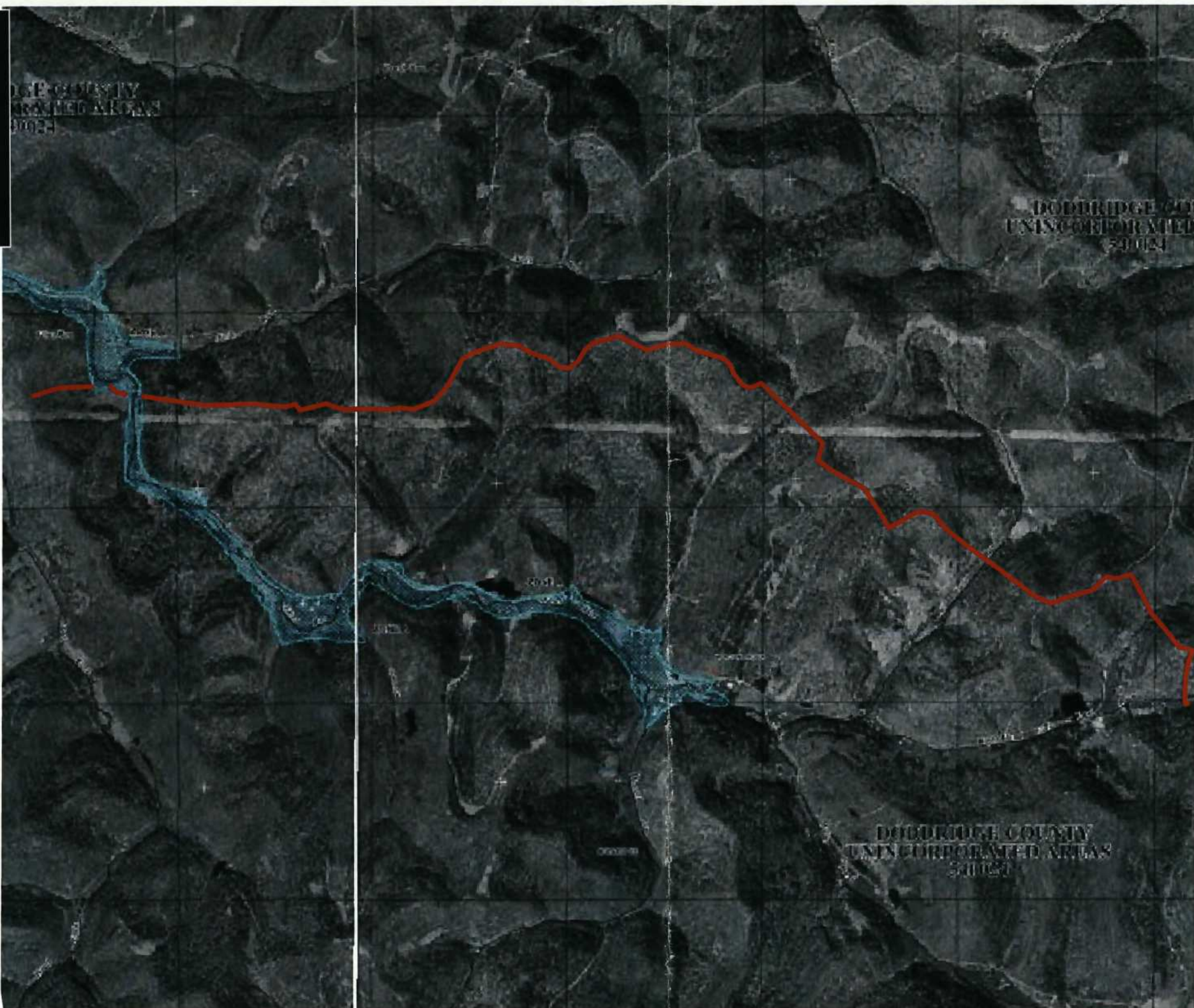
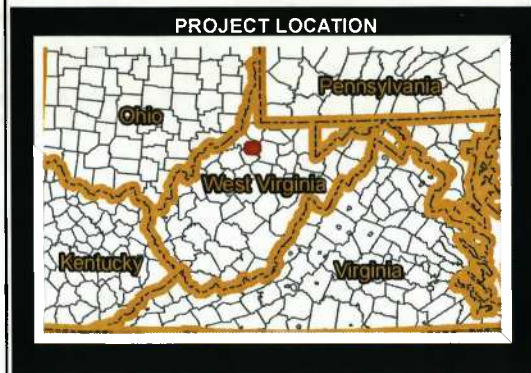
**Stream and Wetland Crossings
(Canton East Pipeline Construction in Flint Run Floodplain)**

- A. The main objective of any water body crossing is to construct the pipeline in a manner which minimizes erosion and subsequent sedimentation into the water body. When water levels are temporarily high, the crossing will be postponed until water levels subside. Minor and intermediate water bodies will be crossed either utilizing the dry-ditch flume pipe method or dam and pump-around techniques, as directed by the associated permit. Major water bodies will have a site-specific crossing method such as a Horizontal Directional Drill. Equipment bridges (mat bridges) will be installed over minor water bodies and wetlands. Sediment filter devices for trench spoil will be installed prior to commencing trenching activities. The pipeline will normally be installed within a 48 hour window. Water body bottoms will be returned as near as practical to their original contours upon completion of installation. Restoration will follow directly behind and stream banks will be restored to original contours. The main objective of any wetland crossing is to construct the pipeline and restore the original contour of the wetland. For wetland crossings without standing water, normal construction techniques will be used. The right-of-way can be used for access thru the wetland. Wetland crossings with standing water will be constructed as separate construction entities, such that trenching, installation, backfilling and restoration are completed in the minimum number of days necessary. The push-pull or float technique of pipe installation will be utilized. The current base flood elevation at the proposed stream crossing is a maximum of approximately 808 feet. Following pipeline installation, the right-of-way will be restored to pre-construction contours and no permanent structures will be constructed; therefore, there will be no change to the base flood elevation.

**Horizontal Directional Drill
(Canton East Pipeline HDD of Flint Run Floodplain)**

- A. The pipeline will be installed across Flint Run utilizing the Horizontal Directional Drill method. A drill rig will be set up on the west side of County Route 3 (Big Flint Road) to drill under County Route 3 and Flint Run. The pipe will be welded together in one pipe string on the east side of Flint Run outside the stream buffers. Once the drill is completed to the right size, the pipeline will be pulled through the hole and connected to the proposed pipeline on both sides. All required ECDs will be installed and maintained prior to beginning the drill and throughout the completion. The current base flood elevation at the proposed stream crossing is a maximum of approximately 815 feet. Following construction and since no construction work will take place within the floodplain, there will be no change to the base flood elevation.

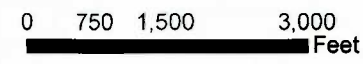
**CANTON EAST GATHERING PIPELINE
FEMA FIRM 54017C0130C & 540170135C
ANTERO RESOURCES CORPORATION**



SITE LOCATIONS NAD 83		
Eastern Terminus (UTM Meters)	N=501831.2 m	E=93290.7 m
Western Terminus (UTM Meters)	N=496000.0 m	E=94977.1 m
	LATITUDE	LONGITUDE
Eastern Terminus	39.334726	-80.700174
Western Terminus	39.349230	-80.706605

**GRANT DISTRICT, DODDRIDGE COUNTY, WV
LITTLE MUSRINGUM-MIDDLE ISLAND WATERSHED**

FLOODPLAIN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HEC-RAS STUDY COMPLETED:	N/A
FLOODPLAIN SHOWN ON DRAWINGS:	YES
FIRM MAP NUMBER (S) FOR SITE:	54017C0130C & 540170135C
ACREAGE OF CONSTRUCTION IN FLOODPLAIN:	N/A



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Base Map: ESRI Online Map;
USGS 7.5 New Milton Quadrangle

Legend

- Canton East Gathering Pipeline (4.50 mi)
- FEMA Floodplain



PROJECT NO.	133916	Antero Resources Corporation
DRAWN:	7/22/2013	
DRAWN BY:	A.Leonard	Canton East Gathering Pipeline Doddridge County, West Virginia Flood Insurance Rate Map
CHECKED BY:	N.Peace	
FILE NAME:	CantonEast_FEMA_NoCrossing_v2.mxd	

FIGURE

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