

Commercial/Industrial Floodplain Development Permit

Doddridge County, WV Floodplain Management

This permit has been issued to **Antero Resources**, and is for the approved commercial and/or industrial development project associated with this permit 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: #14-260 ~ Antero Resources ~ Middle Well Pad

Date Approved: 08/14/2014

Expires: N/A

Issued to: Antero Resources

**POC: Emily Kijowski
303-357-7310**

**Company Address: 1615 Wynkoop Street
Denver, CO 80202**

**Project Address: West Union District
Lat/Long: 39.323522N/80.805872W**

Purpose of development: Well pad construction. Project does not impact floodplain.

Issued by: Edwin L. "Bo" Wriston, Doddridge County FPM (or designee)

Date: 08/14/2014

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

Legal Advertisement:
Doddridge County
Floodplain Permit Application

Please take notice that on the 13th day of August, 2014

Antero Resources

filed an application for a Floodplain Permit to develop land located at or about:

West Union District

39.323522N/80.805872W

Permit #14-260 Middle Well Pad

(Note: This project is not within the floodplain)

The Application is on file with the Clerk of the County Court and may be inspected or copied during regular business hours. As this project is outside the FEMA identified floodplain of Doddridge County, Doddridge County Floodplain Management has no regulatory authority.

Any interested persons who desire to comment shall present the same in writing by **September 8, 2014**, delivered to:

Clerk of the County Court

118 E. Court Street, West Union, WV 26456

Beth A Rogers, Doddridge County Clerk

Edwin L. "Bo" Wriston, Doddridge County Flood Plain Manager

#14-268



Antero Resources
1615 Wynkoop Street
Denver, CO 80202
Office 303.357.7310
Fax 303.357.7315

August 11, 2014

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

Mr. Wriston:

Antero Resources Appalachian Corporation (Antero) would like to submit a Doddridge County Floodplain permit application for our Middle Well Pad. Our project is located in Doddridge County, West Union District and per FIRM map #54017C0110C this location is not within the floodplain.

Attached you will find the following:

- Doddridge County Floodplain Permit Application
- Middle Construction Plans
- FIRM Map
- WV Flood Tool Map

If you have any questions please feel free to contact me at (303) 357-7232.

Thank you in advance for your consideration.

Sincerely,

A handwritten signature in cursive script that reads "Emily Kijowski".

Emily Kijowski
Permit Representative
Antero Resources Appalachian Corporation

Enclosures

FILED
2014 AUG 13 PM 2:10
HELEN A. ROGERS
COUNTY CLERK
DODDRIDGE COUNTY, WV

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.**

APPLICANT'S SIGNATURE _____



DATE August 11, 2014

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.

APPLICANT'S NAME: Antero Midstream LLC - Randy Kloberdanz,

ADDRESS: 1615 Wynkoop Street, Denver, CO 80202

TELEPHONE NUMBER: Contact Emily Kijowski: (303)-357-7232

BUILDER'S NAME: Antero Midstream LLC
ADDRESS: 1615 Wynkoop Strett, Denver, CO 80202
TELEPHONE NUMBER: (303)-357-7310

ENGINEER'S NAME: Navitus Energy Engineering
ADDRESS: 230 Executive Drive, Suite 122, Cranberry Township, PA 16066
TELEPHONE NUMBER: (888)-622-4185

PROJECT LOCATION:

NAME OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT) Please see Property Owner Table

ADDRESS OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT) Please see Property Owner Table

DISTRICT: _____

DATE/FROM WHOM PROPERTY

PURCHASED: _____

LAND BOOK DESCRIPTION: Please see Property Owner Table

DEED BOOK REFERENCE: Please see Property Owner Table

TAX MAP REFERENCE: Please see Property Owner Table

EXISTING BUILDINGS/USES OF PROPERTY: None

NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY Please see Property Owner Table

ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY Please see Property Owner Table

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 checked="" 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 type="checkbox"/> | Excavation (except for STRUCTURAL DEVELOPMENT checked above) | | | | | | |
| <input type="checkbox"/> | Watercourse Altercation (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) | | | | | | |
-

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 \$ N/A - Location is not within the floodplain

D. ADJACENT AND/OR AFFECTED LANDOWNERS:

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: N/A-No properties sharing an
ADDRESS: immediate and common boundary
up or down stream due to the
location not being in floodplain

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: N/A-No properties sharing an
ADDRESS: immediate and common boundary
up or down stream due to the
location not being in floodplain

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.

- (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): AK

SIGNATURE: _____ DATE: August 11, 2014

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: _____

Dated: _____

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 _____

DATE _____

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** _____

WV Flood Map

Middle Well Pad



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

Map Created on 8/8/2014



Location of the mouse click



Flood Hazard Zone
(1% annual chance floodplain)

User Notes:

Disclaimer:

The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. To obtain more detailed information in areas where Base Flood Elevations have been determined, users are encouraged to consult the latest Flood Profile data contained in the official flood insurance study. These studies are available online at www.msc.fema.gov.

WV Flood Tool is supported by FEMA, WV NFIP Office, and WV GIS Technical Center
(<http://www.MapWV.gov/flood>)

Flood Hazard Area:

Elevation: N/A

Location (long, lat):

Location (UTM 17N):

FEMA Issued Flood Map:

Contacts:

CRS Information:

Parcel Number:

FIRM EXHIBIT



LANDOWNER TABULATION

<p>A</p> <p>TM 6-2 WILLIAM R. LYNCH & DIXIE J. CRAIG DB 214 PG 279 32.19 ACRES HC 69 BOX 35 WEST UNION, WV 26456</p>	<p>D</p> <p>TM 6-2.4 EQUITABLE GAS COMPANY DB 163 PG 044 14.98 ACRES 100 ALLEGHENY CENTER PITTSBURGH, PA 15212</p>	<p>G</p> <p>TM 6-2.6 DOMINION FIELD SERVICES, INC DB 266 PG 036 3.52 ACRES PO BOX 2460 CLARKSBURG, WV 26302</p>	<p>J</p> <p>TM 6-2.3 CAROL & ALFRIEDA PAINTER DB 197 PG 659 1.82 ACRES HC 69 BOX 35G WEST UNION, WV 26456</p>
<p>B</p> <p>TM 6-2.5 WILLIAM R. LYNCH & DIXIE J. CRAIG DB 253 PG 222 8.66 ACRES HC 69 BOX 35 WEST UNION, WV 26456</p>	<p>E</p> <p>TM 6-1.1 THOMAS K. PORTER ET UX DB 179 PG 053 97.89 ACRES HC 69 BOX 39 WEST UNION, WV 26456</p>	<p>H</p> <p>TM 4-28 JOHN P. STRICKLING, ET AL WB 28 PG 314 357.75 ACRES HC 69 BOX 34 WEST UNION, WV 26456</p>	<p>K</p> <p>TM 7-5 JOEL W. & BONNIE A. OSTROFF DB 167 PG 782 176 ACRES 2912 JOYCE RD. ROSLYN, PA 19001</p>
<p>C</p> <p>TM 6-2.2 JOEL W. & BONNIE OSTROFF DB 167 PG 782 30 ACRES 2912 JOYCE RD. ROSLYN, PA 19001</p>	<p>F</p> <p>TM 6-1 RANDALL LYNCH & DIXIE CRIAG DB 258 PG 456 80.40 ACRES HC 69 BOX 35 WEST UNION, WV 26456</p>	<p>I</p> <p>TM 6-2.7 RANDY K. SMITH DB 294 PG 473 2.16 ACRES HC 69 BOX 41F WEST UNION, WV 26456</p>	

NFIP PANEL 0110C

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

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

CONTRACT:
DODDRIDGE COUNTY, WEST VIRGINIA

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

MAP NUMBER
54017C0110C

MAP REVISED
OCTOBER 4, 2011

Federal Emergency Management Agency



FLOODPLAIN NOTE
THE PROPOSED SITE IS LOCATED IN FLOOD ZONE "X" PER FEMA FLOOD MAP #54017C0110C.

NAVITUS
ENERGY ENGINEERING

Telephone: 688.862.4185 | www.Navitus.com

DATE	REVISION
07/16/2014	REVISED PER WELL CONFIGURATION



THIS DOCUMENT WAS PREPARED FOR ANTERO RESOURCES CORPORATION

FIRM EXHIBIT
MIDDLE
WELL PAD & WATER CONTAINMENT PAD
WEST UNION DISTRICT
DODDRIDGE COUNTY, WEST VIRGINIA



DATE: 03/20/2014
SCALE: 1" = 200'
SHEET 16 OF 16

LOCATION COORDINATES

ACCESS ROAD ENTRANCE
 LATITUDE: 39.320734 LONGITUDE: -80.804630 (NAD 83)
 N 4352498.87 E 518823.34 (UTM ZONE 17 METERS)

CENTER OF TANK
 LATITUDE: 39.322359 LONGITUDE: -80.806571 (NAD 83)
 N 435267.97 E 516873.08 (UTM ZONE 17 METERS)

CENTROID OF WELL PAD
 LATITUDE: 39.322662 LONGITUDE: -80.805872 (NAD 83)
 N 4352897.11 E 518733.06 (UTM ZONE 17 METERS)

GENERAL DESCRIPTION

THE WELL PAD, WATER CONTAINMENT PAD, AND ACCESS ROAD(S) ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS.

FLOODPLAIN NOTE

THE PROPOSED SITE IS LOCATED IN FLOODZONE "X" PER FEMA FLOOD MAP #54017C0010C.

MISS UTILITY STATEMENT

ANTERO RESOURCES CORPORATION WILL NOTIFY MISS UTILITY OF WEST VIRGINIA FOR THE LOCATING OF UTILITIES PRIOR TO THE PROJECT DESIGN; TICKET #1309921755. IN ADDITION, MISS UTILITY WILL BE CONTACTED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION FOR THIS PROJECT.

ENTRANCE PERMIT

ANTERO RESOURCES CORPORATION WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

ENVIRONMENTAL NOTES

WETLAND DELINEATIONS WERE PERFORMED ON APRIL, MAY 2013 AND FEBRUARY 2014 BY ALLSTAR ECOLOGY, LLC TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY JURISDICTION OF THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE MAY 31, 2013, REVISED FEBRUARY 5, 2014 WETLAND DELINEATION AND STREAM IDENTIFICATION REPORT WAS PREPARED BY ALLSTAR ECOLOGY, LLC AND SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE REPORT DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE OR THE WVDEP.

GEOTECHNICAL NOTE

A SUBSURFACE INVESTIGATION OF THE PROPOSED SITE WAS PERFORMED BY TERRA TESTING, INC. UNDER THE TECHNICAL SUPERVISION OF KLEINFELDER ON JULY 11, 2013-OCTOBER 10, 2013. THE REPORT PREPARED BY KLEINFELDER, DATED MARCH 17, 2014, REFLECTS THE RESULTS OF THE SUBSURFACE INVESTIGATION. THE INFORMATION AND RECOMMENDATIONS CONTAINED IN THEIR REPORT WAS USED IN THE PREPARATION OF THESE PLANS. HOWEVER, ADDITIONAL INVESTIGATION IS NECESSARY TO CONFIRM THE ESTIMATED TOR KEY DEPTHS. PLEASE REFER TO THE SUBSURFACE INVESTIGATION REPORT BY KLEINFELDER FOR ADDITIONAL INFORMATION, AS NEEDED.

PROJECT CONTACTS

OPERATOR:
 ANTERO RESOURCES CORPORATION
 635 WHITE OAKS BLVD
 BRIDGEPORT, WV 26330
 PHONE: (304) 842-4100
 FAX: (304) 842-4102

BLI WAGONER - ENVIRONMENTAL ENGINEER
 OFFICE: (304) 842-4068 CELL: (304) 478-9770

JOHN KANCAK - OPERATIONS SUPERINTENDENT
 CELL: (817) 368-1553

AARON KUNZLER - CONSTRUCTION SUPERVISOR
 CELL: (405) 227-8344

ANTHONY SMITH - FIELD ENGINEER
 OFFICE: (304) 842-4208 CELL: (304) 673-0198

CHARLES E. COMPTON, III - SURVEYING COORDINATOR
 CELL: (304) 719-6449

DAVE CAVA - LAND AGENT
 CELL: (304) 841-5814

ENGINEER/SURVEYOR:
 NAVITUS ENGINEERING, INC.
 CYRUS S. KUMP, PE - PROJECT MANAGER/ENGINEER
 OFFICE: (888) 662-4156 CELL: (540) 686-8747

ENVIRONMENTAL:

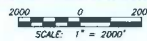
ALLSTAR ECOLOGY, LLC
 RYAN L. WARD - ENVIRONMENTAL SCIENTIST
 OFFICE: (988) 213-2868 CELL: (304) 692-7477

RESTRICTIONS NOTES:

1. THERE ARE NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE WELL PAD AND LOD. THERE ARE 2 EXISTING WETLANDS WITHIN 100' OF THE ACCESS ROAD "A" LOD THAT WILL REMAIN UNDISTURBED.
2. THERE ARE NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300 FEET OF THE WELL PAD AND LOD.
3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE WELL PAD AND LOD.
4. THERE ARE NO APPARENT EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF THE WELL(S) BEING DRILLED.
5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625 FEET OF THE CENTER OF THE WELL PAD.
6. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE WELL PAD.

MIDDLE WELL PAD & WATER CONTAINMENT PAD SITE DESIGN & CONSTRUCTION PLAN, EROSION & SEDIMENT CONTROL PLANS

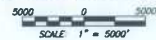
WEST UNION DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA
 MIDDLE ISLAND CREEK WATERSHED
 USGS 7.5 WEST UNION QUAD MAP



WEST VIRGINIA COUNTY MAP



WYDOH COUNTY ROAD MAP



MISS Utility of West Virginia
 1-800-245-4848
 West Virginia State Law
 (Section XIV, Chapter 24-C)
 Requires that you call two
 business days before you dig in
 the state of West Virginia.
IT'S THE LAW!!

WEST VIRGINIA STATE PLANE COORDINATE SYSTEM
 DATUM: NAD 83
 EARTH MODEL: BROADBENT
 ESTABLISHED BY: SURVEY GRADE GPS & GPIS
 POST-PROCESSING

SHEET INDEX

- 1 - COVER SHEET
 - 2 - CONSTRUCTION AND E&S CONTROL NOTES
 - 3 - MATERIAL QUANTITIES
 - 4 - EXISTING CONDITIONS
 - 5 - OVERALL PLAN SHEET INDEX & VOLUMES
 - 6 - WELL PAD & WATER CONTAINMENT PAD PLAN
 - 7 - ACCESS ROAD PROFILE
 - 8 - ACCESS ROAD SECTIONS
 - 9 - WELL PAD & WATER CONTAINMENT PAD SECTIONS
 - 10-14 - CONSTRUCTION DETAILS
 - 15 - WELL PAD & WATER CONTAINMENT PAD RECLAMATION PLAN
 - 16 - FIRM EXHIBIT
- GE501-GE511 - GEOTECHNICAL DETAILS

MIDDLE LIMITS OF DISTURBANCE AREA (AC)	
Total Site	
Access Road "A" (1373)	3.38
Well Pad	3.55
Water Containment Pad	2.19
Production Equipment Pad	0.83
Excess/Topsoil Material Stockpiles	2.54
Total Affected Area	12.57
Total Wooded Acres Disturbed	2.57
Site Total	
Access Road "A" (1164)	2.85
Well Pad	2.33
Water Containment Pad	2.19
Excess/Topsoil Material Stockpiles	1.88
Total Affected Area	8.48
Total Wooded Acres Disturbed	1.29
E&S	
Access Road "A" (181')	0.29
Well Pad	0.06
Production Equipment Pad	0.02
Excess/Topsoil Material Stockpiles	0.56
Total Affected Area	0.93
Total Wooded Acres Disturbed	0.02
E&S	
Access Road "A" (28')	0.12
Well Pad	1.18
Production Equipment Pad	0.91
Total Affected Area	2.18
Total Wooded Acres Disturbed	1.26

Proposed Well Name	WW North	WW North	UTM (METERS)	NAD 83 Lat & Long
Pad ID	840	840	Zone 17	
Platform	N 302591.90	N 302588.08	N 430388.27	LAT 39-19-34 3282
Unit 1H	E 1630567.29	E 1590116.10	E 116741.77	LONG 80-48-20 7780
Platform	N 302588.72	N 302601.80	N 430208.39	LAT 39-19-34 3827
Unit 2H	E 1630568.05	E 1590108.59	E 116726.83	LONG 80-48-20 8852
Platform	N 302579.19	N 302605.71	N 430258.89	LAT 39-19-34 3882
Unit 3H	E 1630568.81	E 1590097.82	E 116738.10	LONG 80-48-21 0135
Platform	N 302574.37	N 302609.94	N 430288.62	LAT 39-19-34 4357
Unit 1H	E 1630269.87	E 1590088.38	E 116713.27	LONG 80-48-21 1317
Platform	N 302578.37	N 302613.26	N 430280.74	LAT 39-19-34 4781
Unit 2H	E 1630568.33	E 1590070.14	E 116730.43	LONG 80-48-21 2820
Platform	N 302565.13	N 302617.88	N 430289.86	LAT 39-19-34 5088
Unit 3H	E 1630561.09	E 1590069.81	E 116727.90	LONG 80-48-21 3883
Platform	N 302568.85	N 302621.02	N 430292.88	LAT 39-19-34 5401
Unit 2H	E 1630560.88	E 1590060.87	E 116724.85	LONG 80-48-21 4885
Platform	N 302580.88	N 302624.84	N 430294.10	LAT 39-19-34 5816
Unit 1H	E 1630482.82	E 1590051.43	E 116721.83	LONG 80-48-21 8048
Well Pad Orientation	S&L 0			



DATE	REVISION	REVISION FOR
07/18/2014	REVISED	PER WELL CONFIGURATION



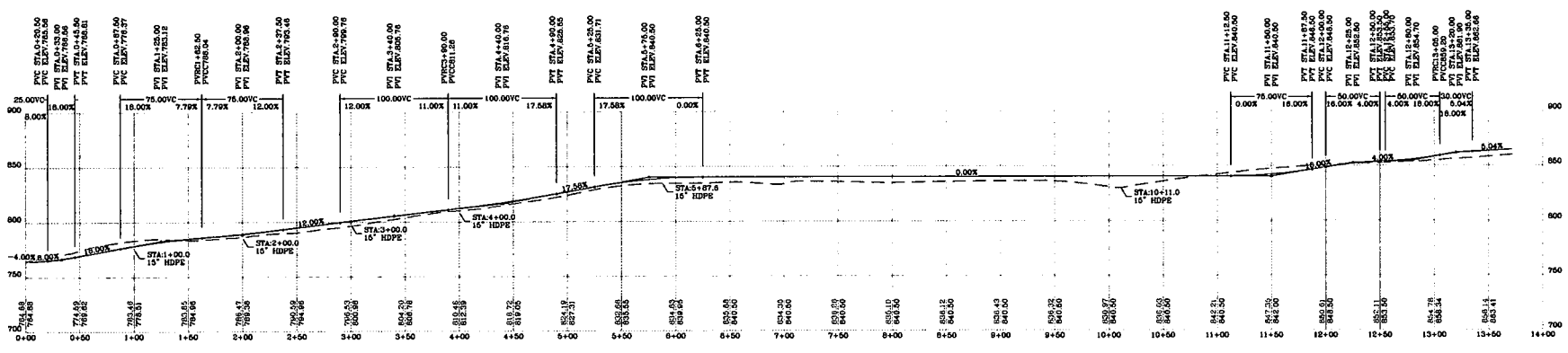
THIS DOCUMENT WAS PREPARED FOR ANTERO RESOURCES CORPORATION

COVER SHEET
MIDDLE
 WELL PAD & WATER CONTAINMENT PAD
 WEST UNION DISTRICT,
 DODDRIDGE COUNTY, WEST VIRGINIA



DATE: 03/20/2014
 SCALE: AS SHOWN
 SHEET 1 OF 16

ACCESS ROAD PROFILE



ACCESS ROAD "A" PROFILE
SCALE: HORIZ. 1" = 50' VERT. 1" = 50'

DATE	REVISION
2/12/2014	REVISED PER WELL CONFIGURATION



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ACCESS ROAD PROFILE
MIDDLE
WELL PAD & WATER CONTAINMENT PAD
WEST UNION DISTRICT
DODDRIDGE COUNTY, WEST VIRGINIA



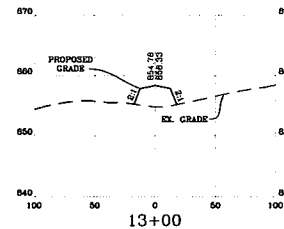
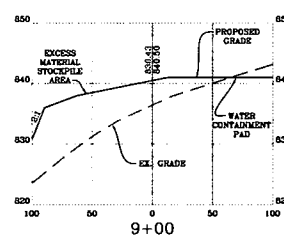
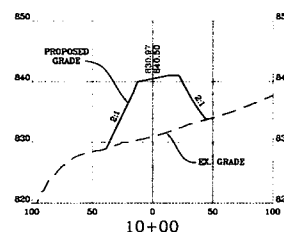
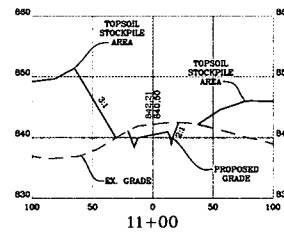
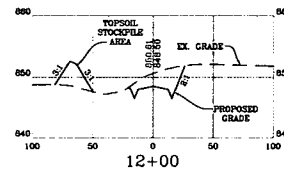
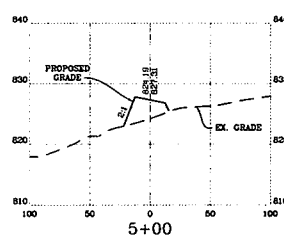
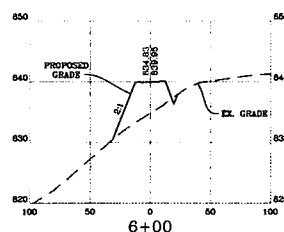
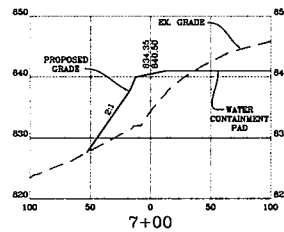
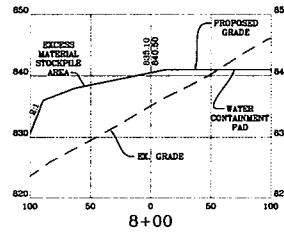
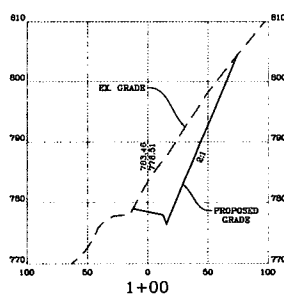
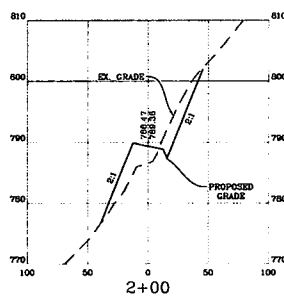
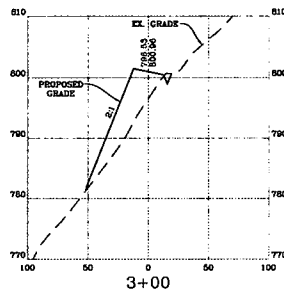
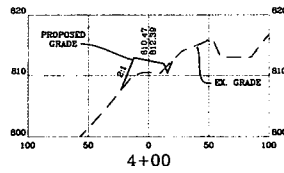
DATE: 03/20/2014
SCALE: AS SHOWN
SHEET 7 OF 18

LEGEND	
X-SECTION GRID INDEX	
X-SECTION GRID INTERMEDIATE	
X-SECTION PROPOSED GRADE	
X-SECTION EXISTING GRADE	
X-SECTION WATER SURFACE	
MATCHLINE	

ACCESS ROAD SECTIONS

ACCESS ROAD "A" CROSS-SECTIONS

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



NOTE:
 1. ALL FILL AREAS, INCLUDING ACCESS ROADS AND EXCESS MATERIAL STOCKPILES, SHALL BE "KEYED IN" AND COMPACTED IN 12" (MAXIMUM) LOOSE LIFT THICKNESS WITH A VIBRATING SHEEPSFOOT ROLLER TO 95% COMPACTION PER STANDARD PROCTOR. MOISTURE CONTENT WILL BE CONTROLLED IN ACCORDANCE WITH THE STANDARD PROCTOR TEST (ASTM-D698) RESULTS.
 2. ALL CUT & FILL SLOPES SHALL BE 2:1 UNLESS STATED OTHERWISE.

LEGEND

X-SECTION GRID INDEX	---
X-SECTION GRID INTERMEDIATE	---
X-SECTION PROPOSED GRADE	---
X-SECTION EXISTING GRADE	---
X-SECTION WATER SURFACE	---
MATCHLINE	---

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DATE	REVISION
07/18/2014	REVISED PER WELL CONFIGURATION

Antero
 PROPERTIES
 THIS DOCUMENT WAS PREPARED FOR:
 ANTERO RESOURCES CORPORATION

ACCESS ROAD SECTIONS
MIDDLE
 WELL PAD & WATER CONTAINMENT PAD
 WEST UNION DISTRICT
 DODDRIDGE COUNTY, WEST VIRGINIA

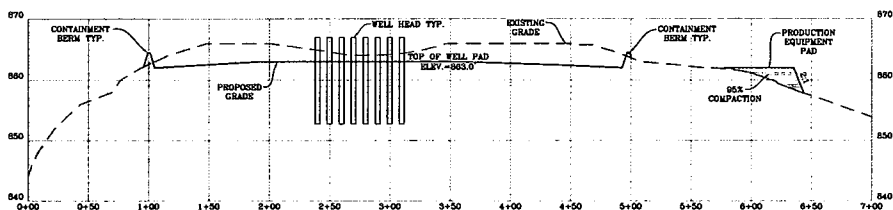


DATE: 03/20/2014
 SCALE: AS SHOWN
 SHEET 8 OF 16

WELL PAD & WATER CONTAINMENT PAD SECTIONS

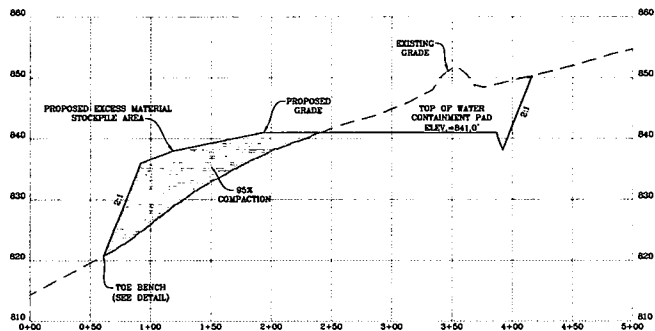
WELL PAD CROSS-SECTION "A-A"

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



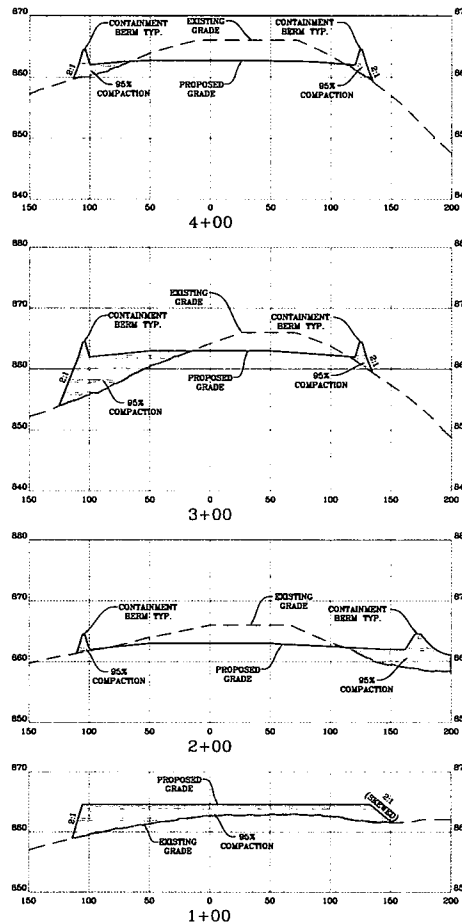
WATER CONTAINMENT PAD CROSS-SECTION "B-B"

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



WELL PAD CROSS-SECTIONS ALONG BASELINE "A-A"

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



NOTE:

1. ALL FILL AREAS, INCLUDING ACCESS ROADS AND EXCESS MATERIAL STOCKPILES, SHALL BE KEYED IN AND COMPACTED IN 12" (MAXIMUM) LAYER THICKNESS WITH A VIBRATING SHEEPSFOOT ROLLER TO 95% COMPACTION PER STANDARD PROCTOR TEST (ASTM-D698) RESULTS. MOISTURE CONTENT WILL BE CONTROLLED IN ACCORDANCE WITH THE STANDARD.
2. ALL CUT & FILL SLOPES SHALL BE 2:1 UNLESS STATED OTHERWISE.

LEGEND

X-SECTION GRID INDEX	---
X-SECTION GRID INTERMEDIATE	----
X-SECTION PROPOSED GRADE	---
X-SECTION EXISTING GRADE	----
X-SECTION WATER SURFACE	---
MATCHLINE	

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07/18/2014	REVISED PER WELL CONFIGURATION



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ANTERO RESOURCES CORPORATION

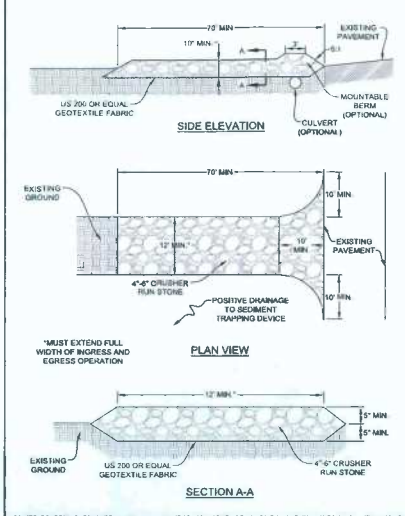
WELL PAD AND WATER CONTAINMENT PAD SECTIONS
MIDDLE
WELL PAD & WATER CONTAINMENT PAD
WEST UNION DISTRICT
WEST VIRGINIA
DODDRIDGE COUNTY, WEST VIRGINIA



DATE: 03/20/2014
SCALE: AS SHOWN
SHEET 9 OF 18

ROCK CONSTRUCTION ENTRANCE

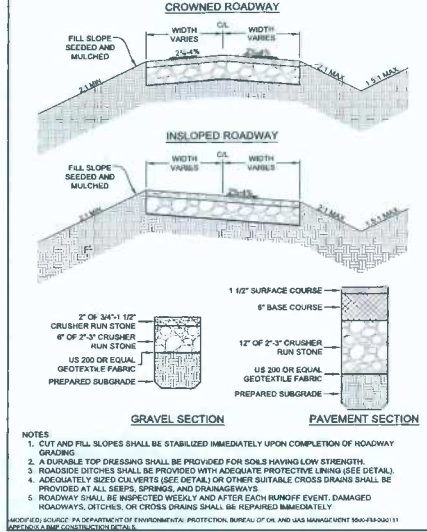
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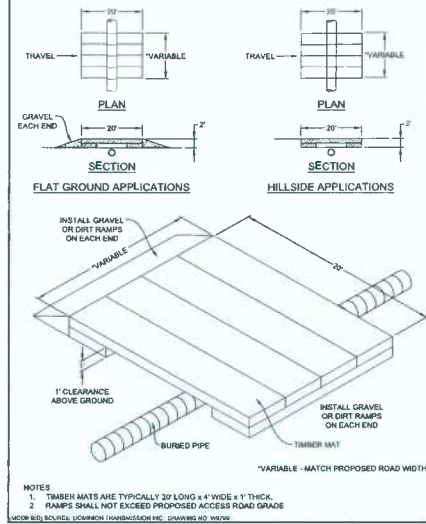
TYPICAL ROAD CROSS-SECTION

N.T.S.



AIR BRIDGE DETAIL

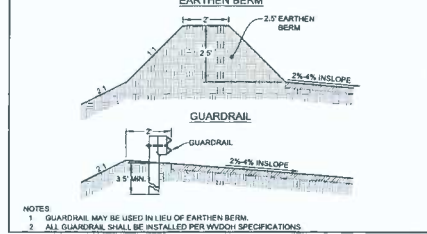
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MODIFIED SOURCE: COMMON TRANSMISSION INC. DRAWING NO. 06059

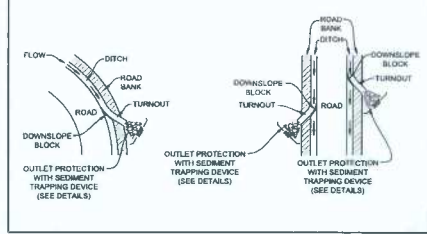
ACCESS ROAD SAFETY BARRIER

N.T.S.



TURNOUT

N.T.S.



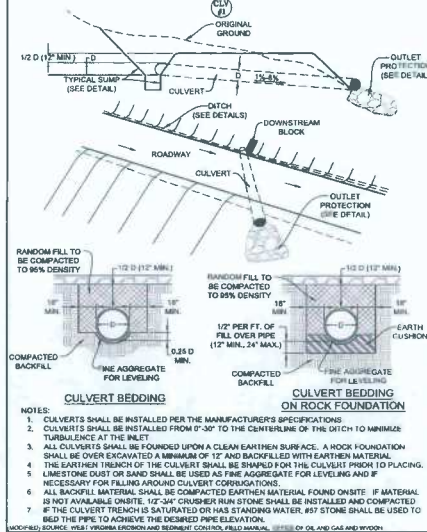
STANDARD STAKEOUT RIBBON COLOR SCHEME

N.T.S.



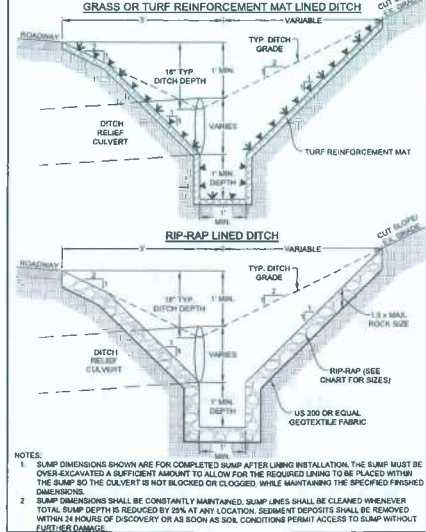
DITCH RELIEF CULVERT

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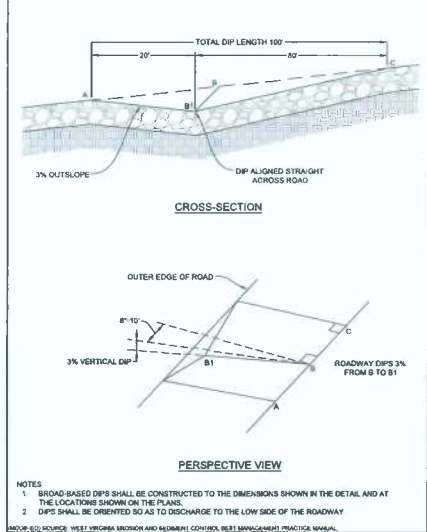
TYPICAL SUMP AT DITCH RELIEF CULVERT

N.T.S.



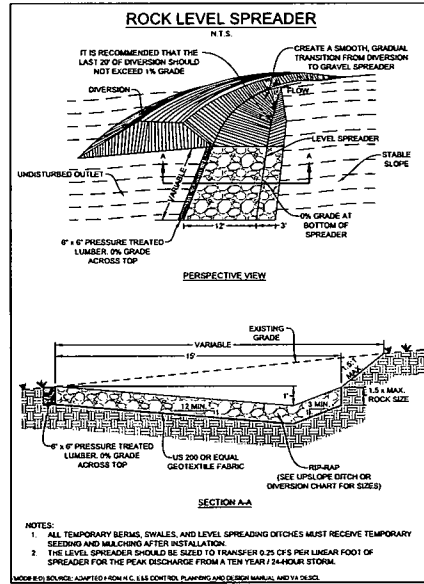
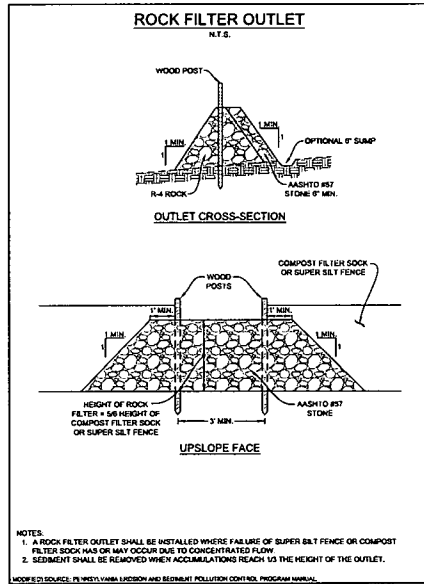
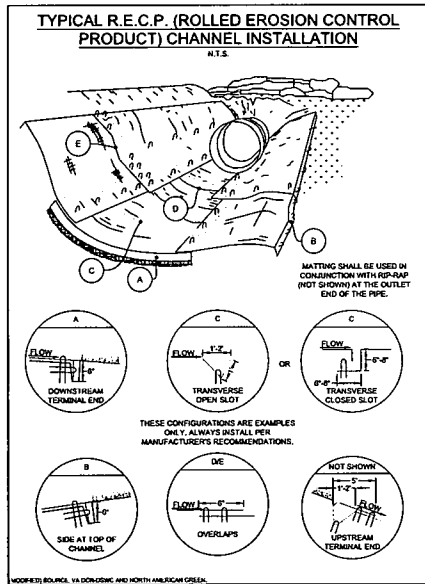
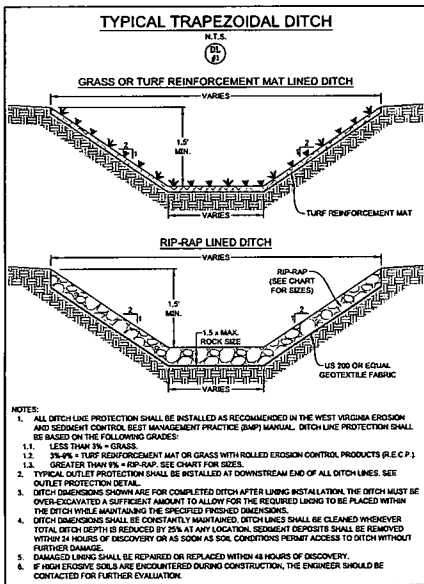
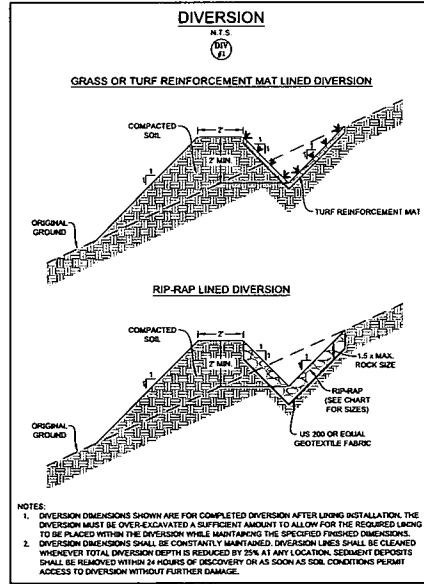
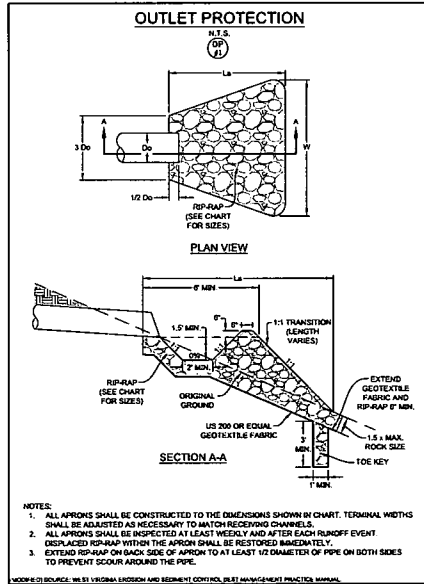
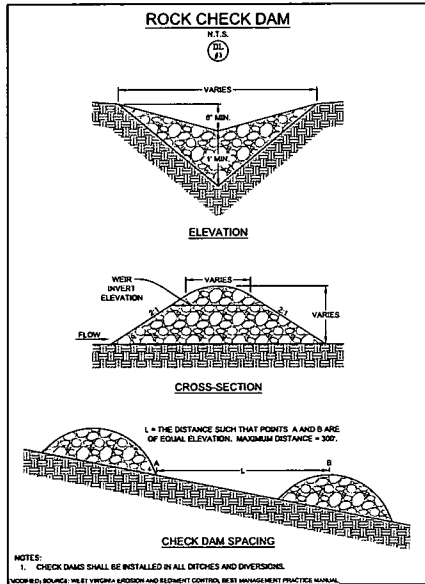
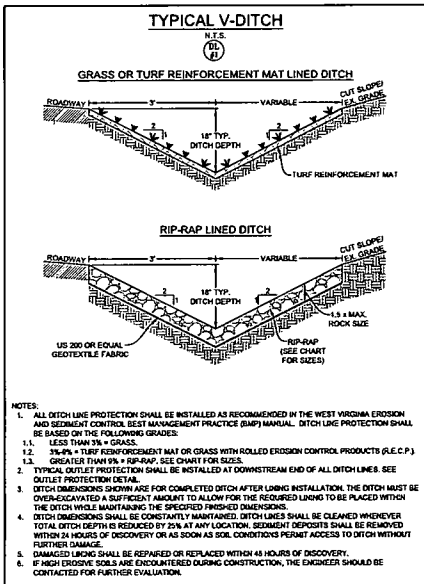
BROAD-BASED DIP

N.T.S.



DATE	REVISION	PER	WELL CONFIGURATION
07/18/2014	REVISED	PER	WELL





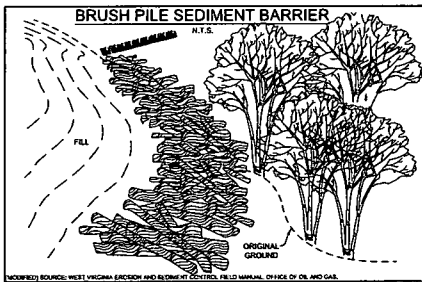
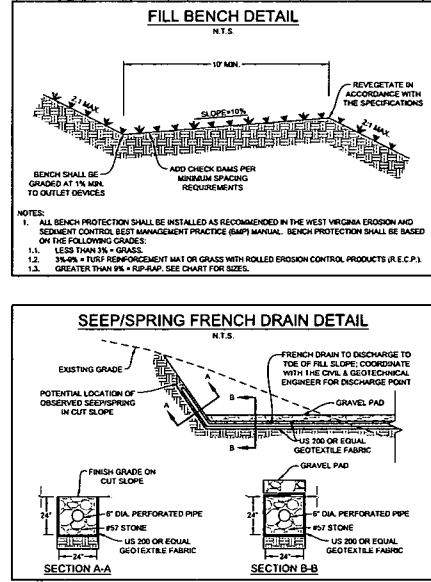
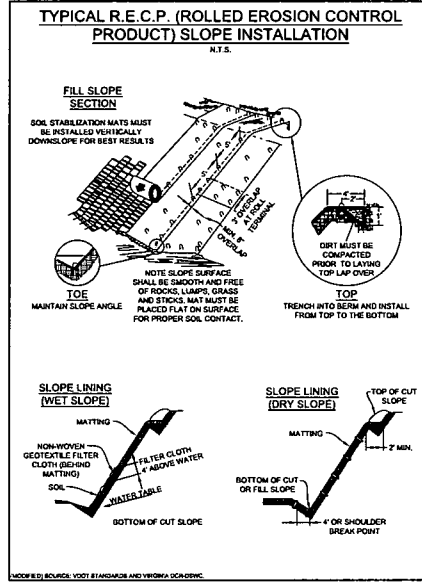
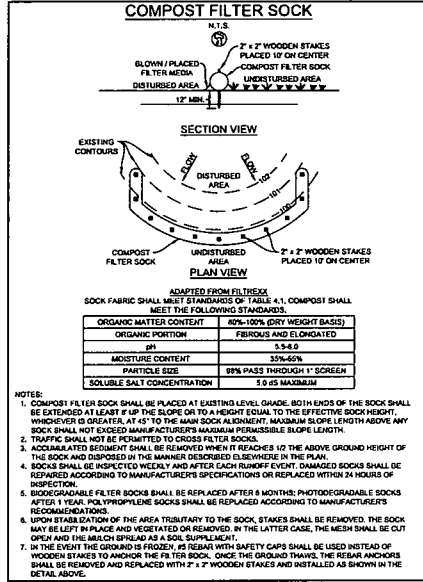
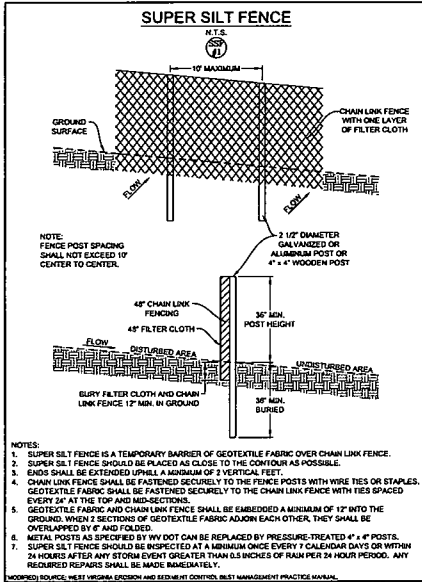
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DATE	03/20/2014
DESIGNED BY	
CHECKED BY	
DATE	



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CONSTRUCTION DETAILS
MIDDLE
WELL PAD & WATER CONTAINMENT PAD
WEST UNION DISTRICT
DODDSDRIDGE COUNTY, WEST VIRGINIA



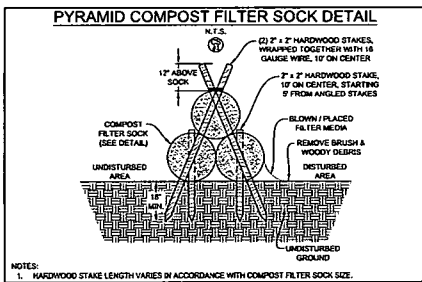
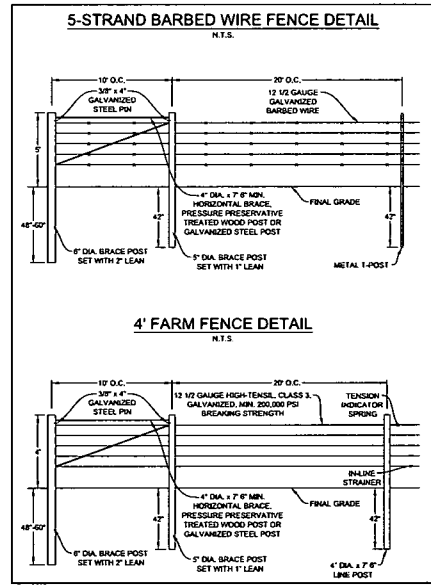
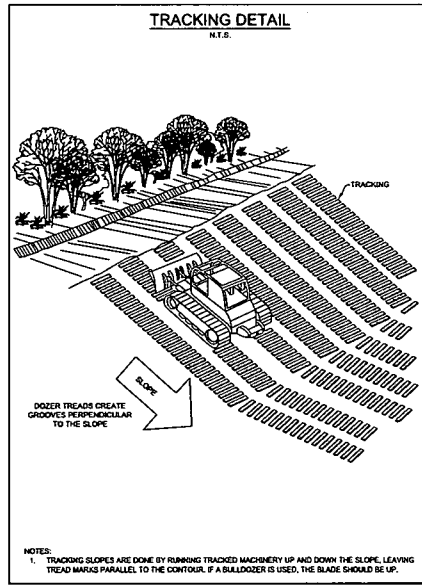


COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS (TABLE 4.1)

MATERIAL TYPE	3 MIL HDPE		5 MIL HDPE		MULTI-FILAMENT POLYPROPYLENE (MPP)		HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (DDMPP)	
	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	BIO-DEGRADABLE	BIO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
SOCK DIAMETERS	12"	12"	12"	12"	12"	12"	12"	12"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
TENSILE STRENGTH	25 PSI	25 PSI	30 PSI	30 PSI	44 PSI	44 PSI	132 PSI	132 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	25% AT 1000 HRS	25% AT 1000 HRS	25% AT 1000 HRS	25% AT 1000 HRS	100% AT 1000 HRS	100% AT 1000 HRS	100% AT 1000 HRS	100% AT 1000 HRS
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	6 MONTHS	6 MONTHS	6 MONTHS	1 YEAR	1 YEAR	2 YEARS	2 YEARS

INNER CONTAINMENT NETTING: HEAVY DUTY WOUND CONTINUOUSLY WOUND FUSION-WELDED JUNCTURES 3/8" x 3/8" MAX. APERTURE SIZE. COMPOSITE POLYPROPYLENE FABRIC (DITCH LAYER & NONWOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH) 3/16" MAX. APERTURE SIZE.

SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 3 MONTHS OR LESS.



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REVISION

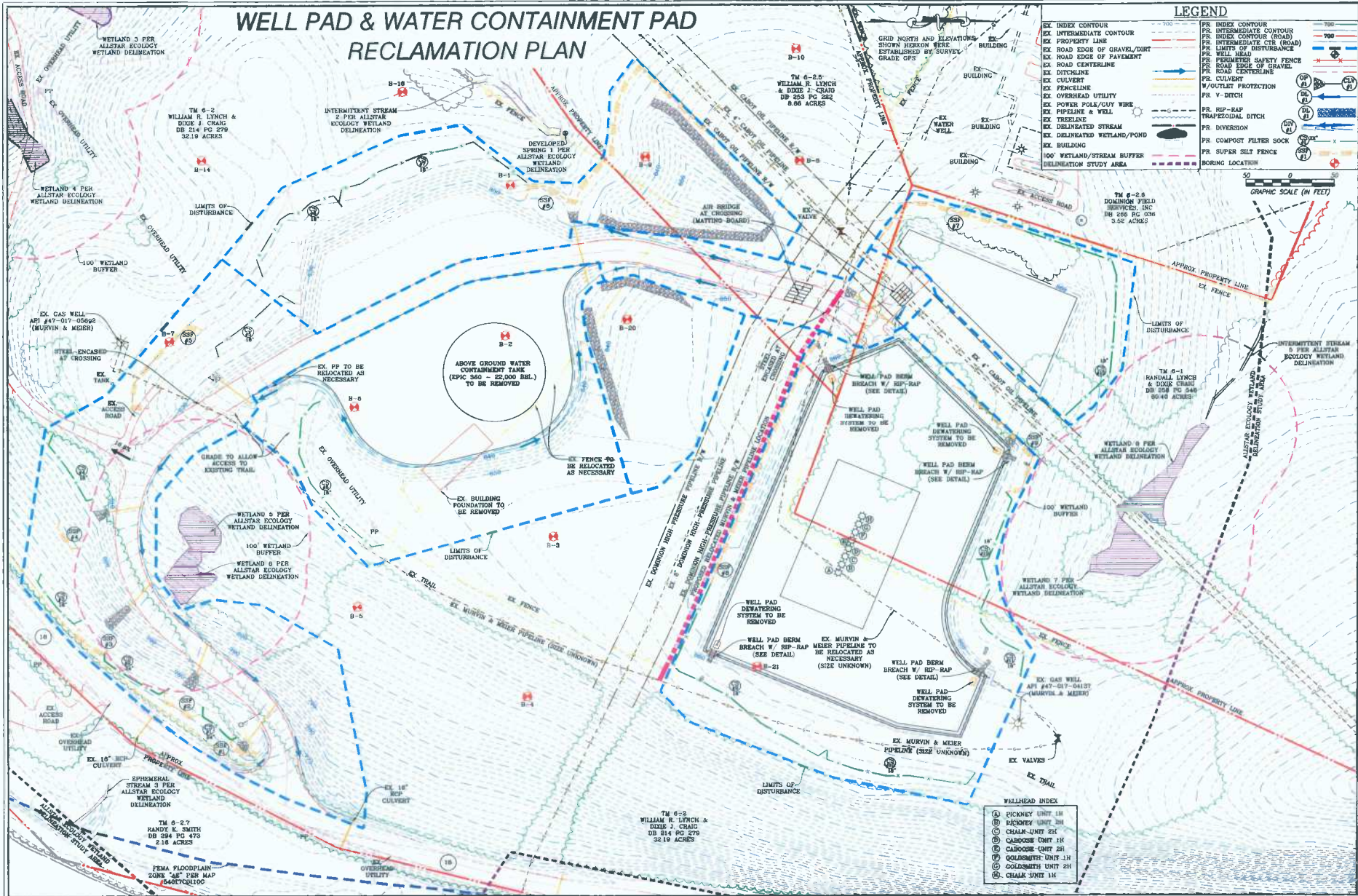
DATE	REVISED PER	WELL CONTRIBUTION
07/10/2014		

CONSTRUCTION DETAILS

MIDDLE
WELL PAD & WATER CONTAINMENT PAD
WEST UNION DISTRICT
DODDRIIDGE COUNTY, WEST VIRGINIA

DATE: 03/20/2014
SCALE: N/A
SHEET 12 OF 16

WELL PAD & WATER CONTAINMENT PAD RECLAMATION PLAN



LEGEND

EX INDEX CONTOUR	PR INDEX CONTOUR
EX INTERMEDIATE CONTOUR	PR INTERMEDIATE CONTOUR
EX PROPERTY LINE	PR INTERMEDIATE CTR (ROAD)
EX ROAD EDGE OF GRAVEL/DIRT	PR LIMIT OF DISTURBANCE
EX ROAD EDGE OF PAVEMENT	PR PERIMETER SAFETY FENCE
EX ROAD CENTERLINE	PR ROAD EDGE OF GRAVEL
EX DITCHLINE	PR ROAD CENTERLINE
EX OVERHEAD UTILITY	PR CULVERT
EX PIPELINE & WELL	PR W/OUTLET PROTECTION
EX POWER POLY/CHY WIRE	PR V-DITCH
EX TRENCH	PR R/P-RAP
EX DELINEATED STREAM	PR TRAPEZOIDAL DITCH
EX DELINEATED WETLAND/POND	PR DIVERSION
EX BUILDING	PR COMPOST FILTER SOCK
EX 100' WETLAND/STREAM BUFFER	PR SUPER SILT FENCE
EX DELINEATED STUDY AREA	BORING LOCATION

GRID NORTH AND ELEVATIONS SHOWN HEREON WERE ESTABLISHED BY SURVEY GRADE CPIS

TM 6-2-5 WILLIAM R. LYNNCH & DIXIE J. CRAIG DB 253 PG 282 8.06 ACRES

TM 6-2-5 DOMINION FIELD SERVICES, INC DB 266 PG 036 3.55 ACRES

TM 6-2-5 RANDALL LYNCH & DIXIE CRAIG DB 258 PG 248 69.48 ACRES

TM 6-2-7 RANDY & SMITH DB 284 PG 473 2.16 ACRES

FEMA FLOODPLAIN ZONE 1A* FIRM MAP 8407C0100

WELLHEAD INDEX

- ① PICKNEY UNIT 1H
- ② PICKNEY UNIT 2H
- ③ CHALK UNIT 21H
- ④ CAROUSEL UNIT 1H
- ⑤ CAROUSEL UNIT 2H
- ⑥ CAROUSEL UNIT 1H
- ⑦ CAROUSEL UNIT 2H
- ⑧ CHALK UNIT 1H

GRAPHIC SCALE (IN FEET)

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DATE	REVISION
07/10/2014	REVISED PER WELL CONFIGURATION

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WELL PAD AND WATER CONTAINMENT PAD RECLAMATION PLAN

MIDDLE

WELL PAD & WATER CONTAINMENT PAD

WEST UNION DISTRICT
DODDREDGE COUNTY, WEST VIRGINIA

DATE: 03/20/2014
SCALE: 1" = 50'
SHEET 15 OF 16

STATE OF WEST VIRGINIA,
COUNTY OF DODDRIDGE, TO WIT

I, Virginia Nicholson, Editor of THE
HERALD RECORD, a weekly newspaper
published regularly, in Doddridge County,
West Virginia, Do Hereby Certify
That the Accompanying Legal Notice
Entitled:

*Floodplain Permit
Application
Permit # 14-260*

was published in said paper for *2*
successive weeks beginning with the issue
of *August 19th* 2014 and
ending with the issue of

August 26th 2014 and

that said notice contains *189*

WORD SPACE at *115* cents a word

amounts to the sum of \$ *21.74*

FOR FIRST PUBLICATION, SECOND
PUBLICATION IS 75% OF THE FIRST
PUBLICATION

\$ *16.31*
and each publication thereafter

\$ *38.05* TOTAL

EDITOR

Virginia Nicholson

SWORN TO AND SUBSCRIBED

BEFORE ME THIS THE *28th* DAY
OF *August* 2014

NOTARY PUBLIC

Laura Adams

LEGAL ADVERTISEMENT:
Doddridge County
Floodplain Permit Application
Please take notice that on the 13th day of August, 2014
Antero Resources filed an application for a Floodplain
Permit to develop land located at or about: West Union
District 39 323572N/80 805872W Permit # 14-260 Middle
Well Pad (Note: This project is not within the floodplain)
The Application is on file with the Clerk of the County
Court and may be inspected or copied during regular
business hours. As this project is outside the FEMA
identified floodplain of Doddridge County, Doddridge
County Floodplain Management has no regulatory
authority. Any interested persons who desire to comment
shall present the same in writing by September 8, 2014.
Delivered to the
Clerk of the County Court
118 E. Court Street, West Union, WV 26456
Beth A. Rogers, Doddridge County Clerk
Edwin L. "Bo" Wriston, Doddridge County Flood Plain
Manager
8-19-2014

