

Doddridge County Sheriff
Flood Plain Ordinance Fund

1017
69-217/515

DATE July 2, 2013

PAY TO THE ORDER OF ANTERO RESOURCES \$ 2,268.74

Two Thousand Two Hundred Sixty-Eight Dollars and 74/100----- DOLLARS

Security features included. Details on back.



Ralph Sandora
Beth A. Rogers
MP

MEMO #13-023 Buntan Tank Pad Reimbursement

⑈001017⑈ ⑆051502175⑆ 1196499⑈



ANTERO RESOURCES APPALACHIAN
 1625 17th STREET, SUITE 300
 DENVER, COLORADO 80202

Vendor Name	Vendor No.	Date	Check Number	Check Total
DODDRIDGE COUNTY COMMISSION	43312	Jun-25-2013	32289	\$2,335.52

VOUCHER	VENDOR INV #	INV DATE	TOTAL AMOUNT	PRIOR PMTS & DISCOUNTS	NET AMOUNT
06-AP-11507	BUTENTANKPAD	06/25/13	2,335.52	0.00	2,335.52
	FLOOD PLAIN PERMIT - BUNTEN TANK PAD				
	TOTAL INVOICES PAID				2,335.52

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

Michael Headley
 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. 4801

Date: June 27, 2013
 Customer copy

Received: #13-023 Antero Resources

\$2,335.52

In Payment For: 318 Building Permits (LP)

For: 12-Flood Plain Ordinanc Fund #20 Fund

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

Michael Headley
 Sheriff of Doddridge County

DETACH AND RETAIN FOR TAX PURPOSES

Doddridge County Flood Plain Refund Calculator (if not in Flood Plain)**Bunten Tank Pad**

Estimated Construction Costs	\$167,103.00
Amount over \$100,000	\$67,103.00
Drilling Oil and Gas Well Fee	\$1,000.00
Deposit for additional charges	\$1,000.00
\$5 per \$1,000 over \$100,000	\$335.52
Amount Due with application	\$2,335.52
95% of Application Fee minus \$1,000 deposit	\$1,268.74
Cost for Permit	\$66.78
Total Refund (Includes 100% of 1,000 deposit)	\$2,268.74



June 25, 2013

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

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

Mr. Wellings:

Antero Resources Appalachian Corporation (Antero) would like to submit a Doddridge County Floodplain permit application for our Bunten Tank Pad. Our project is located in Doddridge County, Grant District and per FIRM map #54017C0255C, this location is not within the floodplain.

Attached you will find the following:

- Doddridge County Floodplain Permit Application and fee
- FIRM Map
- A detailed set of plans signed by a WV licensed professional engineer

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

AM 12:00:00 RECEIVED
DODDRIDGE COUNTY
SERIALIZED
JUN 26 2013

2013 JUN 26 PM 2:22

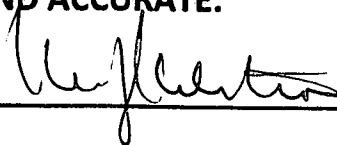
FILED

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 June 25, 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 Appalachian Corporation

ADDRESS: 1625 17th Street, Denver, CO 80202

TELEPHONE NUMBER: (303) 357-7310

ENGINEER'S NAME: Allegheny Surveys, Inc. - Charles K. Wilson

ADDRESS: 172 Thompson Drive, Bridgeport, WV 26330

TELEPHONE NUMBER: 304-848-5035

PROJECT LOCATION:

NAME OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT) John R. & Carole S. Buntен

ADDRESS OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)
406 Red Hill Drive, Clifton Forge, VA 24422

DISTRICT: Greenbrier

DATE/FROM WHOM PROPERTY

PURCHASED: N/A

LAND BOOK DESCRIPTION:

DEED BOOK REFERENCE: 276/577

TAX MAP REFERENCE: 10/11

EXISTING BUILDINGS/USES OF PROPERTY: None

NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY John R. & Carole S. Buntен

ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY 406 Red Hill Drive, Clifton Forge, VA 24422

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 *Replace existing culvert as shown on page 5 of attached design
- 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 \$ 167,103.00

*See attached Floodplain Calculation Fee

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: See Attached Exhibit B
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: N/A
ADDRESS: _____

NAME: _____
ADDRESS: _____

NAME: _____
ADDRESS: _____

NAME: _____
ADDRESS: _____

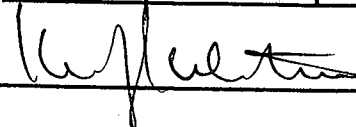
E. CONFIRMATION FORM

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.

- (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, Vice President of Production

SIGNATURE:  DATE: 6/25/13

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: 255
 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 Dan Kelling, PS

DATE 04/26/2013

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 Dan Williams, PS DATE 06/26/2013

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** _____

Buten Tank Pad – Doddridge County Floodplain Permit – Exhibit B

**JOHN R & CAROLE S BUNTEN, Acres 163.92363929 District 4 Map 10
PID 11 Book 0174 Page 0332**

CLIFTON FORGE

FID	2427
DIST	4
MAP	10
PID	11
GIS_Link	4-10-11
TAXDIST	4
TAXYR	2008
PARID	04 10001100000000
PAR_MAP	10
PAR_MAP1	11
PAR_MAP2	0
OWNTYPE1	
OWNTYPE2	
OWN1	BUNTEN JOHN R & CAROLE S
OWN2	
ADDR1	
ADDR2	406 RED HILL DR
ADDR3	CLIFTON FORGE VA 24422
CITYNAME	CLIFTON FORGE
STATECODE	VA
ZIP1	24422
BOOK	0174
PAGE	0332
LEGAL1	HUNTERS FORK
LEGAL2	176.39 AC
GISJOIN	4-10-11
MAPPED_AC	163.923639

The closest downstream parcel is as follows:

Buten Tank Pad – Doddridge County Floodplain Permit – Exhibit B

KAREN S MCKINNEY Acres 8.79983588 District 4 Map 10 PID 11.1 Book 260 Page 694

SALEM

FID	2435
DIST	4
MAP	10
PID	11.1
GIS_Link	4-10-11.1
TAXDIST	4
TAXYR	2008
PARID	04 10001100010000
PAR_MAP	10
PAR_MAP1	11
PAR_MAP2	1
OWNTYPE1	
OWNTYPE2	
OWN1	MCKINNEY KAREN S
OWN2	
ADDR1	
ADDR2	RT 1 BOX 346
ADDR3	SALEM WV 26426
CITYNAME	SALEM
STATECODE	WV
ZIP1	26426
BOOK	260
PAGE	694
LEGAL1	HUNTERS FORK
LEGAL2	7.61 AC
GISJOIN	4-10-11.1
MAPPED_AC	8.799836

CLEARING & GRUBBING; EROSION & SEDIMENT CONTROLS

Bunten Fresh Water Tank Pad

	QUANTITY	UNIT		
MOBILIZATION	1.0	EA	\$19,140.00	\$19,140.00
CONSTRUCTION ENTRANCE	1.0	EA	\$3,172.76	\$3,172.76
CLEARING & GRUBBING	2.98	AC	\$4,513.25	\$13,449.49
TREE REMOVAL	1.79	AC	\$2,953.00	\$5,285.87
8" COMPOST FILTER SOCK	0	LF		\$0.00
12" COMPOST FILTER SOCK	400	LF	\$3.82	\$1,528.00
18" COMPOST FILTER SOCK	0	LF		\$0.00
24" COMPOST FILTER SOCK	0	LF		\$0.00
32" COMPOST FILTER SOCK	325	LF	\$14.00	\$4,550.00
SUPER SILT FENCE	0	LF		\$0.00
9" STRAW WATTLES	0	LF		\$0.00
TOTAL				\$47,126.12

SITE

	QUANTITY	UNIT		
DRILL PAD EXCAVATION	0	CY		\$0.00
ACCESS ROADS EXCAVATION	14	CY	\$4.16	\$58.24
TANK PAD and/or FRAC PIT EXCAVATION	8,256	CY	\$4.13	\$34,097.28
OFFLOAD PAD	17	CY	\$7.00	\$119.00
SPOIL PAD	0	CY		\$0.00
TOPSOIL	2,000	CY	\$4.09	\$8,180.00
DIVERSION DITCH	0	LF		\$0.00
ROADSIDE DITCH	0	LF		\$0.00
TOTAL			\$3.99	\$42,454.52

AGGREGATE SURFACING - SPREADING, COMPACTION, and/or INSTALLATION

	QUANTITY	UNIT		
ACCESS ROADS 6" OR 4" MINUS CRUSHER RUN AGGREGATE (8" THICK)	160	TON	\$3.84	\$614.40
ACCESS ROADS 1 1/2" OR 3/4" CRUSHER RUN STONE (2" THICK)	40	TON	\$4.13	\$165.20
ACCESS ROADS GEOTEXTILE FABRIC (US 200)	350	SY	\$4.09	\$1,431.50
*INSTALL TENSAR TX190 GEOGRID or EQUIVALENT	350	SY	\$4.50	\$1,575.00
OFFLOAD PAD 6" OR 4" MINUS CRUSHER RUN AGGREGATE (8" THICK)	675	TON	\$4.50	\$3,037.50
OFFLOAD PAD 1 1/2" or 3/4" CRUSHER RUN AGGREGATE (2" THICK)	170	TON	\$4.50	\$765.00
OFFLOAD PAD GEOTEXTILE FABRIC (US 200)	1,400	SY	\$1.25	\$1,750.00
*INSTALL TENSAR TX190 GEOGRID or EQUIVALENT	1,400	SY	\$1.00	\$1,400.00
TANK PAD 6" OR 4" MINUS CRUSHER RUN AGGREGATE (8" THICK)	2,750	TON	\$3.84	\$10,560.00
TANK PAD 1 1/2" or 3/4" CRUSHER RUN AGGREGATE (2" THICK)	650	TON	\$4.13	\$2,684.50
TANK PAD GEOTEXTILE FABRIC (US 200)	5,230	SY	\$4.09	\$21,390.70
*INSTALL TENSAR TX190 GEOGRID or EQUIVALENT	5,230	SY	\$4.50	\$23,535.00
TOTAL				\$68,908.80

ROAD CULVERTS

	QUANTITY	UNIT		
15" HDPE	100	LF	\$20.11	\$2,011.00
18" HDPE	0	LF		\$0.00
24" HDPE	0	LF		\$0.00
30" HDPE	0	LF		\$0.00
36" HDPE	0	LF		\$0.00
42" HDPE	0	LF		\$0.00
48" HDPE	0	LF		\$0.00
60" HDPE	0	LF		\$0.00
R4 RIP RAP (INLETS/OUTLETS)	8	TON		\$0.00
AASHTO #1 STONE (DITCH CHECKS)	0	TON		\$0.00
DITCH LINING - (ACCESS ROAD) SEED AND MULCH	0	SY		\$0.00
DITCH LINING - (ACCESS ROAD) JUTE MATTING	0	SY		\$0.00
DITCH LINING - (ACCESS ROAD) SYNTHETIC MATTING (TRM)	0	SY		\$0.00
TOTAL				\$2,011.00

FENCING/GATES

	QUANTITY	UNIT		
4 FT WOVEN WIRE FARM FENCE w/MINIMUM 10 FT POST SPACING (WOODEN and/or "T" POST)	0.0	LF		\$0.00
16 FT DOUBLE GATE	0.0	EA		\$0.00
TOTAL				\$0.00

SEEDING

QUANTITY UNIT

SITE SEEDING (LIME, FERTILIZER, SEEDING, AND HYDRO-MULCH w/TACK (HYC-2 OR EQUAL))	2.0	AC	\$3,301.25	\$6,602.50
TOTAL				\$6,602.50

UNFORESEEN SITE CONDITIONS

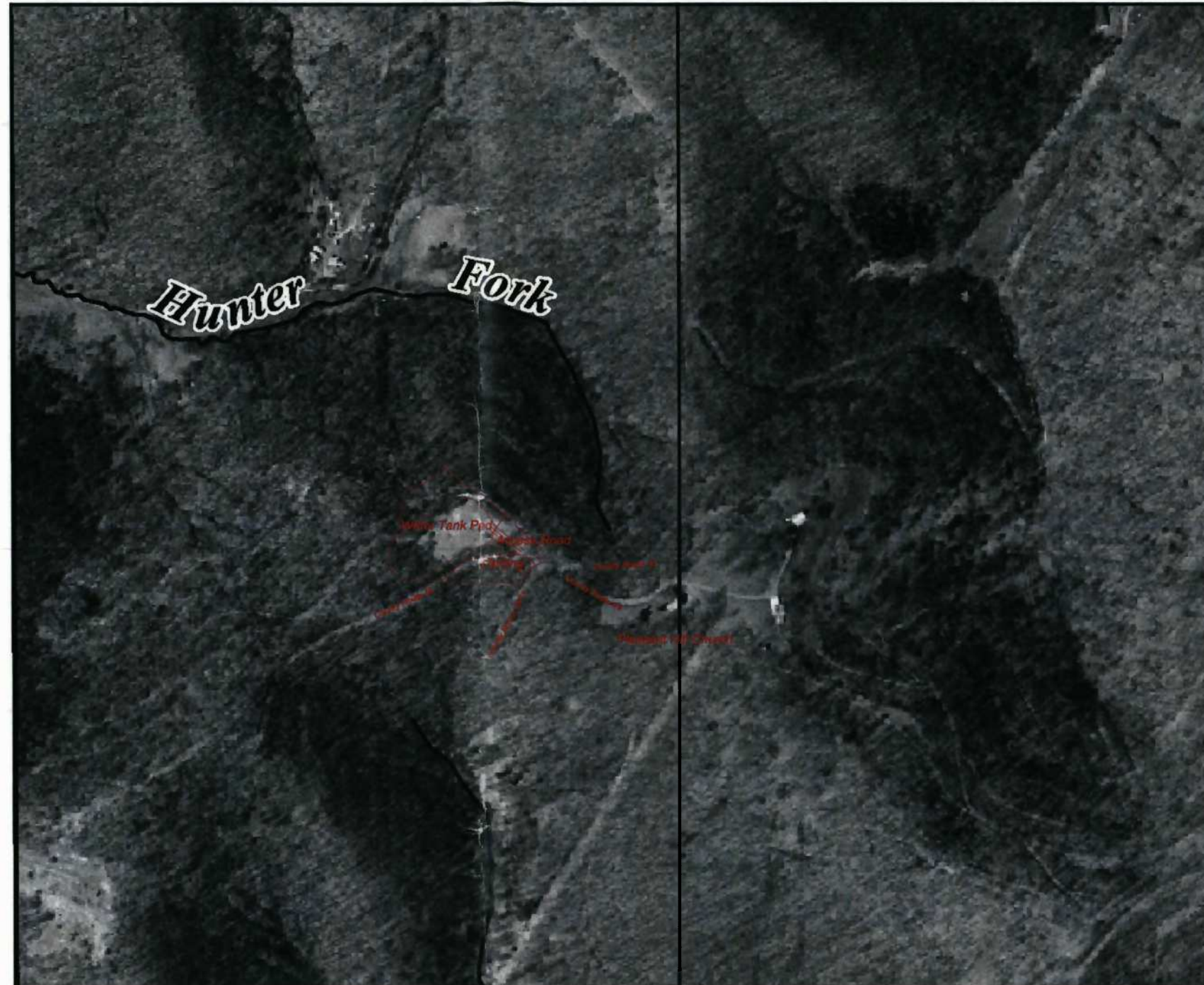
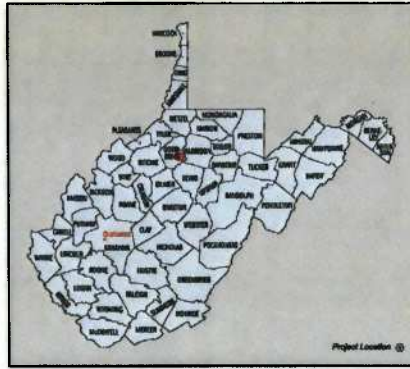
	QUANTITY	UNIT		
*ROCK CLAUSE - BLASTING	0.0	CY	\$3.27	\$0.00
*ROCK CLAUSE - HOE RAMMING	0.0	CY	\$11.35	\$0.00
*FRENCH DRAINS	0.0	FT	\$10.93	\$0.00
*ORANGE SAFETY FENCE w/"T" POST (10FT CENTERS) - WETLAND PROTECTION	0.0	LF	\$10.60	\$0.00
*STEEL PANELS w/"T" POST (10 FT CENTERS) - WETLAND PROTECTION	0.0	LF	\$6.35	\$0.00
*SILT FENCE	0.0	LF	\$4.00	\$0.00
*TEMPORARY SEEDING	0.0	AC	\$2.67	\$0.00
*CONSTRUCTION STAKEOUT	0.0	HOUR	\$1,962.50	\$0.00
* JUTE MATTING - SLOPE MATTING	0.0	SY	\$2.13	\$0.00
TOTAL				\$0.00

GRAND TOTAL	\$167,102.94
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BUNTEN FRESH WATER TANK PAD

PROJECT LOD OVER FEMA FIRM MAP 54017C0255C

ANTERO RESOURCES APPALACHIAN CORPORATION



SITE LOCATIONS		
NAD 83		
Center of Pad (UTM Meters)	N=4340494.99 m	E=532778.75 m
Begin Acc. Rd (UTM Meters)	N=4340478.04 m	E=532857.25 m
LATITUDE		LONGITUDE
Center of Pad	30.213170	-80.620316
Begin Access Road	30.212957	-80.619407

GREENBRIER DISTRICT, DODDRIDGE COUNTY, WV
MIDDLE ISLAND CREEK & MEATHOUSE FORK
WATERSHEDS

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:	N/A
FIRM MAP NUMBER(S) FOR SITE:	54017C0255C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A



Allegheny Surveys, Inc.
172 Thompson Drive
Bridgeport, WV 26330
(304) 846-5035

L&W ENTERPRISES, INC.

PO BOX 826
14 SOUTH GROVE ST.
PETERSBURG, WV 26847
PH: 304-257-4818
FAX: 304-257-2324
EMAIL: KOK@GTLINK.NET



THIS DOCUMENT
PREPARED FOR
ANTERO RESOURCES
APPALACHIAN CORP

PROJECT LOD OVER FEMA FIRM
MAP 54017C0255C
BUNTEN
FRESH WATER TANK PAD
GREENBRIER DISTRICT
DODDRIDGE COUNTY, WV

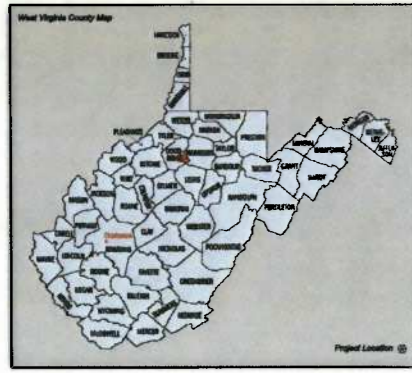
Date: 6/14/13

Scale: 1" = 200'

Designed By: CKW/CKM

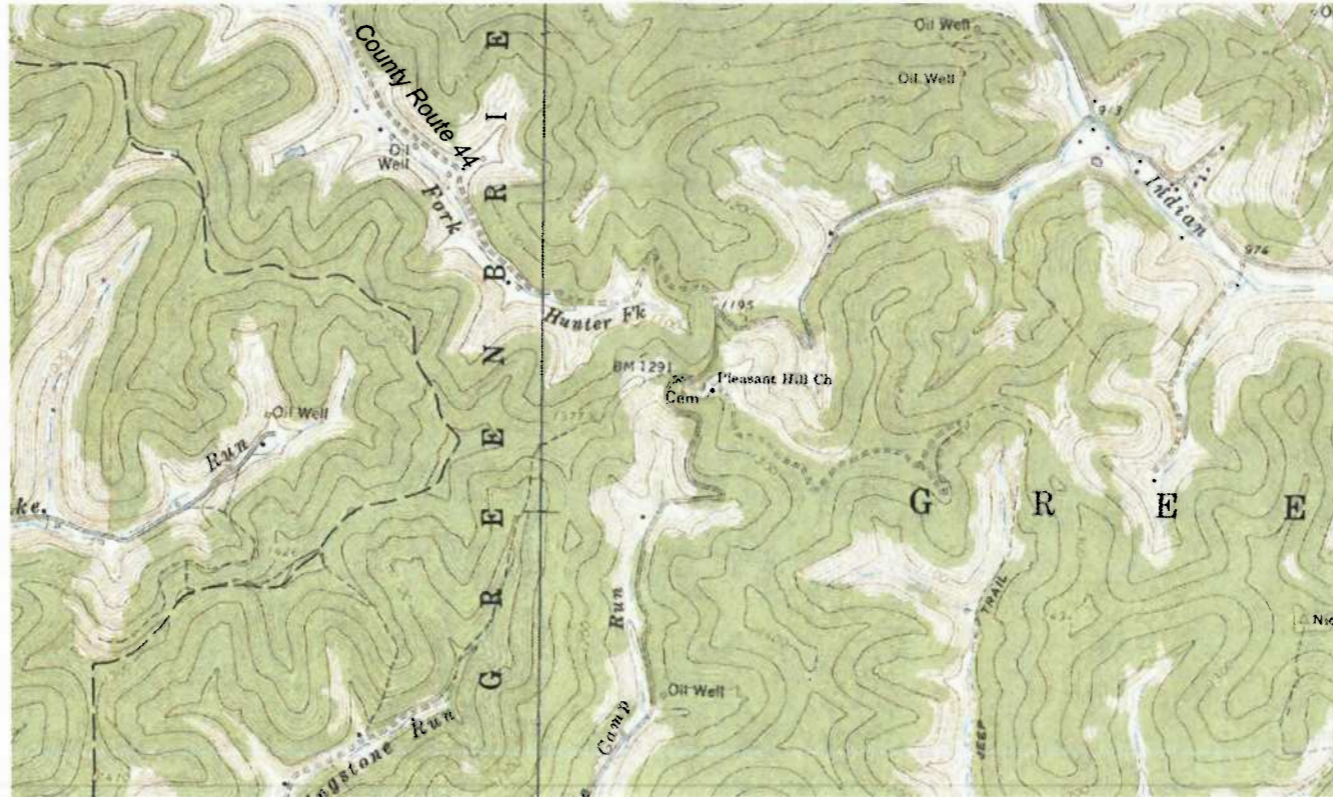
File No. Antero 336-12

Page 1 of 1



BUNTEN FRESH WATER TANK PAD SITE DESIGN, CONSTRUCTION PLAN, & EROSION & SEDIMENT CONTROL PLANS ANTERO RESOURCES APPALACHIAN CORPORATION

West Virginia State Plane Coordinate System
 North Zone, NAD83
 Elevations Based on NAVD88
 Established By Survey Grade GPS & OPUS Post-Processing



Owner Information					
Owner	TM/Parcel	Deed/Page	Total Acres	Type of Disturbance	Acres
John R. Buntin, et ux.	10/11	276/577	26	Water Tank Pad	2.18
				Access Road A	0.30
				Truck Off Load Area	0.50
				Total	2.98

LDD Area (ac)	
Water Tank Pad	2.18
Access Road A (1407)	0.30
Truck Off Load Area	0.50
Total Affected Area	2.98
Total Wooded Acres Disturbed	1.79
Total Linear Feet of Access Road	188

***NOTE: No Streams or Wetlands Were Impacted by this Design**

Project Contacts

Antero Resources

Tom Wince - Construction Manager
304-869-3405 Off. 304-483-0933 Cell

Mike Ash - Survey Coordinator
304-380-6181 Cell

Roger Dunlap - Survey Coordinator
304-651-5588

Eli Wagoner, Environmental Engineer
304-622-3842, ext 311 Off. 304-476-9770 Cell

John Kawcak, Engineer
817-368-1553

Dusty Woods
817-771-1436

Aaron Kunzler, Construction Supervisor
405-227-8344

Anthony Smith, Field Engineer
304-869-3405 Off. 304-673-6196 Cell

Surveyor & Engineer:

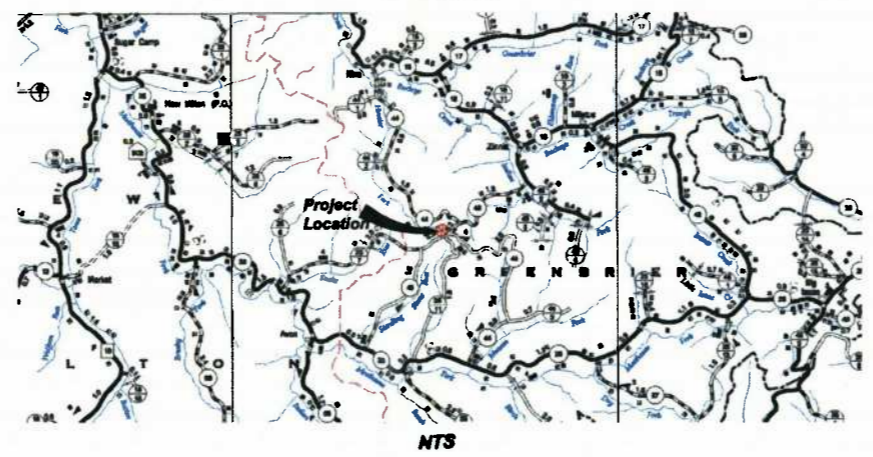
Bill Yetzer, P.S. EI, - Allegheny Surveys Inc.
304-848-5035 Off. 304-619-4937 Cell

Kirk Wilson, PE - L&W Enterprises, Inc
304-257-4818 Off. 304-668-0365 Cell



SITE LOCATIONS NAD 83		
Center of Pad (UTM Meters)	N=4340484.39 m	E=532778.75 m
Reg. Ass. Pt (UTM Meters)	N=4340478.04 m	E=532857.25 m
	LATITUDE	LONGITUDE
Center of Pad	38.219170	-80.620318
Begin Access Road	38.212987	-80.619407

GREENBRIER DISTRICT, DODDRIDGE COUNTY, WV
MIDDLE ISLAND CREEK & MEATHOUSE FORK
WATERSHEDS



- DRAWING INDEX**
- 1 COVER SHEET/LOCATION MAP
 - 2 SCHEDULE OF QUANTITIES
 - 3 CONSTRUCTION, EROSION, & SEDIMENT CONTROL NOTES
 - 4 EXISTING CONDITIONS
 - 5 SITE PLAN
 - 6 PADS, ROAD A, & SPOIL PAD A PROFILE & CROSS SECTIONS
 - 7 DETAILS
 - 8 RECLAMATION PLAN

FLOODPLAIN CONDITIONS	
DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOODPLAIN:	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR:	NO
HBC-RAS STUDY COMPLETED:	N/A
FLOODPLAIN SHOWN ON DRAWINGS:	N/A
FIRM MAP NUMBER(S) FOR SITE:	54017C0255C
ACREAGES OF CONSTRUCTION IN FLOODPLAIN:	N/A

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!!

**Know what's below.
Call before you dig.**

DATE	REVISIONS	Date: 1/3/13
4-10-13	Updated Per New Antero Standards / Updated Wetlands Delineation	Scale: N/A
6-14-13	Reduced Pad Size	Designed By: CKW/CKM
		File No. Antero 336-12
		Page 1 of 8



Allegheny Surveys, Inc.
172 Thompson Drive
Bridgeport, WV 26330
(304) 848-5035



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14 SOUTH GROVE ST.
PETERSBURG, WV 26847
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THIS DOCUMENT
PREPARED FOR
ANTERO RESOURCES
APPALACHIAN CORP

COVER SHEET/LOCATION MAP
**BUNTEN
FRESH WATER TANK PAD**
 GREENBRIER DISTRICT
 DODDRIDGE COUNTY, WV

SCHEDULE OF QUANTITIES

CLEANING & GRUBBING, EROSION & SEDIMENT CONTROLS			
Bunten Fresh Water Tank Pad			
	QUANTITY	UNIT	
MOBILIZATION	1.0	EA	\$0.00
CONSTRUCTION ENTRANCE	1.0	EA	\$0.00
CLEARING & GRUBBING	2.98	AC	\$0.00
TREE REMOVAL	1.79	AC	\$0.00
8" COMPOST FILTER SOCK	0	LF	\$0.00
12" COMPOST FILTER SOCK	400	LF	\$0.00
18" COMPOST FILTER SOCK	0	LF	\$0.00
24" COMPOST FILTER SOCK	0	LF	\$0.00
32" COMPOST FILTER SOCK	325	LF	\$0.00
SUPER SILT FENCE	0	LF	\$0.00
9" STRAW WATTLES	0	LF	\$0.00
TOTAL			\$0.00
SITE			
	QUANTITY	UNIT	
DRILL PAD EXCAVATION	0	CY	\$0.00
ACCESS ROADS EXCAVATION	14	CY	\$0.00
TANK PAD and/or FRAC PIT EXCAVATION	9,785	CY	\$0.00
OFFLOAD PAD	17	CY	\$0.00
SPOIL PAD	0	CY	\$0.00
TOPSOIL	2,000	CY	\$0.00
DIVERSION DITCH	0	LF	\$0.00
ROADSIDE DITCH	0	LF	\$0.00
TOTAL			\$0.00
SUMPS PER ANTERO RESOURCES STANDARD DETAIL			
	QUANTITY	UNIT	
INSTALL 102" x 78" x 44" PRE CAST SUMP	0	EA	\$0.00
VALVE BOX HOPE PIPE (MINIMUM 12" DIAMETER x 48" HEIGHT)	0	EA	\$0.00
4" PVC CONNECTIVE PIPE (ANTERO SUMP DRAIN DETAIL)	0	LF	\$0.00
TOTAL			\$0.00
WETLANDS SURVIVAL, SPREADING, CONSTRUCTION, and/or INSTALLATION			
	QUANTITY	UNIT	
DRILL PAD AASHTO #1 (8" THICK)	0	TON	\$0.00
DRILL PAD 1 1/2" or 3/4" CRUSHER RUN STONE (2" THICK)	0	TON	\$0.00
DRILL PAD GEOTEXTILE FABRIC (US 200)	0	SY	\$0.00
ACCESS ROADS 6" OR 4" MINUS CRUSHER RUN AGGREGATE (8" THICK)	160	TON	\$0.00
ACCESS ROADS 1 1/2" OR 3/4" CRUSHER RUN STONE (2" THICK)	40	TON	\$0.00
ACCESS ROADS GEOTEXTILE FABRIC (US 200)	350	SY	\$0.00
*INSTALL TENSAR TX190 GEOGRID or EQUIVALENT	350	SY	\$0.00
OFFLOAD PAD 6" OR 4" MINUS CRUSHER RUN AGGREGATE (8" THICK)	675	TON	\$0.00
OFFLOAD PAD 1 1/2" or 3/4" CRUSHER RUN AGGREGATE (2" THICK)	170	TON	\$0.00
OFFLOAD PAD GEOTEXTILE FABRIC (US 200)	1,400	SY	\$0.00
*INSTALL TENSAR TX190 GEOGRID or EQUIVALENT	1,400	SY	\$0.00
GATHERING FACILITIES 6" OR 4" MINUS CRUSHER RUN AGGREGATE (8" THICK)	0	TON	\$0.00
GATHERING FACILITIES 1 1/2" or 3/4" CRUSHER RUN AGGREGATE (2" THICK)	0	TON	\$0.00
GATHERING FACILITIES GEOTEXTILE FABRIC (US 200)	0	SY	\$0.00
*INSTALL TENSAR TX190 GEOGRID or EQUIVALENT	0	SY	\$0.00
TANK PAD 6" OR 4" MINUS CRUSHER RUN AGGREGATE (8" THICK)	2,750	TON	\$0.00
TANK PAD 1 1/2" or 3/4" CRUSHER RUN AGGREGATE (2" THICK)	650	TON	\$0.00
TANK PAD GEOTEXTILE FABRIC (US 200)	5,230	SY	\$0.00
*INSTALL TENSAR TX190 GEOGRID or EQUIVALENT	5,230	SY	\$0.00
TOTAL			\$0.00

	QUANTITY	UNIT	
15" HDPE	300	LF	\$0.00
18" HDPE	0	LF	\$0.00
24" HDPE	0	LF	\$0.00
30" HDPE	0	LF	\$0.00
36" HDPE	0	LF	\$0.00
42" HDPE	0	LF	\$0.00
48" HDPE	0	LF	\$0.00
60" HDPE	0	LF	\$0.00
R4 RIP RAP (INLETS/OUTLETS)	8	TON	\$0.00
AASHTO #1 STONE (DITCH CHECKS)	0	TON	\$0.00
DITCH LINING - (ACCESS ROAD) SEED AND MULCH	0	SY	\$0.00
DITCH LINING - (ACCESS ROAD) JUTE MATTING	0	SY	\$0.00
DITCH LINING - (ACCESS ROAD) SYNTHETIC MATTING (TRM)	0	SY	\$0.00
TOTAL			\$0.00
FINISHING/GATES			
	QUANTITY	UNIT	
4 FT WOVEN WIRE FARM FENCE w/MINIMUM 10 FT POST SPACING (WOODEN and/or "T" POST)	0.0	LF	\$0.00
16 FT DOUBLE GATE	0.0	EA	\$0.00
TOTAL			\$0.00
SEEDING			
	QUANTITY	UNIT	
SITE SEEDING (LIME, FERTILIZER, SEEDING, AND HYDRO-MULCH w/TACK (HYC-2 OR EQUAL))	2.0	AC	\$0.00
TOTAL			\$0.00
UNFORESEEN SITE CONDITIONS			
	QUANTITY	UNIT	
*ROCK CLAUSE - BLASTING	0.0	CY	\$0.00
*ROCK CLAUSE - HOE RAMMING	0.0	CY	\$0.00
*FRENCH DRAINS	0.0	FT	\$0.00
*ORANGE SAFETY FENCE w/"T" POST (10 FT CENTERS) - WETLAND PROTECTION	0.0	LF	\$0.00
*STEEL PANELS w/"T" POST (10 FT CENTERS) - WETLAND PROTECTION	0.0	LF	\$0.00
*SILT FENCE	0.0	LF	\$0.00
*TEMPORARY SEEDING	0.0	AC	\$0.00
*CONSTRUCTION STAKEOUT	0.0	HOUR	\$0.00
*JUTE MATTING - SLOPE MATTING	0.0	SY	\$0.00
TOTAL			\$0.00
GRAND TOTAL			\$0.00

Description	Cut (CY)	Fill (CY)	Spoil (CY)	Borrow (CY)	Max. Slope	Length Of Slope
Truck Off Load Area	17	2,372	0	2,355	n/a	n/a
Access Road A	14	270	0	256	11.94%	140 feet
Water Tank Pad	8,256	6,234	2,022	0	n/a	n/a
Totals	8,287	8,876	2,022	2,611	n/a	n/a
Total Spoil (CY) =			-589			

The earthwork quantities provided are an estimate for consideration. The quantities shown may be greater or less than actually excavated. The engineer is not responsible for variances from the estimated quantities and does not certify to their accuracy.

EARTHWORK & CAPACITY REPORTS

Water Tank Pad Report

Top of pad elevation: 1298.0000
 Cut Slope: 50.00% 2.00:1 26.57"
 Fill Slope: 50.00% 2.00:1 26.57"
 Cut Swell Factor: 1.06
 Fill Shrink Factor: 1.00

Pad Earthwork Volumes
 Total cut: 222,817.0 C.F., 8,256.10 C.Y.
 Total fill: 168,330.0 C.F., 6,234.44 C.Y.
 Balance Export: 54,587.0 C.F., 2,021.74 C.Y.
 Area: 75626.7 Sq.Ft., 1.736 Acres

Process Road A Design

Processing 0+00.000 to 1+34.000
 Cut Swell Factor: 1.050
 Fill Shrink Factor: 1.000
 Total Cut: 383.631 C.F., 14.209 C.Y.
 Total Fill: 7298.223 C.F., 270.305 C.Y.
 Balance Import: 256.098 C.Y.
 Cut to Fill Ratio: 0.05

Truck Off Load Area

Top of pad elevation: 1272.0000
 Cut Slope: 66.67% 1.50:1 33.69"
 Fill Slope: 50.00% 2.00:1 26.57"
 Cut Swell Factor: 1.05
 Fill Shrink Factor: 1.00

Pad Earthwork Volumes
 Total cut: 459.8 C.F., 17.03 C.Y.
 Total fill: 64,046.8 C.F., 2,372.10 C.Y.
 Balance Import: 63,587.0 C.F., 2,355.07 C.Y.
 Area: 14107.7 Sq.Ft., 0.324 Acres



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SCHEDULE OF QUANTITIES
**BUNTEN
 FRESH WATER TANK PAD**
 GREENBRIER DISTRICT
 DODDRIIDGE COUNTY, WV

Date: 1/3/13

DATE	REVISIONS	Scale: N/A
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CONSTRUCTION, EROSION AND SEDIMENT NOTES

GENERAL NOTES

- ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SPECIFICATIONS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH PROBLEMS. WORK DONE BY THE CONTRACTOR AFTER THE DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
- WORK ON THIS PROJECT SHALL CONFORM TO THE OFFICE OF OIL & GAS, W.VA. EROSION & SEDIMENT CONTROL FIELD MANUAL, MAY, 2012. IN THE EVENT OF CONFLICT BETWEEN THE DESIGN, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT WILL GOVERN.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED DAILY, RELOCATED WHEN NECESSARY AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDING AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RESEEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
- ALL DRAIN INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE MEANS OF CLEANING.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PUBLIC OR PRIVATE UTILITIES WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR, AT HIS OR HER EXPENSE, OF ALL EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION THE CONTRACTOR SHALL CALL MISS UTILITY AT (800) 552-7001.
- INSTALLATION OF CONCRETE, CORRUGATED METAL, OR HDPE STORM PIPE SHALL BE IN CONFORMANCE WITH THESE DRAWINGS.
- ALL MATERIALS USED FOR FILL OR BACK FILL SHALL BE FREE OF WOOD, ROOTS, ROCKS, BOULDERS OR ANY OTHER NON-COMPACTABLE SOIL TYPE MATERIALS. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN MADE FILLS AND REFUSE DEBRIS DERIVED FROM ANY SOURCE.
- MATERIALS USED TO FILL AROUND DRAINAGE STRUCTURES IN UTILITY TRENCHES OR ANY OTHER DEPRESSION REQUIRING FILL OR BACK FILL SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AS SET FORTH IN ASTM STANDARD D-998. THE CONTRACTOR SHALL, PRIOR TO ANY OPERATIONS INVOLVING FILLING OR BACK FILLING, SUBMIT THE RESULTS OF THE PROCTOR TEST TOGETHER WITH A CERTIFICATION THAT THE SOIL TESTED IS REPRESENTATIVE OF THE MATERIALS TO BE USED ON THE PROJECT. THE TESTS SHALL BE CONDUCTED BY A CERTIFIED MATERIALS TESTING LABORATORY AND THE CERTIFICATIONS MADE BY A LICENSED PROFESSIONAL ENGINEER REPRESENTING THE LABORATORY. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THESE TESTS AND THEIR SUBMITTALS.
- FILL SHALL BE PLACED IN LIFTS AT A MAXIMUM UNCOMPACTED DEPTH OF 12-INCHES WITH SOIL FREE FROM AGGREGATES EXCEEDING #20.
- ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER. FAILURE TO CONDUCT DENSITY TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE OF THE FACILITY. TESTS SHALL BE CONDUCTED AT THE SOLE COST OF THE CONTRACTOR OR HIS AGENT.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION.
- SATISFACTORY MATERIALS FOR USE AS FILL FOR PAD AREAS INCLUDE MATERIALS CLASSIFIED IN ASTM D-2487AS GW, GP, GM, GC, SW, SP, SM, SC, ML, AND CL GROUPS. THE MOISTURE CONTENT SHALL BE CONTROLLED WITHIN PLUS OR MINUS 2% OF THE OPTIMUM TO FACILITATE COMPACTION. GENERALLY, UNSATISFACTORY MATERIALS INCLUDE MATERIALS CLASSIFIED IN ASTM D-2487 AS PT, CH, MH, CL, OH AND ANY SOIL TOO WET TO FACILITATE COMPACTION. CH AND MH SOILS MAY BE USED SUBJECT TO APPROVAL OF THE ENGINEER. SOILS SHALL HAVE A MINIMUM DRY DENSITY OF 92.0% PER ASTM D-998 AND SHALL HAVE A PLASTICITY INDEX LESS THAN 17.
- CONTRACTOR SHALL SUBMIT AND ADHERE TO A GENERAL GROUNDWATER PROTECTION PLAN.

EROSION CONTROL NOTES

- THE CONTRACTOR SHALL ARRANGE FOR A PRE-CONSTRUCTION CONFERENCE WITH THE APPROPRIATE EROSION AND SEDIMENT CONTROL INSPECTOR 48 HOURS PRIOR TO BEGINNING WORK.
- ALL EROSION CONTROL DEVICES AS SHOWN OR AS REQUIRED, ARE TO BE CONSTRUCTED TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL AND ARE TO BE IN PLACE PRIOR TO ALL CONSTRUCTION.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDING AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RESEEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
- ALL DISTURBED AREAS NOT PAVED OR BUILT UPON ARE TO BE FERTILIZED, SEEDING, HYDRO-SEEDING (WITH STRAW AND COTTEN PRODUCT WITH TACK AGENTS) OR MULCHED BY THE CONTRACTOR IN ACCORDANCE WITH THE OFFICE OF OIL & GAS, W.VA. EROSION & SEDIMENT CONTROL FIELD MANUAL, MAY 2012.
- ALL DRAIN INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
- PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 21 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN SIX MONTHS.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS IMPOUNDMENTS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- ALL DISTURBED AREAS NOT PAVED OR BUILT UPON SHALL BE SEEDING, SLOPE MATTED AND FERTILIZED. PERFORM PERMANENT TOP SOILING, SEEDING, FERTILIZING, AND MATTING AS SOON AFTER FINISH GRADING AS POSSIBLE. SEEDING SHALL COMPLY WITH THE FOLLOWING:
 - TOPSOIL - 4 INCH MINIMUM FOR PERMANENT TURF
 - FERTILIZER - 500 POUNDS PER ACRES OF 10-20-10 FERTILIZER OR EQUIVALENT POUNDAGE OF DIFFERENT ANALYSIS. WORK INTO SOIL PRIOR TO SEEDING.
 - LIME (PERMANENT SEEDING) - AGRICULTURAL LIME SPREAD AT RATE OF 4 TONS/ACRE. WORK INTO SOIL PRIOR TO SEEDING.
 - MULCH - WOOD FIBER OR CHOPPED STRAW AT RATE OF 2 TONS PER ACRE. HYDRO-MULCH (EAST COAST EROSION CONTROL HY-C2 OR EQUAL) AT MANUFACTURER'S RECOMMEND RATE OR 2500 LB/AC WHICHEVER IS GREATER.
 - SEED - 45 LBS. PER ACRE TALL FESCUE AND 20 LBS. PER ACRE PERENNIAL RYE GRASS. TO BE SEEDING BY HAND OR HYDRO-SEEDER.

EROSION AND SEDIMENT CONTROL NARRATIVE

- PROJECT DESCRIPTION:** THE PURPOSE OF THIS PROJECT IS TO GRADE AND INSTALL EROSION AND SEDIMENT CONTROL MEASURES, IN PREPARATION FOR THE CONSTRUCTION OF A FRESHWATER TANK PAD AND OFFLOAD PAD NEAR ZINNIA, WEST VIRGINIA, IN DODDRIDGE COUNTY. THE CONSTRUCTION INCLUDES A WATER TRUCK OFF-LOAD AREA, ONE ACCESS ROAD, WATER TANK PAD, STORM WATER CONTROLS, AND INCIDENTAL WORK. THE TOTAL APPROXIMATE LAND DISTURBANCE ASSOCIATED WITH THIS PROJECT IS 2.81 ACRES.
- EXISTING SITE CONDITIONS:** THE EXISTING SITE IS UPLAND HARDWOODS WITH MODERATE TO STEEP TOPOGRAPHY WITH 5% TO 50% SLOPES. NO EROSION IS NOTICED ON SITE, ON ADJOINING PROPERTIES OR IN ANY NATURAL DRAINAGE WAYS. THE SITE IS ON ONE DRAINAGE AREA.
- ADJACENT PROPERTY:** THE SITE IS BORDERED ON ALL SIDES BY UPLAND HARDWOODS.
- SOILS:** NO SOIL STUDIES OR INVESTIGATIONS WERE DONE FOR THIS PROJECT.
- OFF-SITE AREAS:** THERE SHALL BE NO BORROW AREA OUTSIDE OF THE PROPOSED GRADING AND CONSTRUCTION AREA.
- CRITICAL EROSION AREAS-CONTROL MAINTENANCE:** ALL 2:1 SLOPES AND STEEPER DITCHES AND OTHER CONTROLS SHALL BE CONSIDERED CRITICAL EROSION AREAS. THESE AREAS SHALL BE MONITORED & MAINTAINED DAILY AND AFTER EACH RAIN FALL OF 0.5 INCHES OR GREATER. THE LOCAL GOVERNING AUTHORITY WILL HAVE THE AUTHORITY TO RECOMMEND THE PLACEMENT OF ADDITIONAL EROSION CONTROL MEASURES IN THESE AREAS IF IT BECOMES EVIDENT DURING CONSTRUCTION THAT THE ONES IN PLACE ARE NOT FUNCTIONING SUFFICIENTLY.
- EROSION AND SEDIMENT CONTROL MEASURES:** UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE OFFICE OF OIL & GAS, W.VA. EROSION AND SEDIMENT CONTROL FIELD MANUAL, MAY 2012. THE CONTRACTOR SHALL OBTAIN A COPY OF THIS MANUAL FROM THE WYDEP WEBSITE AND CONSTRUCT ALL DEVICES BASED ON THIS MANUAL OR A HANDBOOK THAT IS COMPARABLE OR EXCEEDS THE SPECIFICATIONS OF THE WEST VIRGINIA MANUAL. THE MINIMUM STANDARDS OF THIS MANUAL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE. SEE PLANS FOR ALL PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.
- STRUCTURAL PRACTICES:**
 - DIVERSION DITCHES: WILL BE CONSTRUCTED AS SHOWN ON THE PLANS.
 - DIVERSION BARRIERS: WILL BE CONSTRUCTED AS SHOWN ON THE PLANS.
 - OUTLET PROTECTION: WILL BE CONSTRUCTED AS SHOWN ON THE PLANS.
 - SILT SODD/STRAW MAT/SLIPCOVER: WILL BE CONSTRUCTED AS SHOWN ON THE PLANS.
- VEGETATIVE PRACTICE TOPSOILING:** TOPSOIL WILL BE STRIPPED FROM THE SITE AND STOCKPILED IN AN AREA AS SHOWN ON THESE PLANS. UPON THE COMPLETION OF THE PROJECT TOPSOIL WILL BE PLACED ON ALL DISTURBED AREAS AT A MINIMUM DEPTH OF 4 INCHES. TEMPORARY SEEDING: ALL DENUDED AREAS LEFT DORMANT FOR MORE THAN 21 DAYS SHALL BE SEEDING WITH A FAST GERMINATING SEED. THE TIME OF YEAR WILL BE THE BASIS FOR THE SEED MIXTURE. PERMANENT SEEDING: ALL SEEDING AREAS WILL BE RESEEDING, MULCHED AND FERTILIZED AS NEEDED TO OBTAIN AN ADEQUATE STAND OF GRASS. PERMANENT SEEDING SHALL BE PLACED WITHIN SEVEN DAYS UPON ACHIEVING FINAL GRADE. WATER, MULCH, AND RESEED AS NECESSARY TO OBTAIN AN ADEQUATE STAND OF VEGETATION, IN THE OPINION OF THE ENGINEER.
- MANAGEMENT STRATEGIES:** CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS WILL BEGIN AND END AS SOON AS POSSIBLE. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES. AFTER ACHIEVING ADEQUATE STABILIZATION THE TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED AND ANY AREAS DISTURBED DURING THIS PROCESS SHALL BE STABILIZED.
- SEQUENCE OF EVENTS:**
 - A PRE-CONSTRUCTION CONFERENCE WILL BE HELD ON SITE WITH CONTRACTOR TO REVIEW THE CONSTRUCTION DRAWINGS AND PROVIDE ANY REQUESTED GUIDANCE.
 - CONSTRUCT THE CONSTRUCTION ENTRANCE.
 - CONSTRUCT ALL PROPOSED SEDIMENT CONTROL DEVICES AS SOON AS CLEARING AND GRUBBING OPERATIONS ALLOW. DIVERSIONS AND SEDIMENT BASINS SHALL BE SEEDING AND MULCHED IMMEDIATELY.
 - CLEAR AND GRUB, REMOVE TOPSOIL AND PLACE AT AN AREA DETERMINED IN THE FIELD WHERE EROSION WILL NOT TAKE PLACE. TOPSOIL STOCKPILE TO BE SEEDING AND MULCHED. SILT FENCE SHALL BE CONSTRUCTED AROUND TOPSOIL STOCKPILES.
 - GRADING OPERATIONS AS REQUIRED. CUT SLOPES AND FILL SLOPES SHALL BE TOPSOILED IF NEEDED. DITCH LINES SHALL BE CLEANED. ALL DITCHES WILL HAVE AT LEAST GRASS LINING PROTECTION OR GREATER BASED ON DITCH SLOPE WITH THE FOLLOWING DETERMINATION: 0 TO 3% - GRASS LINED, 3 TO 5% - KITE MATTING AND 5% OR GREATER - TBM.
 - CULVERT INLET AND OUTLET PROTECTION SHALL BE CONSTRUCTED IMMEDIATELY UPON PLACEMENT OF INLETS AND CULVERTS. INSTALLATION OF MATTING AND/OR RIP RAP TO OCCUR ONCE DITCHES ARE CONSTRUCTED.
 - WHEN FINAL GRADE IS ACHIEVED, TOPSOIL TO BE PLACED ON ALL DISTURBED AREAS NOT LINED. SEED ALL DISTURBED AREAS AS REQUIRED. A SOIL SAMPLE SHOULD BE TAKEN AND TESTED TO DETERMINE RECOMMENDED RATES. IF NO SOILS SAMPLE IS TAKEN THE FOLLOWING RATES SHOULD BE APPLIED AS A MINIMUM: LIME AT A RATE OF 4 TONS PER ACRE. FERTILIZE AT A RATE OF 500 LBS. OF 10-20-10 PER ACRE. SEED WITH 45 LBS. PER ACRE OF TALL FESCUE AND 20 LBS. PER ACRE OF PERENNIAL RYE GRASS.
 - LIME, FERTILIZER, AND SEED WILL BE APPLIED BY HAND OR USING A HYDRO-SEEDER. HYDRO-MULCH PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 - FINAL SEEDING MUST OCCUR WITHIN 7 DAYS OF FINAL GRADING.
 - WHEN SITE IS STABILIZED WITH ESTABLISHED TURF OVER 70%, ALL EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED AND REPAIR/STABILIZE THOSE AREAS IN ACCORDANCE WITH STATE STANDARDS.
 - MAKE MODIFICATIONS FOR PERMANENT STORM WATER MANAGEMENT.
 - FINAL SITE INSPECTION.
- PERMANENT STABILIZATION:** ALL AREAS LEFT UNCOVERED BY EITHER BUILDINGS OR PAVEMENT SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING AND WITHIN 7 DAYS. AT NO TIME SHALL LAND LAY DORMANT FOR LONGER THAN 7 DAYS. SEE SEQUENCE OF EVENTS FOR RATES.
- MAINTENANCE AND OTHER CONSIDERATIONS AND GROUND WATER PROTECTION:** ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH RAINFALL OF 0.5 INCHES OR MORE. THEY WILL BE INSPECTED FOR UNDERMINING, DETERIORATION, EROSION AND EXCESS DEPOSITED MATERIAL. ALL DEFICIENCIES WILL BE CORRECTED IMMEDIATELY. EXCESS MATERIAL WILL BE SPREAD ON THE SITE IN A MANNER WHERE IT IS NOT LIKELY TO ERODE IN THE FUTURE. CLEANING PROCEDURES WILL BE COMPLETED AT REGULAR INTERVALS AND AT LEAST WHEN SEDIMENT REACHES CLEAN OUT LEVELS SHOWN. RECORDS OF CLEANING AND CORRECTIONS WILL BE MAINTAINED BY THE CONTRACTOR. THE "GENERIC GROUNDWATER PROTECTION PLAN FOR CONSTRUCTION SITES" WILL BE USED AND AVAILABLE ON SITE AT ALL TIMES. AN AREA WILL BE PROVIDED FOR VEHICLE AND EQUIPMENT MAINTENANCE. MOBILE FUEL TANKS WITH APPROVED TANKS WILL BE USED ON THIS SITE. PORTABLE SANITARY FACILITIES WILL BE AVAILABLE FOR EMPLOYEES. IF CONCRETE IS USED, EXCESS CONCRETE WILL BE DISPOSED OF PROPERLY AND NOT ALLOWED TO REMAIN ON THIS SITE. MACHINERY WILL NOT BE ALLOWED IN LIVE STREAMS. FLUIDS SUCH AS DIESEL FUEL, GAS, OIL OR ANTIFREEZE WILL BE KEPT IN PROPER CONTAINERS AND ANY SPILLAGE WILL BE CLEANED AND TAKEN OFF-SITE TO A PROPER FACILITY. SOLID OR HAZARDOUS WASTES WILL BE DISPOSED IN ACCORDANCE WITH APPROPRIATE STATE AND FEDERAL REGULATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE CHANGES AND NOTIFY WYDEP OF ANY CHANGES TO GPP. A FINAL INSPECTION WILL BE MADE AT THE CONCLUSION OF THE PROJECT AND ALL CORRECTIONS MADE BEFORE SIGN-OFF OF THE PROJECT SITE.



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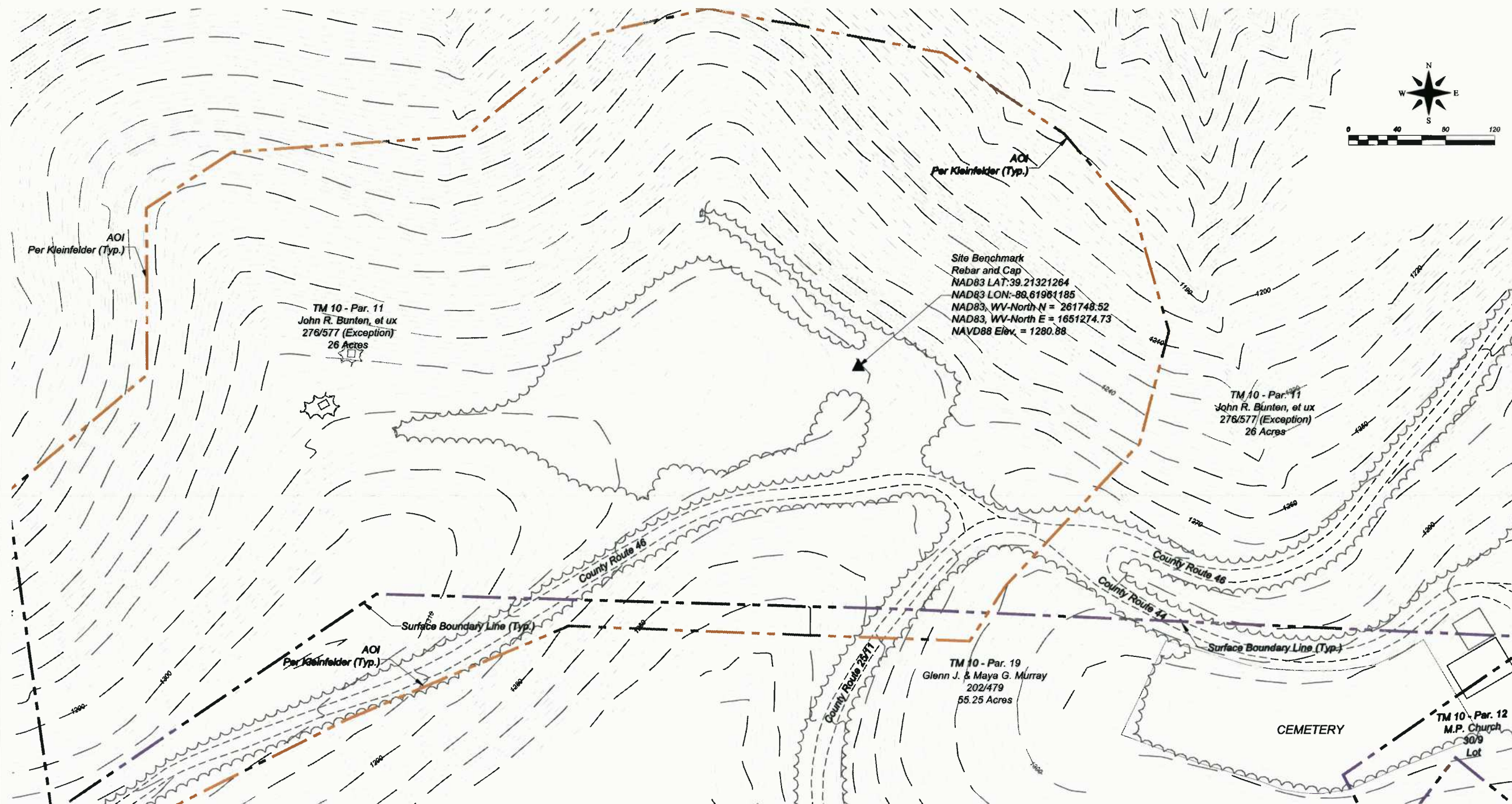
THIS DOCUMENT
PREPARED FOR
ANTERO RESOURCES
APPALACHIAN CORP

CONSTRUCTION, EROSION AND SEDIMENT NOTES
BUNTEN
FRESH WATER TANK PAD
GREENBRIER DISTRICT
DODDRIDGE COUNTY, WV

DATE	REVISIONS	Date: 1/3/13
4-10-13	Updated Per New Antero Standards / Updated Wetlands Delineation	Scale: N/A
6-14-13	Reduced Pad Size	Designed By: CKW/CKM
		File No. Antero 336-12
		Page 3 of 8

All topographic information shown hereon is based on aerial photography provided by Blue Mountain Aerial Mapping with a flight date of Spring 2011

EXISTING CONDITIONS



NOTE: All surface boundary line shown hereon are based on current Deeds and boundary evidence collected with mapping grade GPS receivers.

Legend			
	Existing 2' Contour		Proposed Check Dam
	Existing 10' Contour		Proposed Culvert W/ Inlet & Outlet Protection
	Existing Tree Line		Proposed Straw Watties
	Existing Utility Line / Pole		Proposed Silt Soxx w/ Diameter
	Surface Owner Property Line		Proposed 2' Contour
	Existing Gas Line CL		Proposed 10' Contour
	LOD Limits of Disturbance		Proposed Rip-Rap
	Proposed Diversion Ditch		* Silt Soxx Diameter in Inches
	Proposed 2' Contour		* Super Silt Fence Can be Substituted for Silt Soxx of any Size
	Proposed 10' Contour		
	Proposed Super Silt Fence		

DATE	REVISIONS
4-10-13	Updated Per New Antero Standards / Updated Wetlands Delineation
6-14-13	Reduced Pad Size

Date: 1/3/13
 Scale: 1" = 40'
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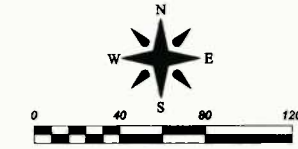


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EXISTING CONDITIONS
BUNTEN
FRESH WATER TANK PAD
 GREENBRIER DISTRICT
 DODDRIDGE COUNTY, WV

All topographic information shown hereon is based on aerial photography provided by Blue Mountain Aerial Mapping with a flight date of Spring 2011

BUNTEN FRESH WATER TANK PAD SITE DESIGN ANTERO RESOURCES APPALACHIAN CORPORATION



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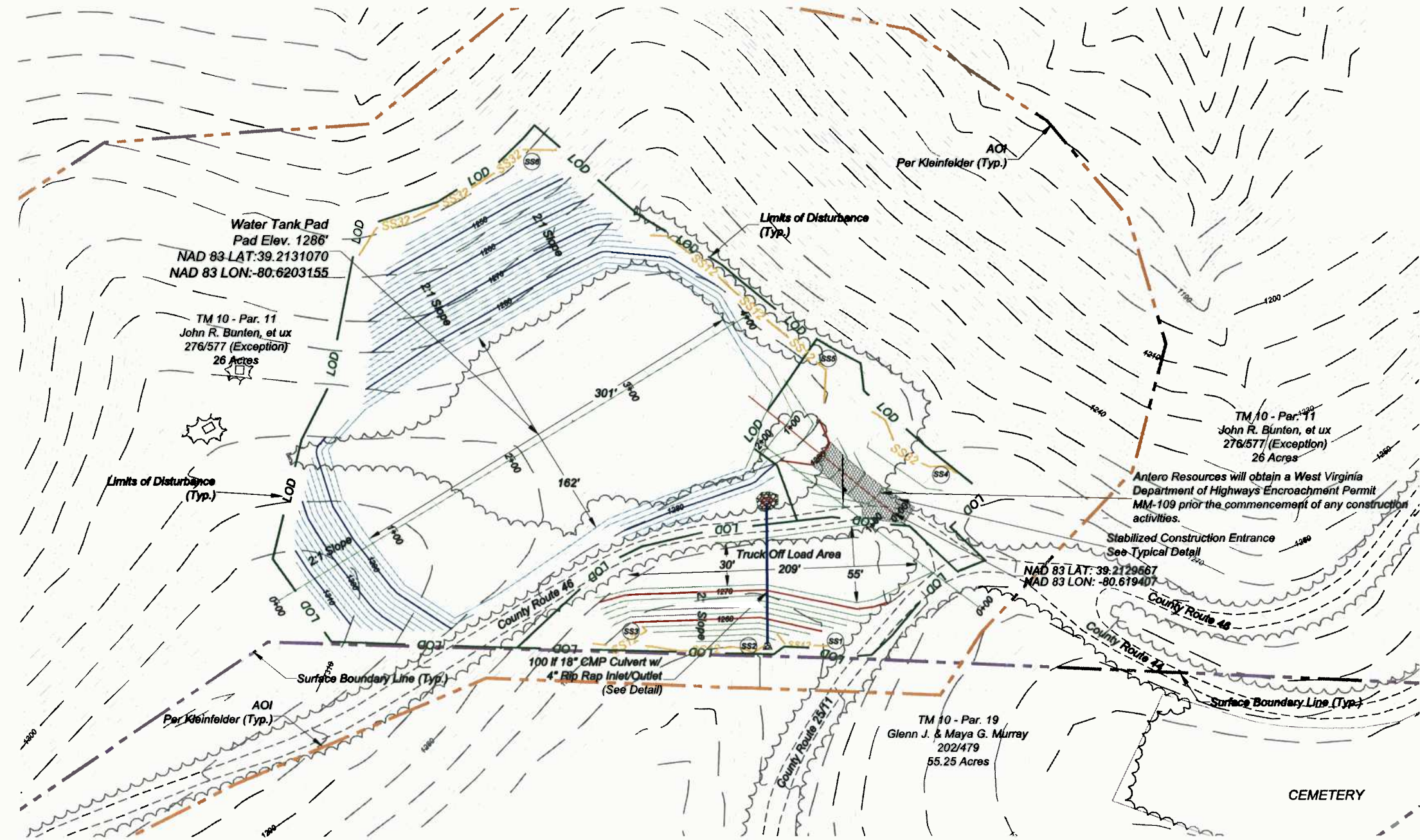


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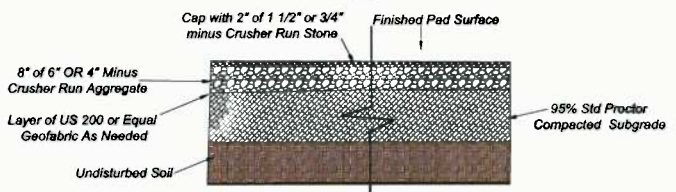
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SITE DESIGN
BUNTEN
FRESH WATER TANK PAD
GREENBRIER DISTRICT
DODDRIDGE COUNTY, WV

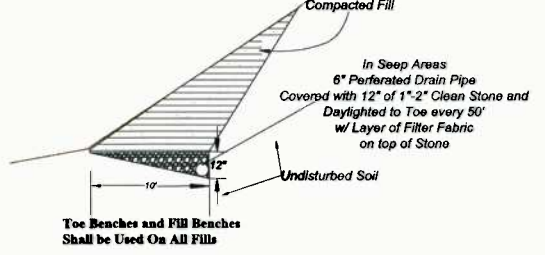


NOTE: All surface boundary lines shown hereon are based tax map data and shapefiles provided by Antero.

Typical Pad Cross-Section
NTS



TYPICAL TOE KEY/FILL BENCH DETAIL
NTS

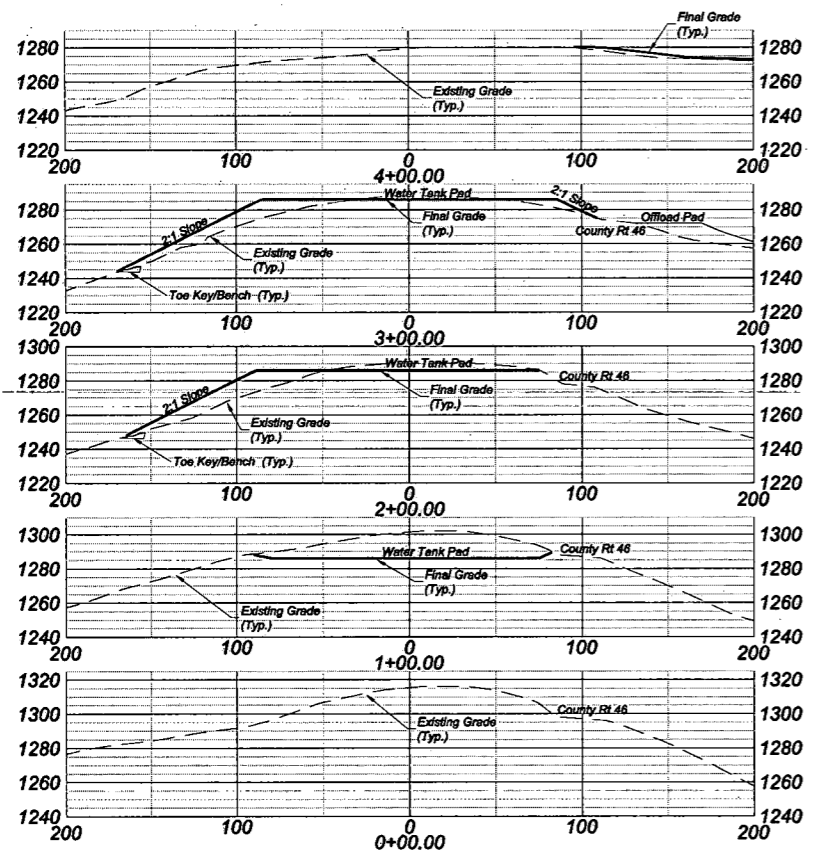
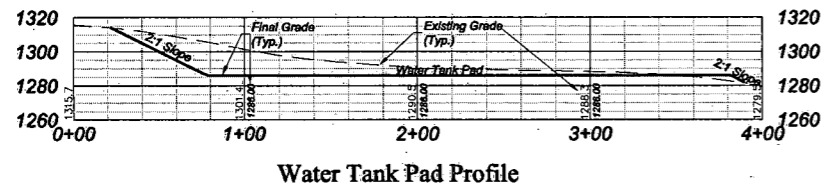


Legend	
--- 1330 ---	Existing 2' Contour
--- 10' ---	Existing 10' Contour
---	Existing Tree Line
--- E --- E	Existing Utility Line / Pole
---	Surface Owner Property Line
---	Existing Gas Line CL
---	Limits of Disturbance
---	Proposed Diversion Ditch
---	Proposed 2' Contour
---	Proposed 10' Contour
---	Proposed Super Silt Fence
---	Proposed Check Dam
---	Proposed Culvert W/ Inlet & Outlet Protection
---	Proposed Straw Wattles
---	Proposed Silt Soxx w/ Diameter
---	Proposed 2' Contour
---	Proposed 10' Contour
---	Proposed Rip-Rap
---	Silt Soxx Diameter in Inches
---	* Super Silt Fence Can be Substituted for Silt Soxx of any Size

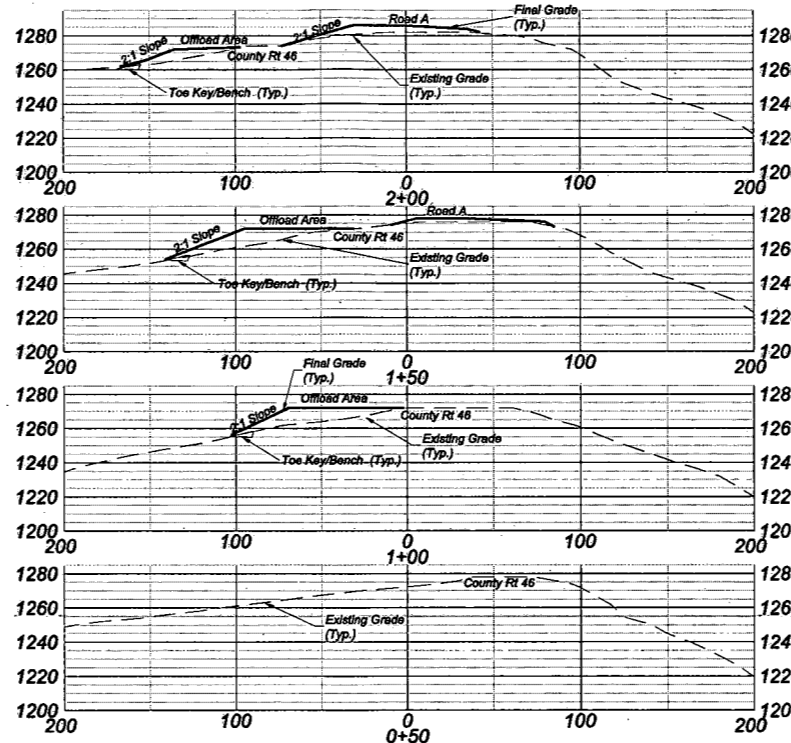
DATE	REVISIONS
4-10-13	Updated Per New Antero Standards / Updated Wetlands Delineation
6-14-13	Reduced Pad Size

Date: 1/3/13
Scale: 1" = 40'
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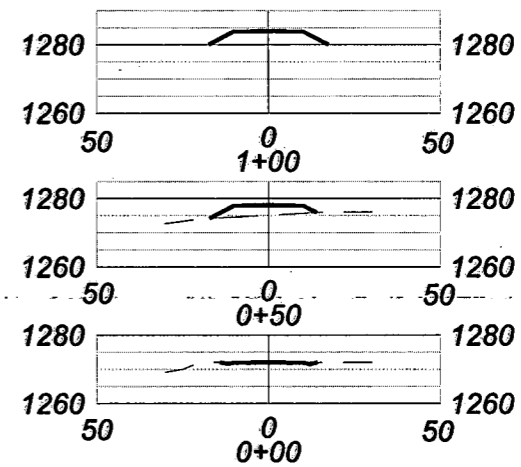
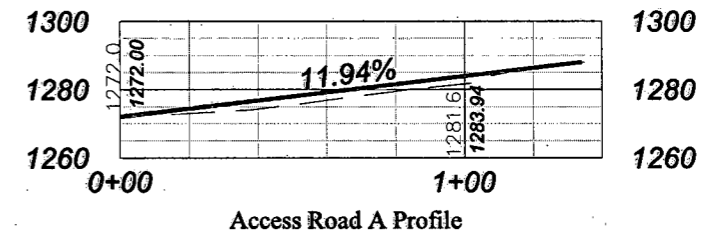
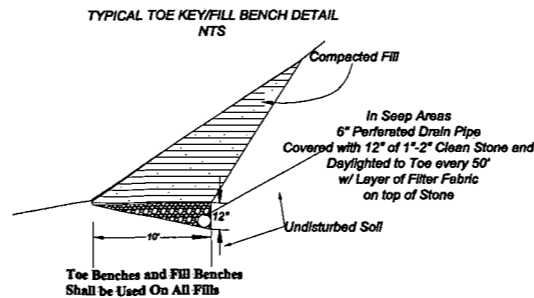
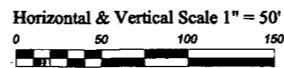
PADS, ACCESS ROAD A, & SPOIL PAD PROFILES & CROSS SECTIONS



Water Tank Pad Cross Section
Horizontal & Vertical Scale 1" = 50'



Offload and Spoil Pad Cross Sections



Access Road A Cross Section
Horizontal & Vertical Scale 1" = 25'



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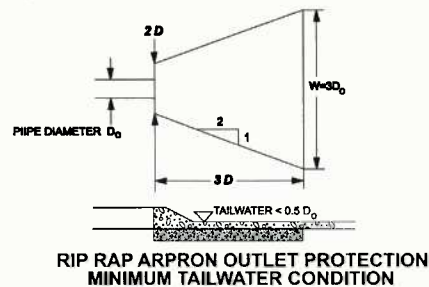


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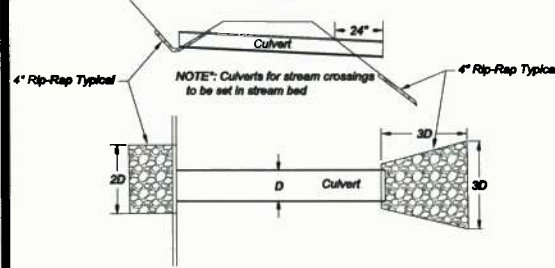
BUNTEN FRESH WATER TANK PAD
 GREENBRIER DISTRICT
 DODDRIDGE COUNTY, WV

DATE	REVISIONS	Date: 1/3/13
4-10-13	Updated Per New Antero Standards / Updated Wetlands Delineation	Scale: 1" = 50' / 25'
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		File No. Antero 336-12
		Page 6 of 8

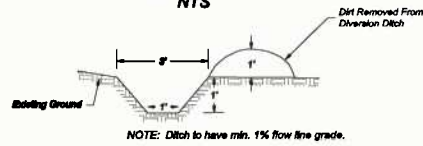
DETAILS



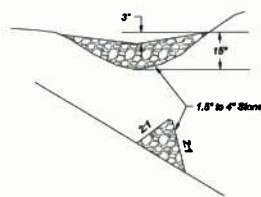
TYPICAL CULVERT & CULVERT INLET AND OUTLET PROTECTION DETAIL NTS



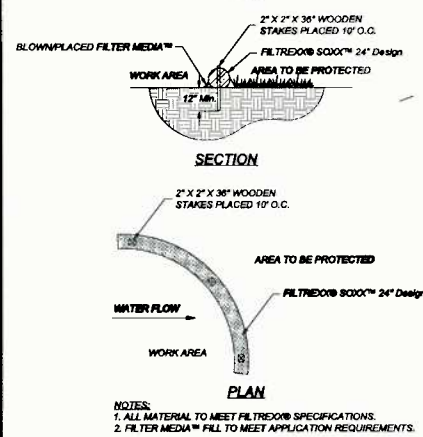
DIVERSION DITCH DETAIL NTS



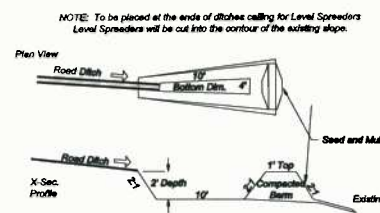
DITCH CHECK DAM DETAIL SPACING AS INDICATED ON PROFILES NTS



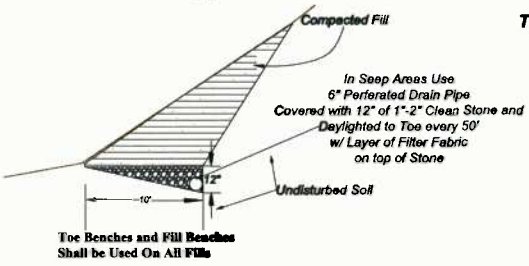
FILTREXX "SOXX" 24" FILTER SOCK DETAIL NTS



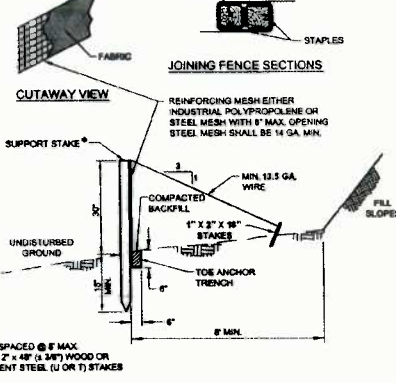
LEVEL SPREADER DETAIL NTS



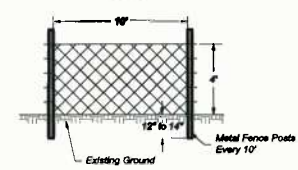
TYPICAL TOE KEY/FILL BENCH DETAIL NTS



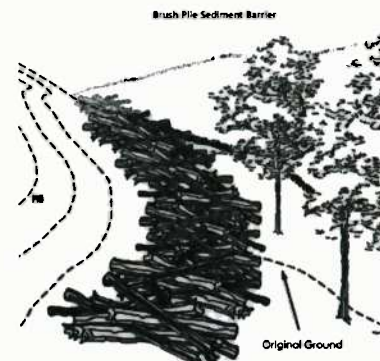
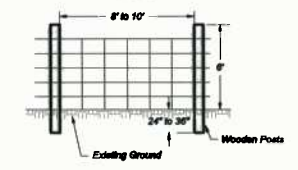
SUPER SILT FENCE TYPICAL DETAIL NTS



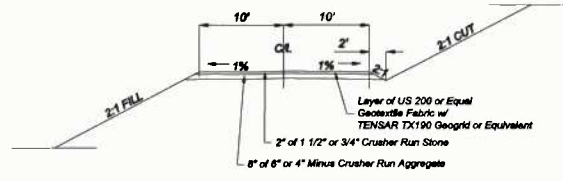
TYPICAL CONSTRUCTION FENCE DETAIL NTS



TYPICAL WOVEN WIRE FENCE DETAIL NTS



TYPICAL 20' ROAD CROSS SECTION DETAIL NTS

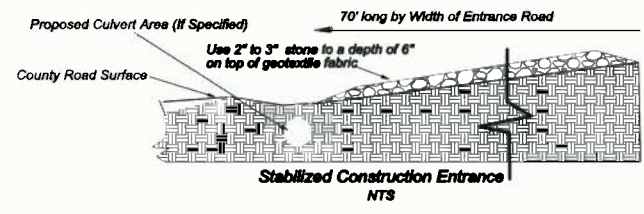


Typical Pad Cross-Section NTS



	Yellow Ribbon: Yellow Ribbon used to indicate top of Cuts (C) Cut to be determined at time of subsoil Slopes determined by site design
	Yellow & Orange Ribbon: Yellow and Orange Ribbon used to indicate Grade at Top of Pad/Pond/Fill
	Orange Ribbon: Orange Ribbon used to indicate toes of Fills (F) Fill to be determined at time of subsoil Slopes determined by site design
	Pink Ribbon: Pink Ribbon used to indicate Top Hole Location Pink Ribbon used to indicate Survey Control Locations
	Pink & Black Stripe Ribbon: Pink & Black Stripe Ribbon used to indicate Vertical Cut (VC) at Pad/Pond/Fill corner or edge Pink & Black Stripe Ribbon used to indicate Vertical Fill (VF) at Pad/Pond/Fill corner or edge Vertical Cut/Vertical Fill to be determined at time of subsoil
	Blue & White Stripe Ribbon: Blue & White Stripe Ribbon used to indicate clearing limits/construction limits
	Orange & Black Stripe Ribbon: Orange & Black Stripe Ribbon used to indicate Vertical Cut (VC) at Centerline or edge of access road Orange & Black Stripe Ribbon used to indicate Vertical Fill (VF) at centerline or edge of access road
	Pink & White Stripe Ribbon: Pink & White Stripe Ribbon used to indicate Erosion and Sediment Control Structures Silt Fence (SF) Reinforced Filter Fence (RFF) Super Silt Fence (SSF) Filter Sock (FS)
	Orange & White Stripe Ribbon: Orange & White Stripe Ribbon used to indicate Topsoil Stockpile Locations
	Blue Ribbon: Blue Ribbon used to indicate Centerline (CL) Ditch Blue Ribbon used to indicate Bottom (BTM) Sediment Traps

ANTERO RESOURCES STANDARD RIBBON COLOR SCHEME



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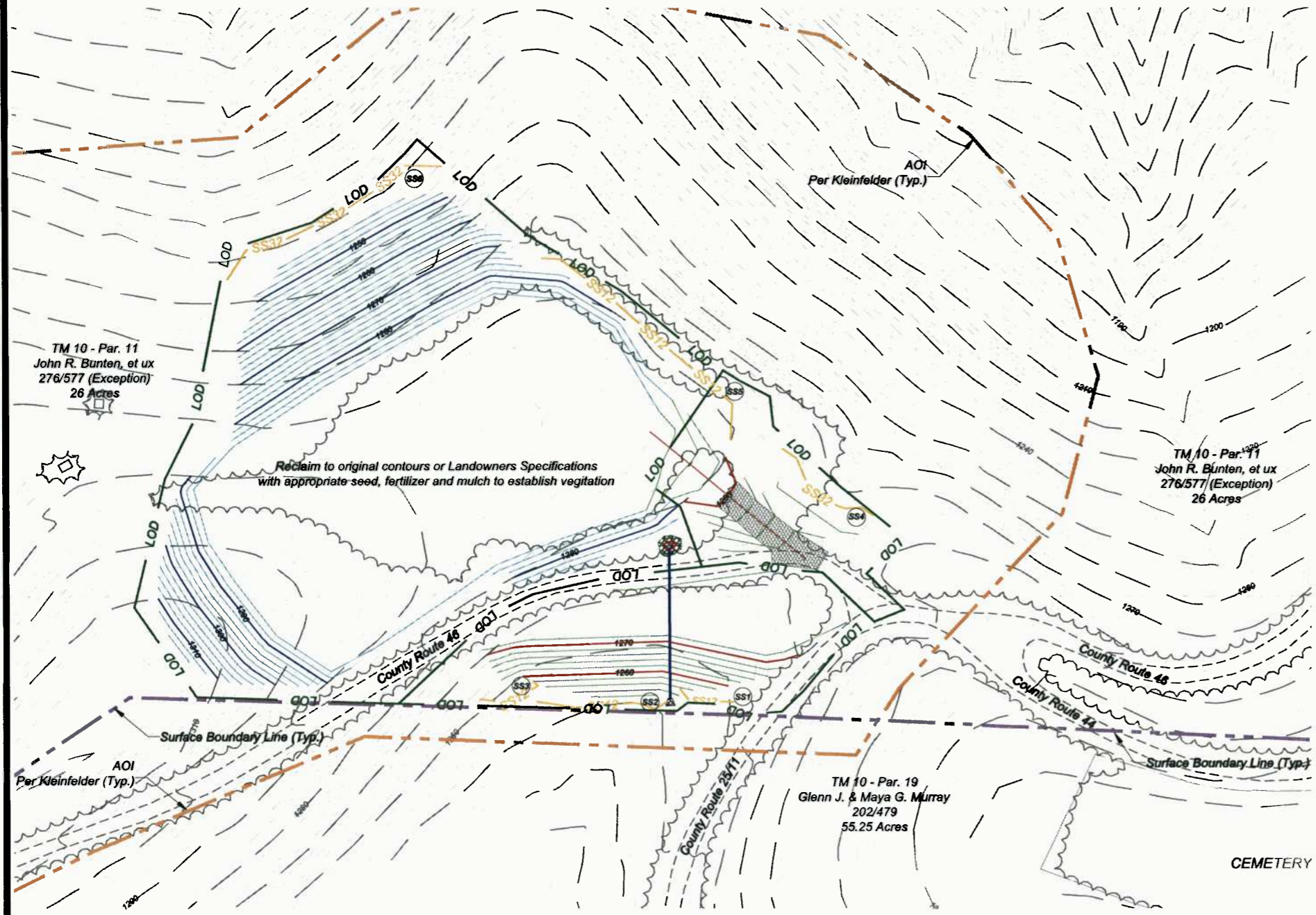
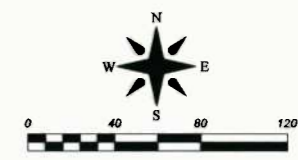
ANTERO RESOURCES

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DETAILS
BUNTEN FRESH WATER TANK PAD
GREENBRIER DISTRICT
DODDRIIDGE COUNTY, WV

DATE	REVISIONS	Date: 1/3/13
4-10-13	Updated Per New Antero Standards / Updated Wetlands Delineation	Scale: N/A
		Designed By: CKW/CKM
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		Page 7 of 8

BUNTEN FRESH WATER TANK PAD RECLAMATION PLAN



RECLAMATION CONSTRUCTION SPECIFICATIONS:

1. THE IMPONMENT SHALL BE RECLAIMED TO LANDOWNERS SPECIFICATIONS OR AS NEAR TO ORIGINAL PRE-DISTURBED GRADES AS POSSIBLE. THE LINER SHALL BE REMOVED AND DISPOSED APPROPRIATELY OR RECYCLED.
2. EROSION AND SEDIMENT CONTROLS SHALL BE REPAIRED/RE-ESTABLISHED PRIOR TO RECLAMATION WORK COMMENCEMENT.
3. THE CONTRACTOR SHALL HAVE ON SITE AT ALL TIMES WHEN CONSTRUCTION IS IN PROGRESS A COMPETENT SUPERINTENDENT THOROUGHLY FAMILIAR WITH THE CONSTRUCTION OF EARTH BERMS AND EMBANKMENTS, THE COMPACTION OF SOILS AND PLACEMENTS OF LINERS.
4. SURFACE WATER SHALL BE DIVERTED AWAY FROM ALL EXCAVATIONS TO PREVENT FLOODING AND SOFTENING OF THE SUB GRADE OR COMPACTED MATERIALS.
5. TOP SOIL SHALL BE STRIPPED AND STOCKPILED WITH APPROPRIATE STABILIZATION AND SILT FENCE TO PREVENT EROSION. THE TOP SOIL SHALL BE REUSED DURING THE RECLAMATION PROCESS OR ON THE FACE OF THE IMPONMENT PRIOR TO SEEDING.
6. TOE CUTS OF 10' MINIMUM WIDE SHALL BE EXCAVATED ON ALL RECEIVING SLOPES TO PROVIDE A BASE FOR THE IMPONMENT BERM. ADDITIONAL TERRACING SHALL BE CONSTRUCTED FOR EACH ADDITIONAL FIFTY (50) VERTICAL FEET OF SLOPE AND SHALL BE A MINIMUM OF TEN (10) FEET WIDE.
7. PRIOR TO PLACING ANY FILL, THE EXPOSED SUB GRADE SHALL BE COMPACTED AND PROOF ROLLED TO PRODUCE A STABLE AND UNYIELDING SITE.
8. ALL FILL SHALL BE PLACED IN LIFTS OF UP TO 18" AND SHALL BE COMPACTED TO 80% OF THE STANDARD PROCTOR DENSITY OF THE SOIL PER ASTM D-998. THE MOISTURE CONTENT SHALL BE CONTROLLED WITHIN PLUS OR MINUS 2% OF THE OPTIMUM TO FACILITATE COMPACTION. THE CONTRACTOR SHALL DO IN-PLACE DENSITY TESTS EVERY LIFT OF SOIL AND SHALL BE DONE IN TWO RANDOM PLACES ON EACH STRAIGHT SIDE OF THE IMPONMENT BERM. RECORDS SHALL BE MAINTAINED OF TEST LOCATION AND RESULTS AND PROVIDED TO THE ENGINEER ON REQUEST. AREAS THAT FAIL FOR COMPACTION SHALL BE REMOVED, RE-COMPACTED AND RETESTED FOR COMPLIANCE. IN LIEU OF MODIFIED PROCTOR TESTING, THE CONTRACTOR MAY PROOF-ROLL THE SOIL EVERY 12" OF SOIL LIFT WITH A LOADED 18 TON YANHEM DUMP TRUCK. SOIL THAT DEFLECTS UNDER THE REAR WHEELS GREATER THAN 1/2" SHALL BE REMOVED, RE-COMPACTED AND RETESTED. COMPACTION OF SOIL SHALL BE DONE WITH A 8 TON SHEEPS FOOT, OR VIBRATORY ROLLER.
9. TOP SOIL SHALL BE PLACED ON THE FINAL SURFACE AND TRACKED IN WITH DOZERS ONLY AND FERTILIZED, LIMED, SEEDED AND MULCHED AT RATES ESTABLISHED ON SHEET 3 OF THESE PLANS. THE SITE SHALL BE MAINTAINED AND MANAGED TO ESTABLISH A UNIFORM TURF UNTIL 70% OF THE AREA IS ESTABLISHED. AFTER FINAL INSPECTION, ALL EAS CONTROLS SHALL BE REMOVED AND ANY DISTURBED AREAS RESEEDED AND MULCHED.
10. MAINTENANCE AND OTHER CONSIDERATIONS AND GROUND WATER PROTECTION: ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH RAINFALL OF 0.5 INCHES OR MORE. THEY WILL BE INSPECTED FOR UNDERMINING, DETERIORATION, EROSION AND EXCESS DEPOSITED MATERIAL. ALL DEFICIENCIES WILL BE CORRECTED IMMEDIATELY. EXCESS MATERIAL WILL BE SPREAD ON THE SITE IN A MANNER WHERE IT IS NOT LIKELY TO BROOD IN THE FUTURE. CLEANING PROCEDURES WILL BE COMPLETED AT REGULAR INTERVALS AND AT LEAST WHEN SEDIMENT REACHES CLEAN OUT LEVELS SHOWN. RECORDS OF CLEANING AND CORRECTIONS WILL BE MAINTAINED BY THE CONTRACTOR. THE "GENERIC GROUNDWATER PROTECTION PLAN FOR CONSTRUCTION SITES" WILL BE USED AND AVAILABLE ON SITE AT ALL TIMES. AN AREA WILL BE PROVIDED FOR VEHICLE AND EQUIPMENT MAINTENANCE. MOBILE FUEL TRUCKS WITH APPROVED TANKS WILL BE USED ON THIS SITE. PORTABLE SANITARY FACILITIES WILL BE AVAILABLE FOR EMPLOYEES. IF CONCRETE IS USED, EXCESS CONCRETE WILL BE DISPOSED OF PROPERLY AND NOT ALLOWED TO REMAIN ON THIS SITE. MACHINERY WILL NOT BE ALLOWED IN LIVE STREAMS. FLUIDS SUCH AS DIESEL FUEL, GAS, OIL OR ANTIFREEZE WILL BE KEPT IN PROPER CONTAINERS AND ANY SPILLAGE WILL BE CLEANED AND TAKEN OFF SITE TO A PROPER FACILITY. SOLID OR HAZARDOUS WASTES WILL BE DISPOSED IN ACCORDANCE WITH APPROPRIATE STATE AND FEDERAL REGULATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO MAKE CHANGES AND NOTIFY WYDEP OF ANY CHANGES TO GPP. A FINAL INSPECTION WILL BE MADE AT THE CONCLUSION OF THE PROJECT AND ALL CORRECTIONS MADE BEFORE SIGN-OFF OF THE PROJECT SITE.
11. SEQUENCE OF EVENTS:
 - A. A PRE-CONSTRUCTION CONFERENCE WILL BE HELD ON SITE WITH CONTRACTOR TO REVIEW THE CONSTRUCTION DRAWINGS AND PROVIDE ANY REQUESTED GUIDANCE.
 - B. CONSTRUCT THE CONSTRUCTION ENTRANCE.
 - C. CONSTRUCT ALL PROPOSED SEDIMENT CONTROL DEVICES AS SHOWN.
 - D. REMOVE TOPSOIL AND PLACE AT AN AREA DETERMINED IN THE FIELD WHERE EROSION WILL NOT TAKE PLACE. SILT FENCE SHALL BE CONSTRUCTED AROUND TOPSOIL STOCKPILES.
 - E. GRADING OPERATIONS AS REQUIRED. FILL SLOPES SHALL BE TOPSOILED.
 - G. WHEN FINAL GRADE IS ACHIEVED, TOPSOIL TO BE PLACED ON ALL DISTURBED AREAS NOT LINED. SEED ALL DISTURBED AREAS AS REQUIRED. A SOIL SAMPLE SHOULD BE TAKEN AND TESTED TO DETERMINE RECOMMENDED RATES. IF NO SOILS SAMPLE IS TAKEN THE FOLLOWING RATES SHOULD BE APPLIED AS A MINIMUM: LIME AT A RATE OF 4 TONS PER ACRE. FERTILIZE AT A RATE OF 500 LBS. OF 10-20-10 PER ACRE. SEED WITH 45 LBS. PER ACRE OF TALL FESCUE AND 20 LBS. PER ACRE OF PERENNIAL RYE GRASS.
 - H. LIME, FERTILIZER, AND SEED WILL BE APPLIED BY HAND OR USING A HYDRO-SEEDER. HYDRO-MULCH PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
 - I. FINAL SEEDING MUST OCCUR WITHIN 7 DAYS OF FINAL GRADING.
 - J. WHEN SITE IS STABILIZED, ALL EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED AND REPAIR/STABILIZE THOSE AREAS IN ACCORDANCE WITH STATE STANDARDS.
 - K. MAKE MODIFICATIONS FOR PERMANENT STORM WATER MANAGEMENT.
 - L. FINAL SITE INSPECTION.
12. PERMANENT STABILIZATION: ALL AREAS LEFT UNCOVERED BY EITHER BUILDINGS OR PAVEMENT SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING AND WITHIN 7 DAYS. AT NO TIME SHALL LAND LAY DORMANT FOR LONGER THAN 21 DAYS.

TM 10 - Par. 11
John R. Buntin, et ux
276/577 (Exception)
26 Acres

Reclaim to original contours or Landowners Specifications
with appropriate seed, fertilizer and mulch to establish vegetation

TM 10 - Par. 11
John R. Buntin, et ux
276/577 (Exception)
26 Acres

TM 10 - Par. 19
Glenn J. & Maya G. Murray
202/479
55.25 Acres

CEMETERY

*NOTE: No Additional Grading Will be Done for Reclamation

Legend	
— 1330 —	Existing 2' Contour
— 1000 —	Existing 10' Contour
— (Tree) —	Existing Tree Line
— E — E —	Existing Utility Line / Pole
— (Dashed) —	Surface Owner Property Line
— GAS —	Existing Gas Line CL
— LOD —	Limits of Disturbance
— (Dashed) —	Proposed Diversion Ditch
— 2' —	Proposed 2' Contour
— 10' —	Proposed 10' Contour
— SF —	Proposed Super Silt Fence
— CD —	Proposed Check Dam
— (Culvert) —	Proposed Culvert W/ Inlet & Outlet Protection
— SW —	Proposed Straw Wattles
— SSXX —	Proposed Silt Soxx w/ Diameter
— 2' —	Proposed 2' Contour
— 10' —	Proposed 10' Contour
— (Rip-Rap) —	Proposed Rip-Rap
— (Silt Soxx) —	* Silt Soxx Diameter in Inches
— (Super Silt Fence) —	* Super Silt Fence Can be Substituted for Silt Soxx of Any Size

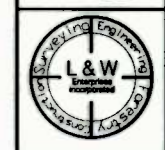
DATE	REVISIONS	Date: 1/3/13
4-10-13	Updated Per New Antero Standards / Updated Wetlands Delineation	Scale: 1" = 40'
6-14-13	Reduced Pad Size	Designed By: CKW/CKM
		File No. Antero 336-12
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RESOURCES
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APPALACHIAN CORP

RECLAMATION PLAN
BUNTEN
FRESH WATER TANK PAD
GREENBRIER DISTRICT
DODDRIDGE COUNTY, WV