

# 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: #14-237 James Webb Centralized Freshwater Impoundment**

**Date Approved: 07/10/2014**

**Expires: N/A**

**Issued to: ANTERO RESOURCES**

**POC: Emily Kijowski  
303-357-7232**

**Company Address: 1615 WYNKOOP ST  
DENVER, CO**

**Project Address: West Union District**

**Lat/Long: 39.237935N/80.871925W**

**Purpose of development: Freshwater Impoundment. Project does NOT impact floodplain.**

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

**Date: 07/10/2014**

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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

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Legal Advertisement:  
Doddridge County  
Floodplain Permit Application

Please take notice that on the 2<sup>nd</sup> day of July, 2014

**Antero Resources**

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

**West Union District 39.237935N / 80.871925W**

**Permit #14-237 James Webb Centralized Freshwater Impoundment**

(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 **August 4, 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

# 14-237

FILED

2014 JUL -2 AM 11:05

BETH A. ROGERS  
COUNTY CLERK  
DODDRIDGE COUNTY, WV

June 27, 2014



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

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 James Webb Centralized Fresh Water Impoundment. Our project is located in Doddridge County, West Union District and per FIRM maps #54017C0225C and #54017C0200C, this location is **not** within the floodplain.

Attached you will find the following:

- Doddridge County Floodplain Permit Application
- James Web 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 black ink that reads "Emily Kijowski".

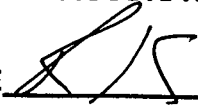
Emily Kijowski  
Permit Representative  
Antero Resources Appalachian Corporation

Enclosures

# 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 30, 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 Engineering, Inc  
**ADDRESS:** 151 Windy Hill Lane, Winchester, Virginia 22602  
**TELEPHONE NUMBER:** (888)-662-4185

**PROJECT LOCATION:**

**NAME OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)** Please see attached Firm map with landowner tabulation  
**ADDRESS OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)** Please see attached Firm map with landowner tabulation

**DISTRICT:** Central

**DATE/FROM WHOM PROPERTY**

**PURCHASED:** N/A

**LAND BOOK DESCRIPTION:** Please see attached Firm map with landowner tabulation

**DEED BOOK REFERENCE:** Please see attached Firm map with landowner tabulation

**TAX MAP REFERENCE:** Please see attached Firm map with landowner tabulation

**EXISTING BUILDINGS/USES OF PROPERTY:** None

**NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY** Please see attached Firm map with landowner tabulation

**ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY** \_\_\_\_\_

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 checked="" 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 checked="" 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-Project is not located 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 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 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): Randy Kloberdanz

SIGNATURE: 

DATE: 6/30/14

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:

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**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** \_\_\_\_\_

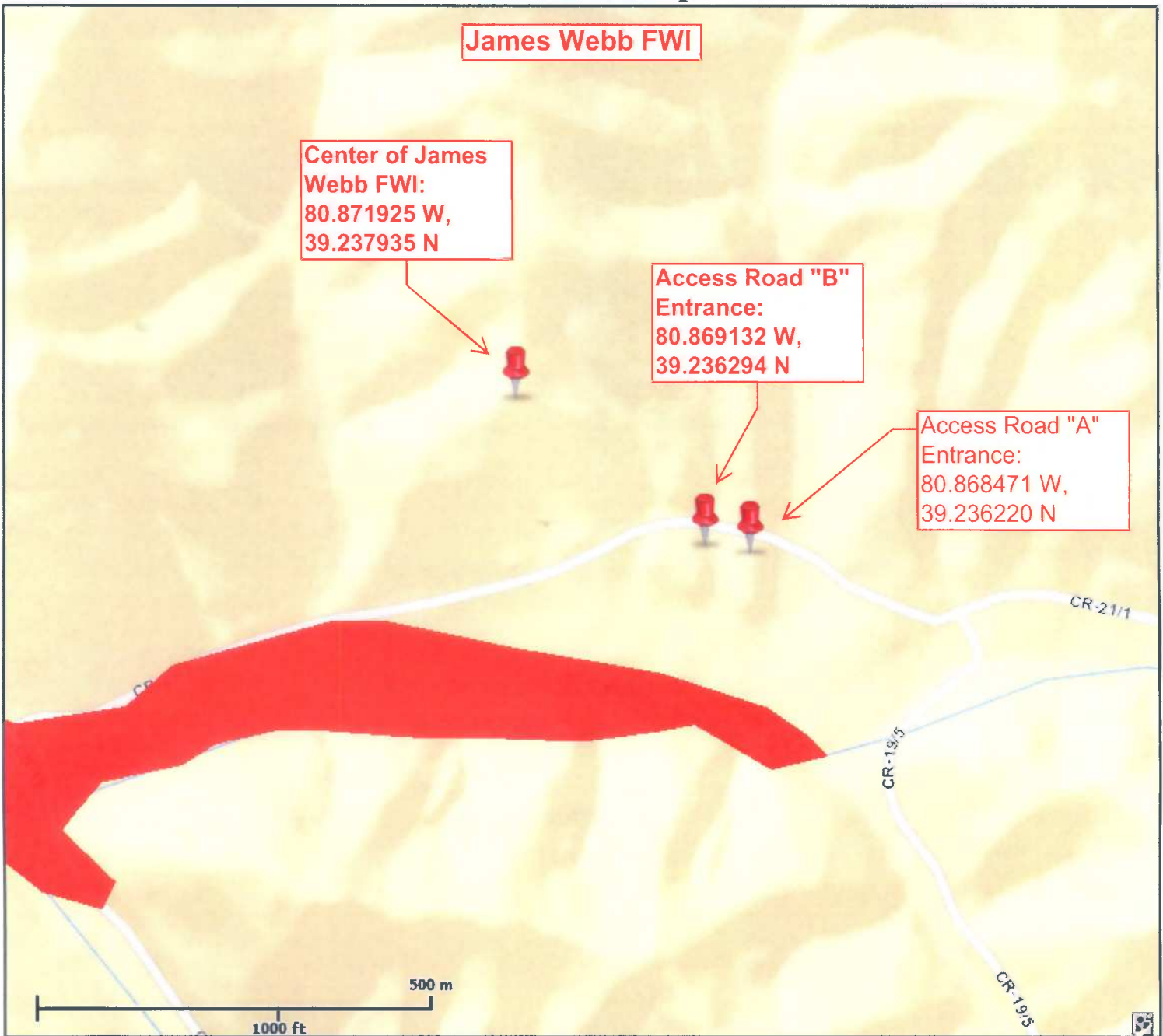
# WV Flood Map

## James Webb FWI

Center of James Webb FWI:  
80.871925 W,  
39.237935 N

Access Road "B"  
Entrance:  
80.869132 W,  
39.236294 N


Access Road "A"  
Entrance:  
80.868471 W,  
39.236220 N



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 6/27/2014

 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](http://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: About 1341 feet

Location (long, lat): 80.624619 W, 39.224515 N

Location (UTM 17N): (532402, 4341759)

FEMA Issued Flood Map: 54017C0255C

Contacts: Doddridge County

CRS Information: N/A

Parcel Number:

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*  
*# 14-237*  
*Webb Impoundment*

was published in said paper for *2*

successive weeks beginning with the issue  
of *July 15<sup>th</sup>* 2014 and  
ending with the issue of

*July 22<sup>nd</sup>* 2014 and  
that said notice contains *189*

WORD SPACE at *1/15* 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 *24<sup>th</sup>* DAY  
OF *July* 2014

NOTARY PUBLIC

*Laura J Adams*

**Legal Advertisement**

**LEGAL ADVERTISEMENT:**

Doddridge County  
Floodplain Permit Application

Please take notice that on the 2nd day of July, 2014  
Antero Resources filed an application for a Floodplain  
Permit to develop land located at or about: West Union  
District 59.237935N/80.871925W Permit #14-237 James  
Webb Centralized Freshwater Impoundment (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 August 4, 2014.

Delivered to the:

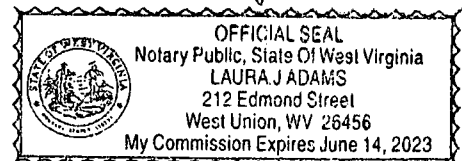
Clerk of the County Court

118 E. Court Street, West Union, WV 26456

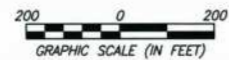
Beth A. Rogers, Doddridge County Clerk

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

7-15-2xb



# FIRM EXHIBIT



## LANDOWNER TABULATION

<b>A</b>	TM 15-3 JOSEPH E. WEBB DB 221 PG 017 84.89 ACRES RT 1 BOX 208A WEST UNION, WV 26456	<b>F</b>	TM 15-3.3 ASHLEY K. WEBB DB 221 PG 24 0.9 ACRE RT 1 BOX 207 WEST UNION, WV 26456	<b>K</b>	TM 15-2 STANLEY R., BRIAN M., JAMES E., & RICHARD L. WEBB DB 192 PG 342 59.18 ACRES RT 1 BOX 206A WEST UNION, WV 26456
<b>B</b>	TM 15-11 BETTY J. WHITHAIR DB 225 PG 001 24.28 ACRES RT 1 BOX 211 WEST UNION, WV 26456	<b>G</b>	TM 15-3.6 DANIEL M. WEBB DB 221 PG 33 0.9 ACRE RT 1 BOX 206A WEST UNION, WV 26456	<b>L</b>	TM 11-8 I.L. MORRIS DB 230 PG 307 259.5 ACRES P.O. BOX 397 GLENVILLE, WV 26351
<b>C</b>	TM 15-3.7 BRIAN M. WEBB DB 247 PG 139 0.46 ACRE RT 1 BOX 207 WEST UNION, WV 26456	<b>H</b>	TM 15-3.4 DEREK S. WEBB DB 221 PG 27 0.9 ACRE RT 1 BOX 206A WEST UNION, WV 26456	<b>M</b>	TM 12-38 WILLIAM B. & SHIRLEY J. WILLIAMS DB 201 PG 413 1.31 ACRES RT 1 BOX 212A WEST UNION, WV 26456
<b>D</b>	TM 15-2.1 JAMES E. WEBB DB 245 PG 358 1.1 ACRES RT 1 BOX 208A WEST UNION, WV 26456	<b>I</b>	TM 15-3.2 BRIAN WEBB DB 261 PG 458 0.9 ACRE RT 1 BOX 207 WEST UNION, WV 26456	<b>N</b>	TM 12-37.2 WILLIAM B. & SHIRLEY J. WILLIAMS DB 201 PG 413 33.82 ACRES RT 1 BOX 212A WEST UNION, WV 26456
<b>E</b>	TM 15-3.5 BRIAN M. WEBB DB 221 PG 30 0.9 ACRE RT 1 BOX 207 WEST UNION, WV 26456	<b>J</b>	TM 15-4 JOSEPH E. WEBB DB 221 PG 017 1 ACRE RT 1 BOX 208A WEST UNION, WV 26456	<b>O</b>	TM 12-37 ROBERT C. WILLIAMS DB 201 PG 428 21.09 ACRES RT 1 BOX 212 WEST UNION, WV 26456
				<b>P</b>	TM 15-6 ROBERT WILLIAMS DB 240 PG 096 12.6 ACRES RT 1 BOX 212 WEST UNION, WV 26456
				<b>Q</b>	TM 15-6.2 JOHN J. & KIMBERLY F. MAXWELL DB 274 PG 566 13 ACRES 358 COLOGNE PORT EGG HARBOR CITY, NJ 08215

**NFIP**

**PANEL 0225C**

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

**PANEL 225 OF 325**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540224	0225	C

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

**MAP NUMBER**  
54017C0225C  
**MAP REVISED**  
OCTOBER 4, 2011

Federal Emergency Management Agency

**NFIP**

**PANEL 0200C**

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

**PANEL 200 OF 325**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540224	0200	C

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

**MAP NUMBER**  
54017C0200C  
**MAP REVISED**  
OCTOBER 4, 2011

Federal Emergency Management Agency

**FLOODPLAIN NOTE**  
THE PROPOSED SITE IS LOCATED IN FLOODZONE "X" PER FEMA FLOOD MAPS #54017C0225C & #54017C0200C

Engineering  
Survey  
Environmental  
GIS



DATE	REVISION



FIRM EXHIBIT

**JAMES WEBB**

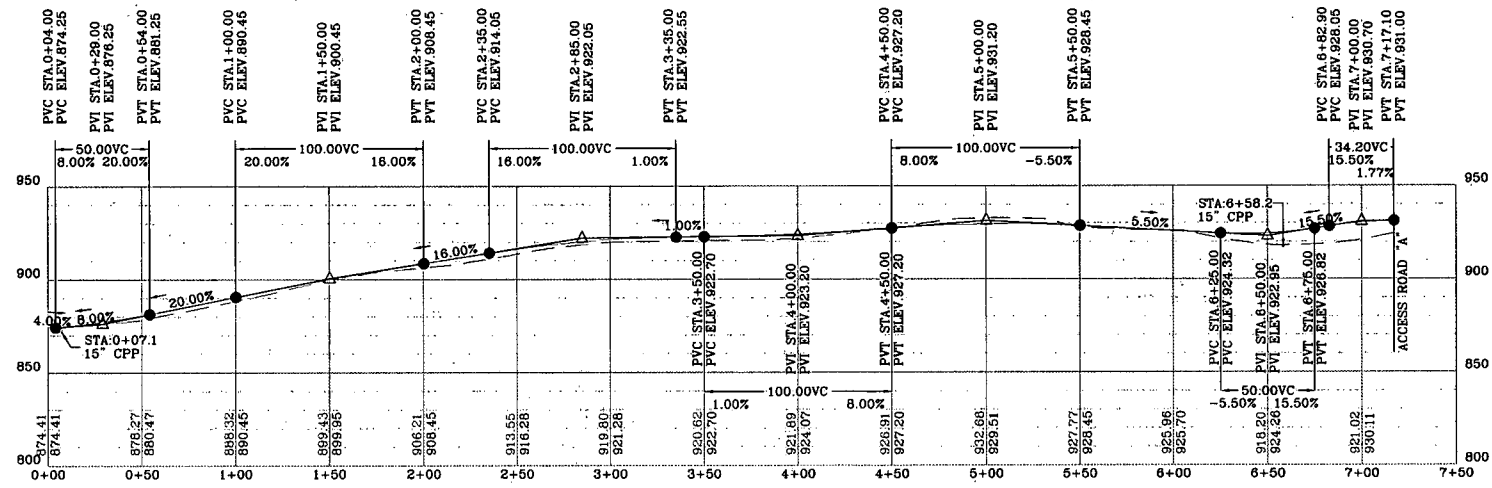
CENTRALIZED FRESHWATER IMPOUNDMENT  
CENTRAL DISTRICT  
DODDRIDGE COUNTY, WEST VIRGINIA





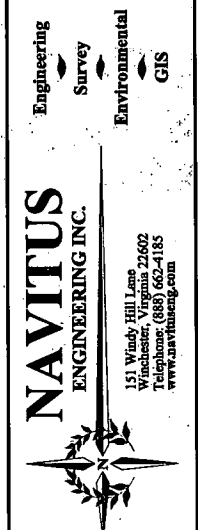


# ACCESS ROAD PROFILES



**ACCESS ROAD "B" PROFILE**

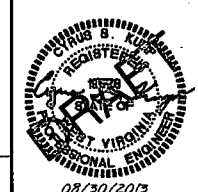
SCALE: HORIZ. 1" = 50' VERT. 1" = 50'



DATE	REVISION

**ANTERO RESOURCES**  
THIS DOCUMENT WAS PREPARED BY ANTERO RESOURCES CORPORATION

ACCESS ROAD PROFILES  
**JAMES WEBB**  
CENTRALIZED FRESHWATER IMPOUNDMENT  
CENTRAL DISTRICT  
DODDRIDGE COUNTY, WEST VIRGINIA



08/30/2013  
DATE: 08/30/2013  
SCALE: AS SHOWN  
SHEET 9 OF 20

**LEGEND**

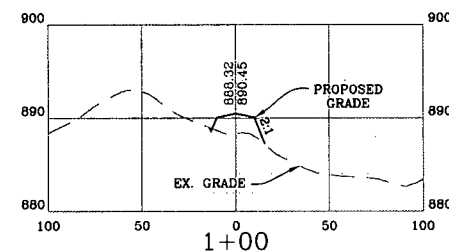
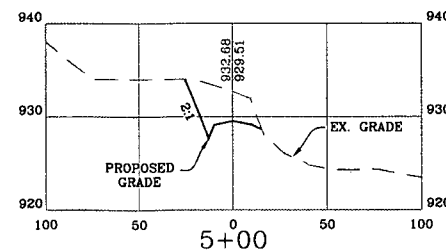
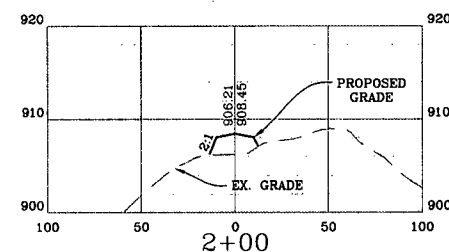
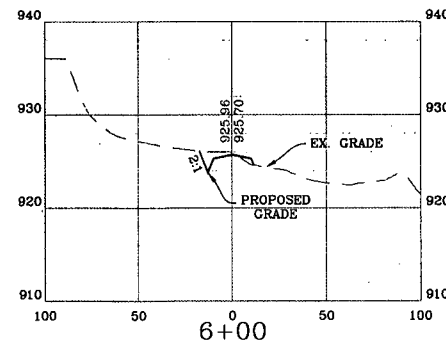
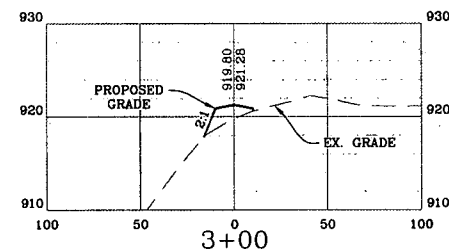
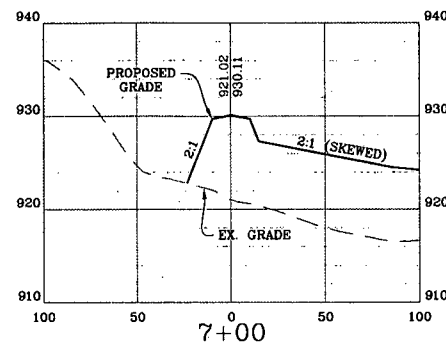
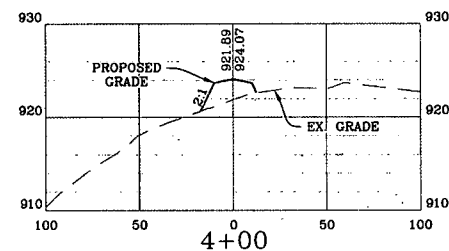
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X-SECTION GRID INTERMEDIATE	-----
X-SECTION PROPOSED GRADE	-----
X-SECTION EXISTING GRADE	-----
X-SECTION WATER SURFACE	-----
MATCHLINE	



# ACCESS ROAD SECTIONS

## ACCESS ROAD "B" CROSS-SECTIONS

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



- NOTE:**
- 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.
  - 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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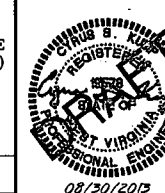
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ENGINEERING INC.

151 Windy Hill Lane  
Fayetteville, AR 72703-4185  
www.navituseng.com

REVISION	DATE

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ACCESS ROAD SECTIONS  
**JAMES WEBB**  
CENTRALIZED FRESHWATER IMPOUNDMENT  
CENTRAL DISTRICT  
DODDRIDGE COUNTY, WEST VIRGINIA

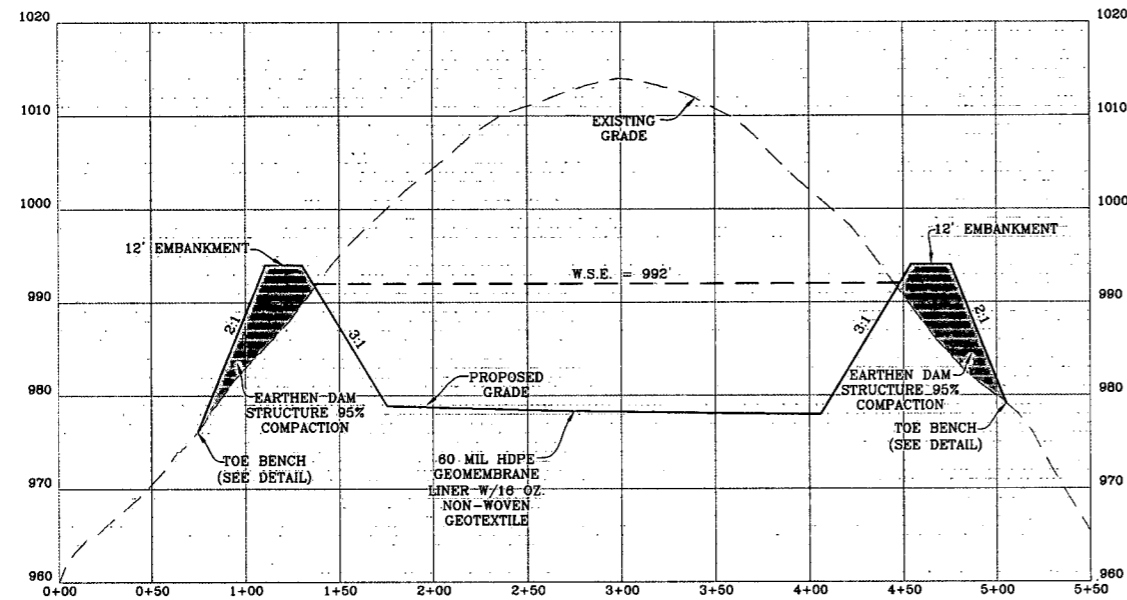


08/30/2013  
DATE: 08/30/2013  
SCALE: AS SHOWN  
SHEET 11 OF 20

# CENTRALIZED FRESHWATER IMPOUNDMENT SECTIONS

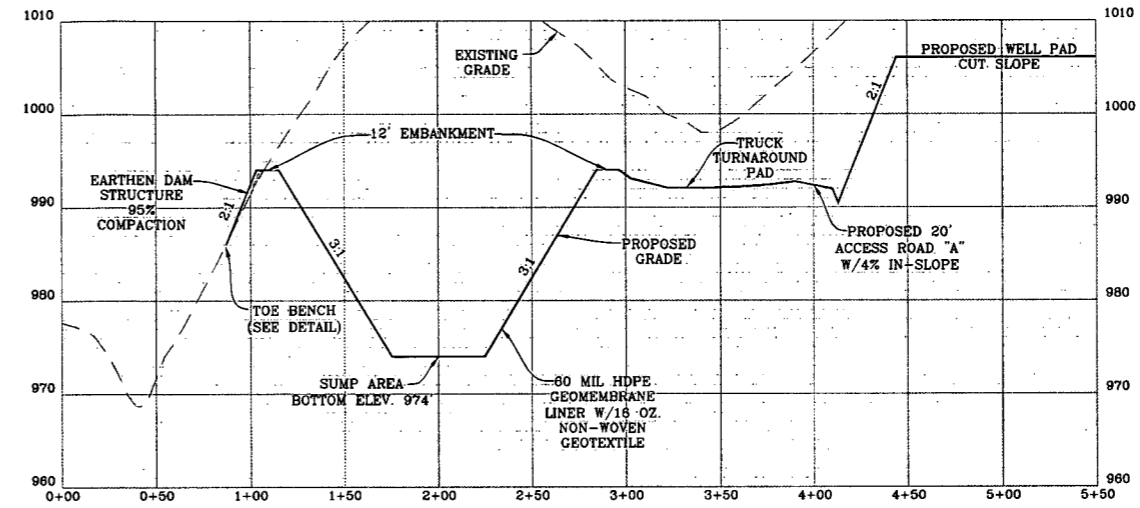
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SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



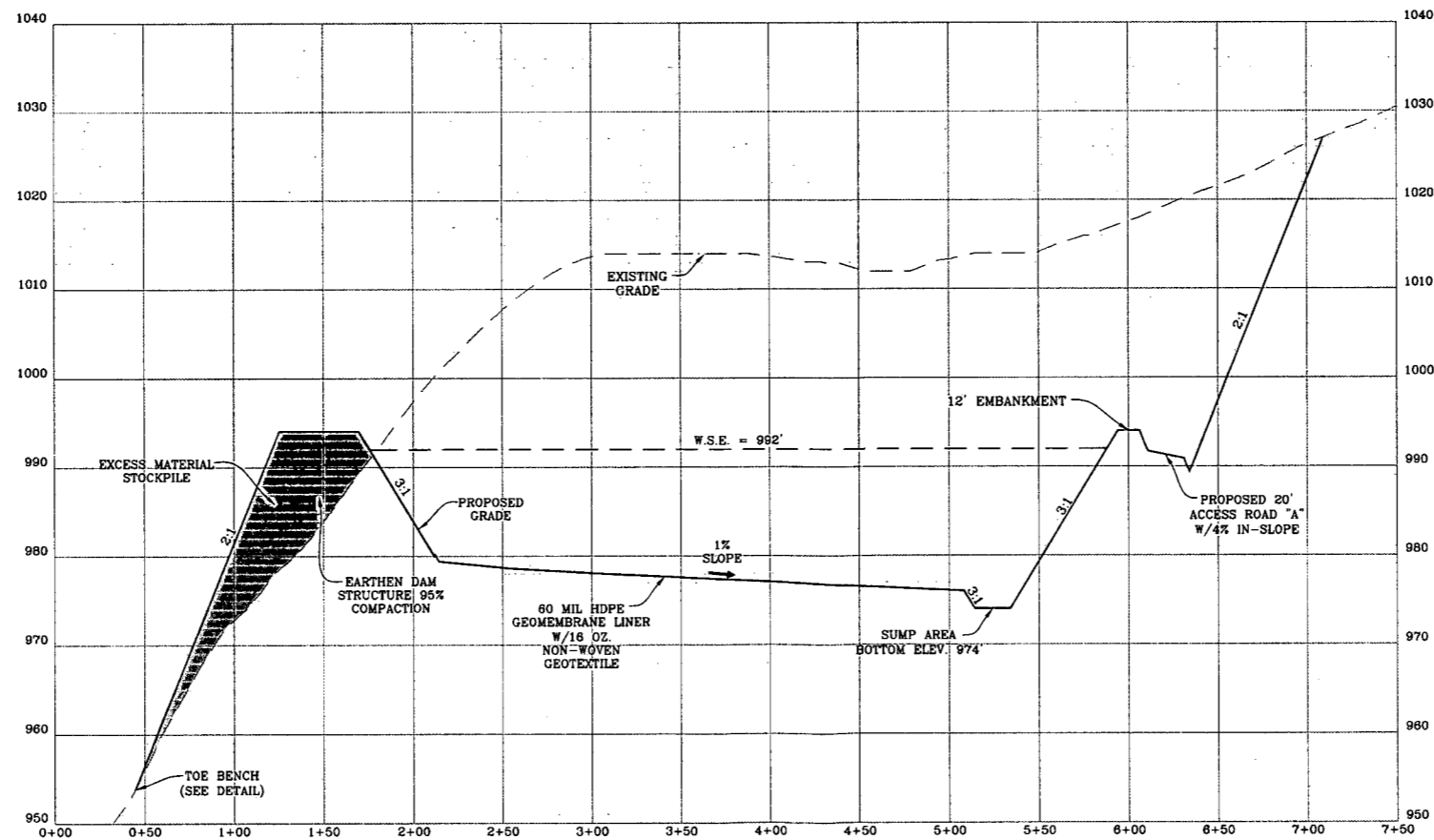
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SCALE: HORIZ. 1" = 50' VERT. 1" = 10'



**CENTRALIZED FRESHWATER IMPOUNDMENT CROSS-SECTION "A-A"**

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



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 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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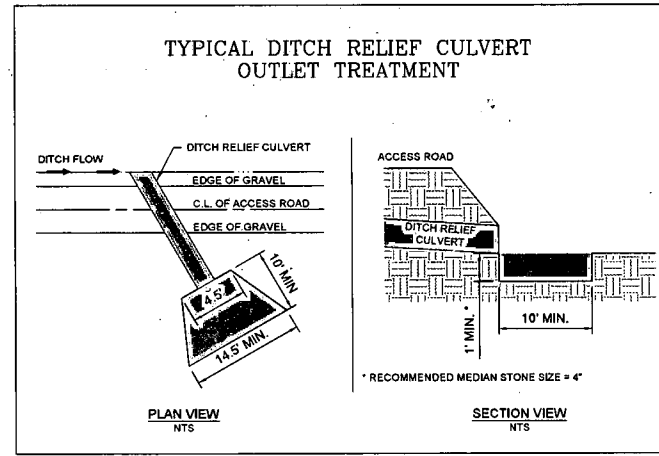
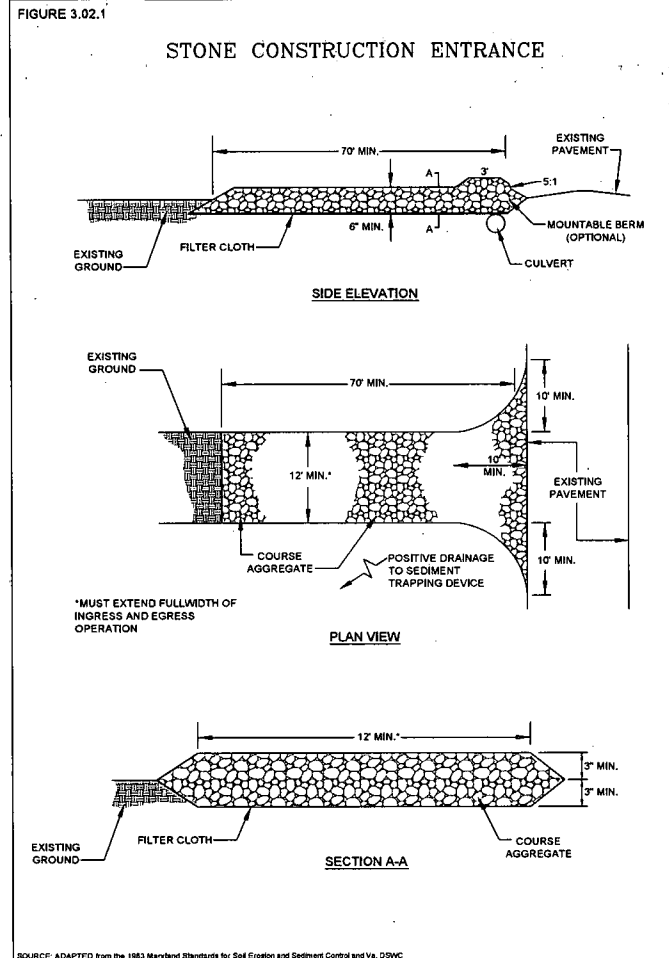
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 ANTERO RESOURCES CORPORATION

CENTRALIZED FRESHWATER IMPOUNDMENT SECTIONS

**JAMES WEBB**  
 CENTRALIZED FRESHWATER IMPOUNDMENT  
 CENTRAL DISTRICT  
 DODDRIDGE COUNTY, WEST VIRGINIA

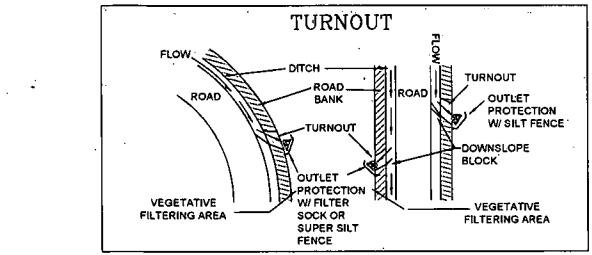
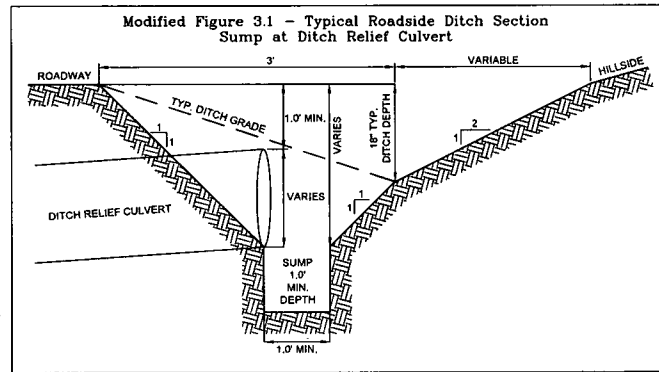
PROFESSIONAL ENGINEER  
 STATE OF VIRGINIA  
 08/30/2013



**NOTE:**  
ALL DITCH LINE PROTECTION SHALL BE INSTALLED AS RECOMMENDED IN THE WEST VIRGINIA EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE (BMP) MANUAL. DITCH LINE PROTECTION SHALL BE BASED ON THE FOLLOWING GRADES:

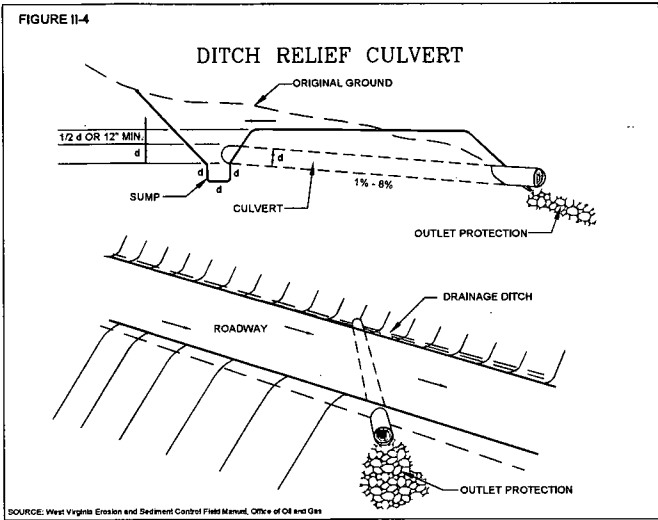
1. LESS THAN 3% - GRASSED
2. 3-8% - GRASS WITH ROLLED EROSION CONTROL PRODUCTS (RECP)
3. GREATER THAN 8% - RIPRAP OR EQUIVALENT GEOTEXTILE

IF HIGH EROSION SOILS ARE ENCOUNTERED DURING CONSTRUCTION, THE ENGINEER SHOULD BE CONTACTED FOR FURTHER EVALUATION.



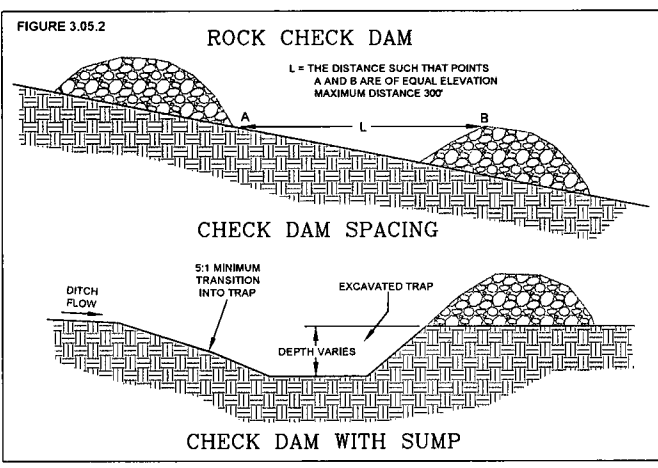
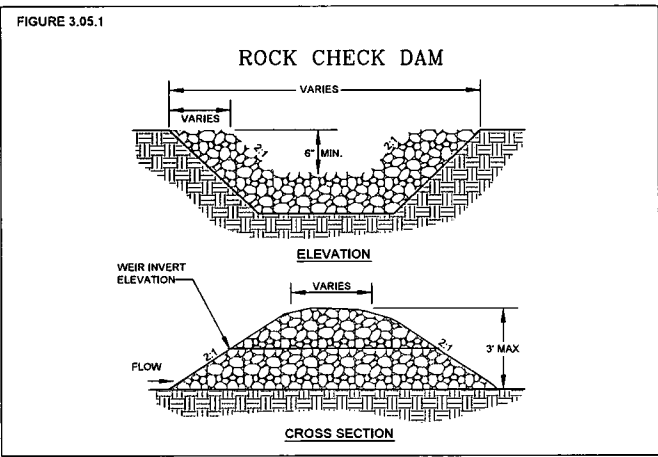
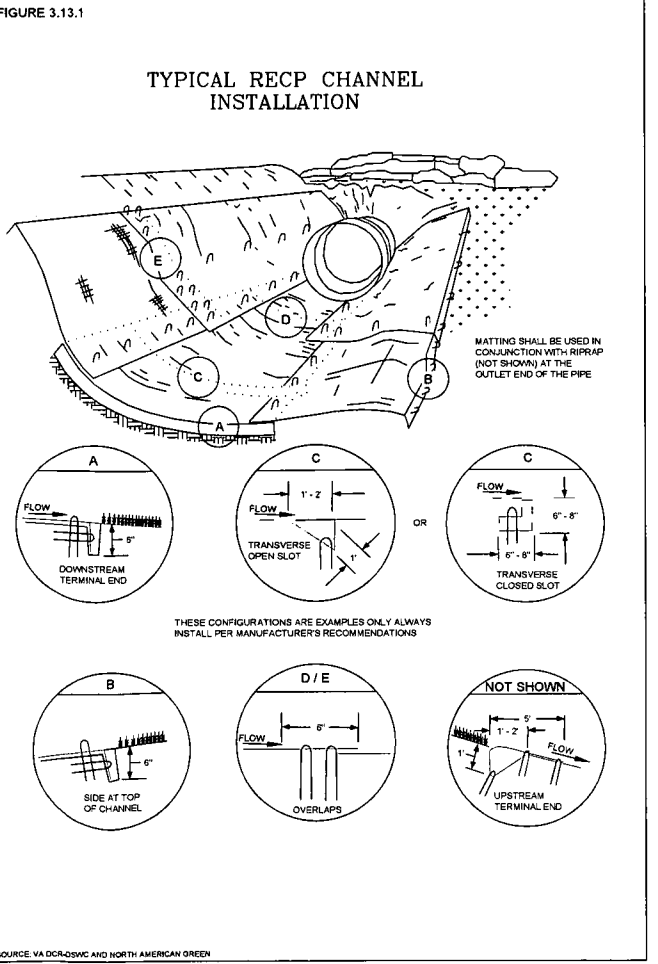
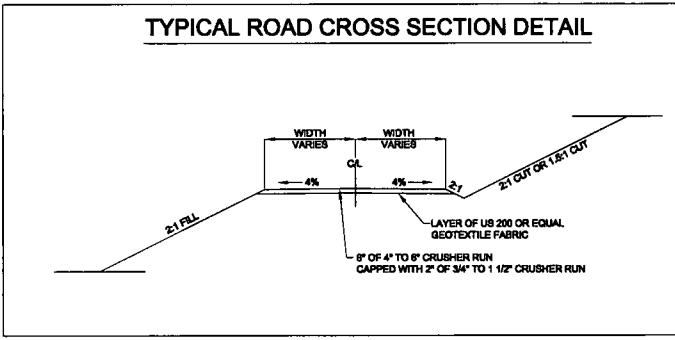
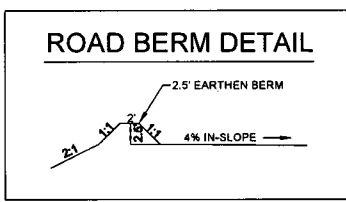
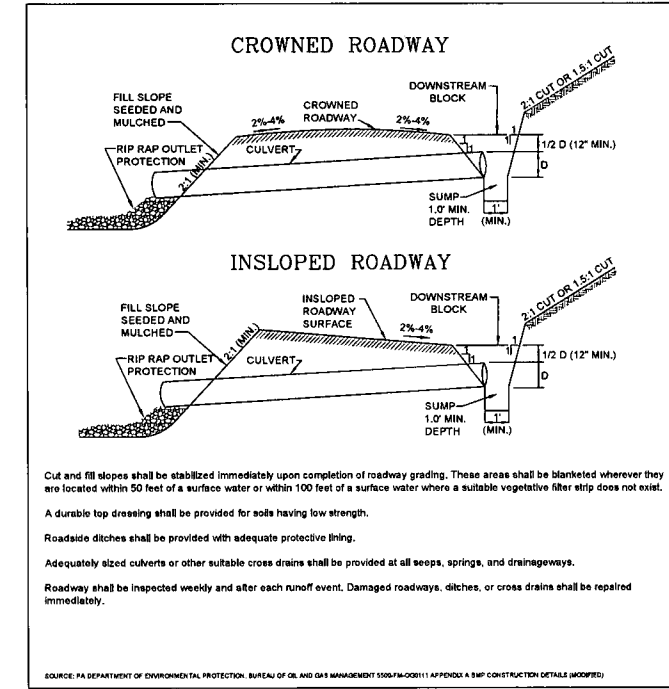
**Table II-6**  
**Spacing of Culverts**

Road Grade %	Distance (Ft)
2-5	500-300
6-10	300-200
11-15	200-100
16-20	100



**Table II-5**  
**Pipe Sizes for Culverts Across Roads**

Drainage Area (Ac)	Pipe Diameter (In)	Pipe Capacity (Cfs)
10	15	5
20	18	9
30	21	12
50	24	18
80	27	24
100	30	29
300	36	80
500	42	95



Engineering Survey Environmental GIS

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**ANTERO RESOURCES**  
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**ANTERO RESOURCES CORPORATION**

**JAMES WEBB**  
CENTRALIZED FRESHWATER IMPOUNDMENT  
CENTRAL DISTRICT  
DODDRIDGE COUNTY, WEST VIRGINIA

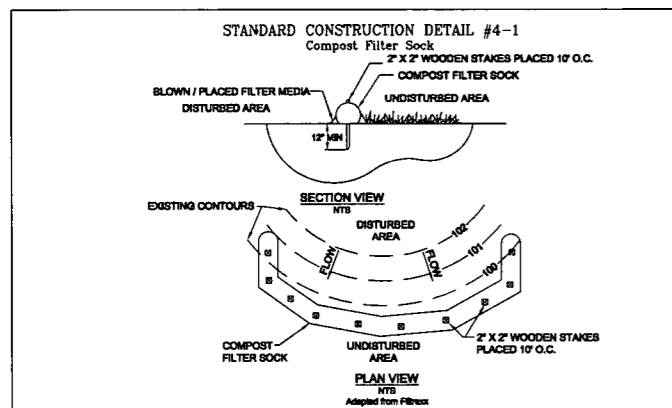
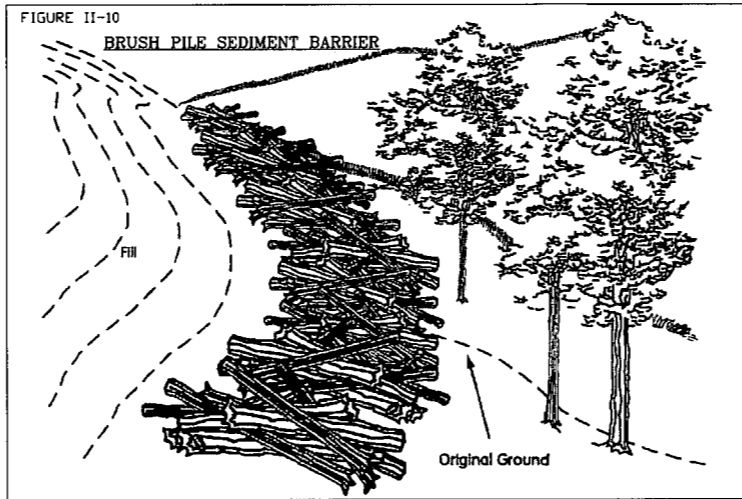
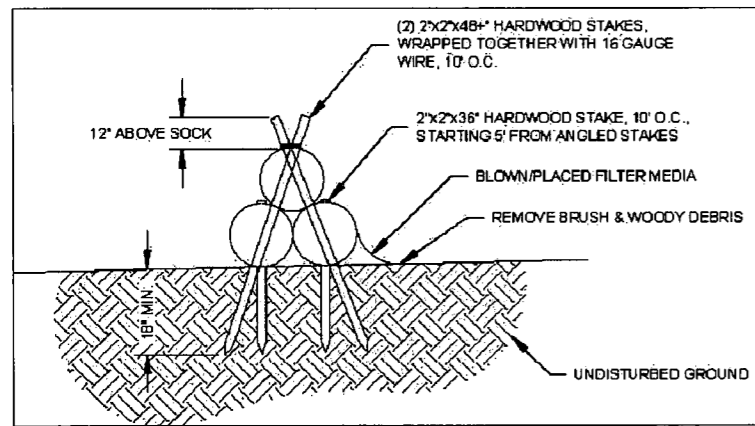
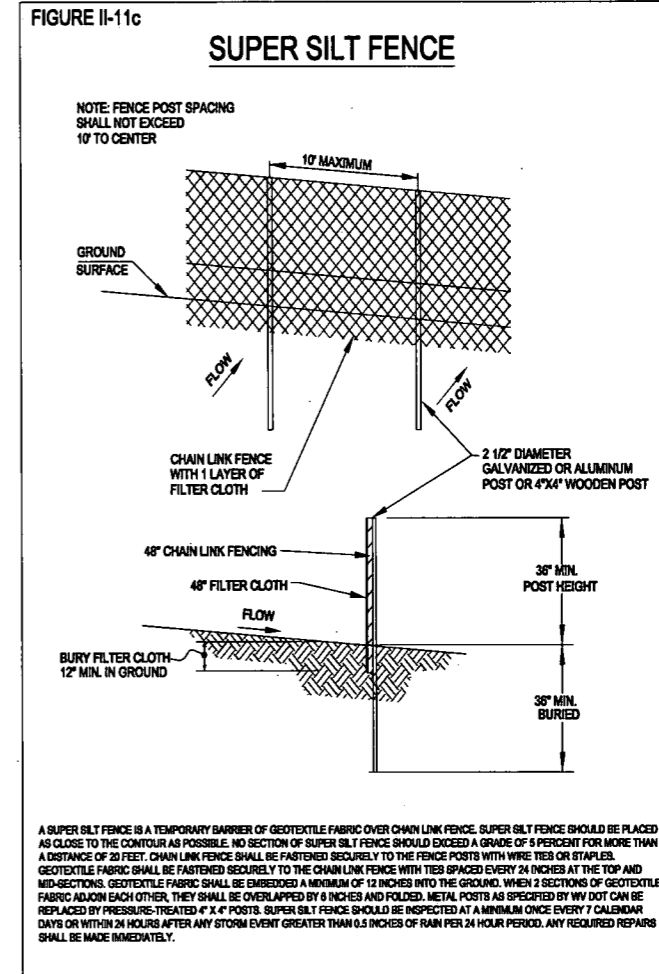
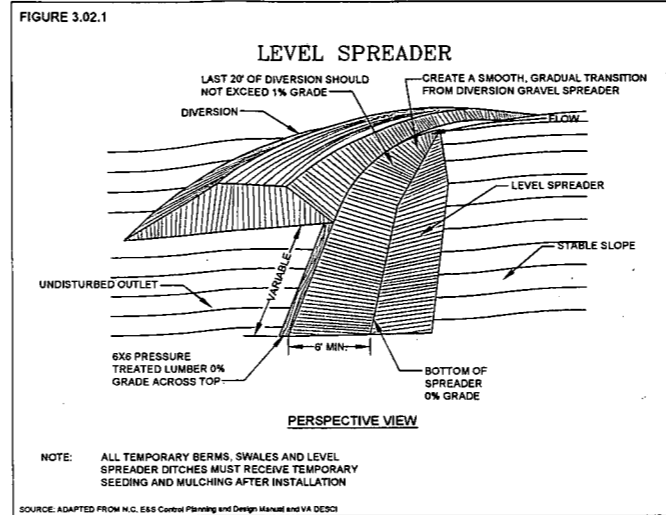
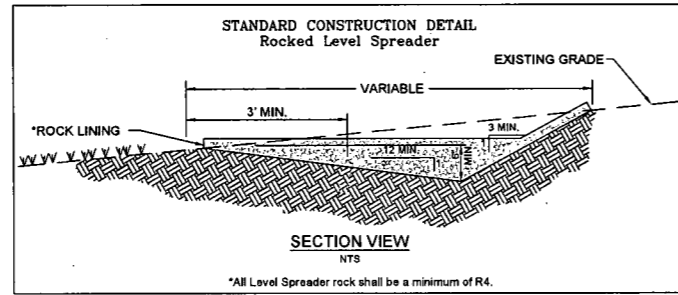
CONSTRUCTION DETAILS

**REGISTERED PROFESSIONAL ENGINEER**  
STATE OF VIRGINIA  
No. 10000  
08/30/2013

DATE: 08/30/2013  
SCALE: N/A  
SHEET 13 OF 20

Table 4.1  
Compost Sock Fabric Minimum Specifications

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MPPF)	Heavy Duty Multi-Filament Polypropylene (HDMPF)
Material Characteristics	Photo-degradable	Photo-degradable	Biodegradable	Photo-degradable	Photo-degradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Textile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years
Two-ply systems					
Inner Containment Netting	HDPE biaxial net				
	Continuously wound				
Outer Filtration Mesh	Fusion-welded junctures				
	3/4" x 3/4" Max. aperture size				
Composite Polypropylene Fabric (Woven layer & non-woven fleece mechanically fused via needle punch)					
3/16" Max. aperture size					
Sock fabrics composed of burlap may be used on projects lasting 6 months or less.					



Sock fabric shall meet standards of Table 4.1. Compost shall meet the following standards:

Organic Matter Content	80% -100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5-8.0
Moisture Content	35%-55%
Particle Size	98% pass through 1\" screen
Soluble Salt Concentration	5.0 dS Maximum

Compost Filter Sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 6 feet up the slope at 45 degrees to the main sock alignment. Maximum slope length above any sock shall not exceed manufacturer's maximum permissible slope length.

Traffic shall not be permitted to cross filter socks.

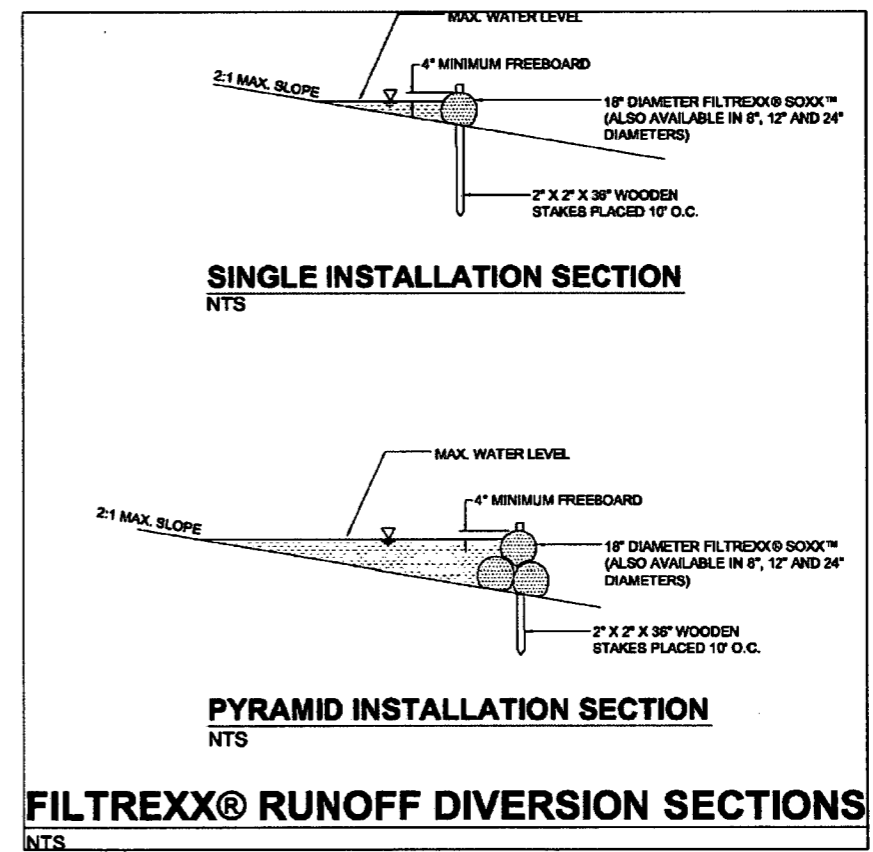
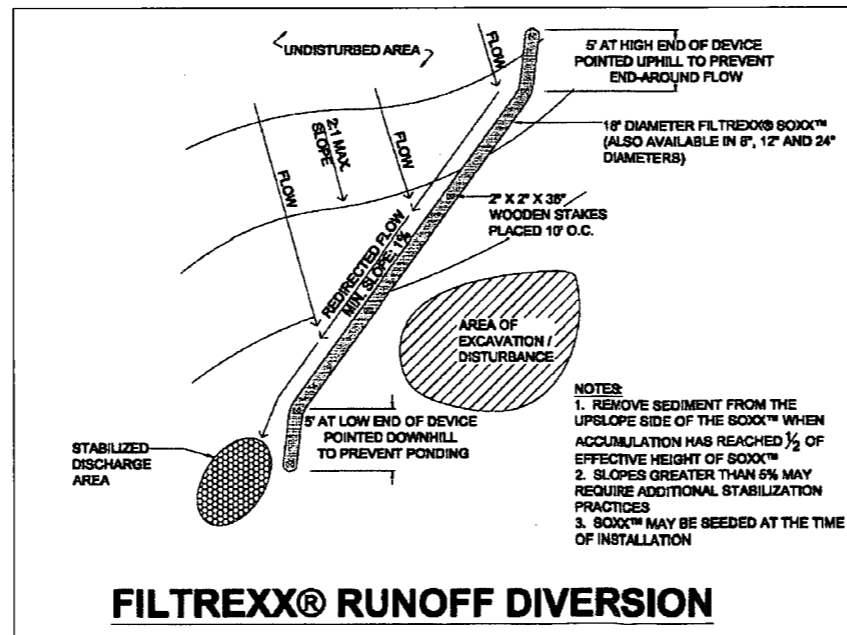
Accumulated Sediment shall be removed when it reaches 1/2 the above ground height of the sock and disposed in the manner described elsewhere in the plan.

Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

In the event the ground is frozen, #5 rebar with safety caps shall be used instead of wooden stakes to anchor the filter sock. Once the ground thaws the rebar anchors shall be removed and replaced with 2\" x 2\" wooden stakes and installed as shown in the detail above.



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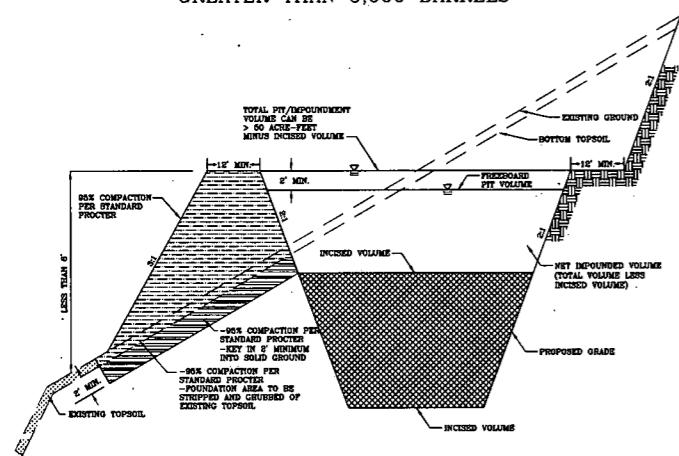
CONSTRUCTION DETAILS  
**JAMES WEBB**  
CENTRALIZED FRESHWATER IMPoundMENT  
CENTRAL DISTRICT  
DODDRIDGE COUNTY, WEST VIRGINIA

REGISTERED PROFESSIONAL ENGINEER  
STATE OF VIRGINIA  
No. 12000  
08/30/2013

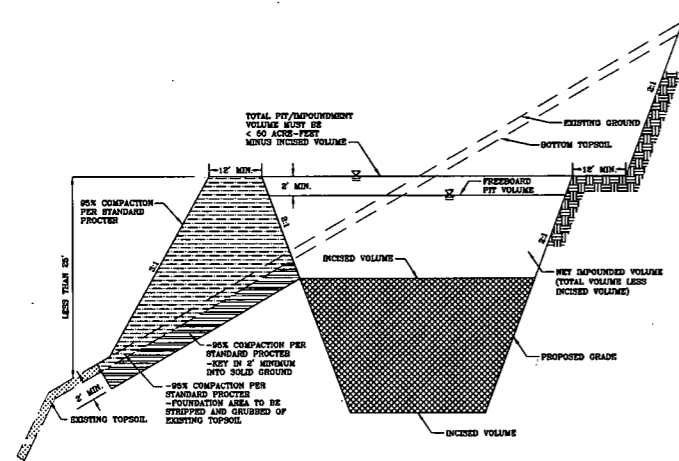
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SHEET 14 OF 20



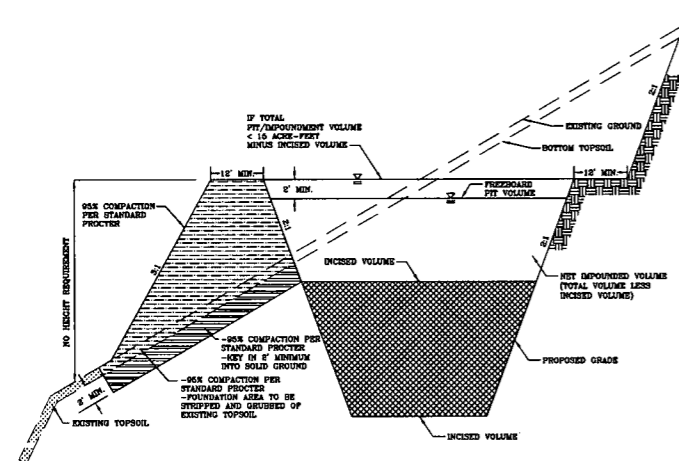
WEST VIRGINIA CODE 35 CSR 4  
DESIGN AND CONSTRUCTION REQUIREMENTS  
FOR ASSOCIATED PITS, ASSOCIATED IMPOUNDMENTS, &  
CENTRALIZED IMPOUNDMENTS  
GREATER THAN 5,000 BARRELS



SECTION VIEW



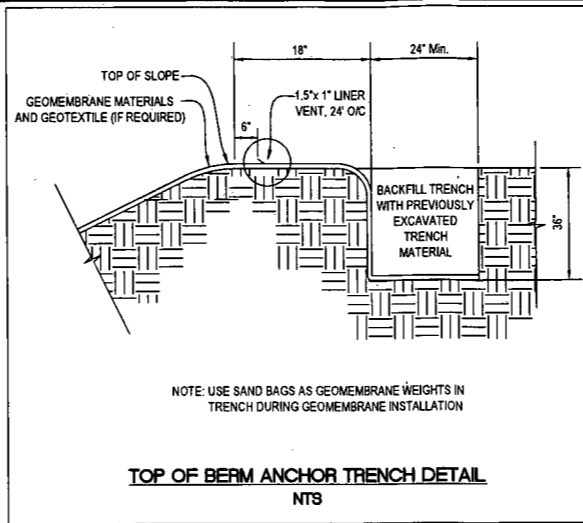
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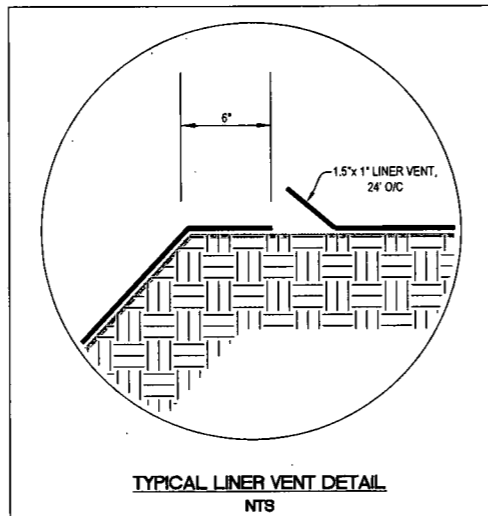
SECTION VIEW

- NOTES:  
1. ALL FILL SHOULD BE KEYED IN TO ORIGINAL GROUND EVERY 2-5 VERTICAL FEET DEPENDING ON EXISTING GROUND SLOPE  
2. MINIMUM OUTSIDE AND INSIDE EMBANKMENT (FILL) SLOPES SHALL BE 2H:1V. THE INSIDE AND OUTSIDE SLOPES MUST ADD UP TO 5H:1V.

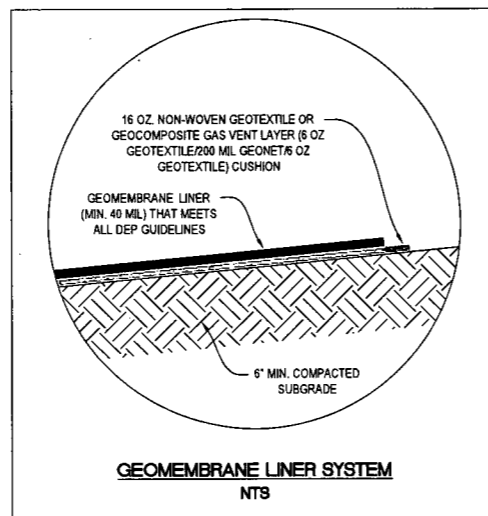
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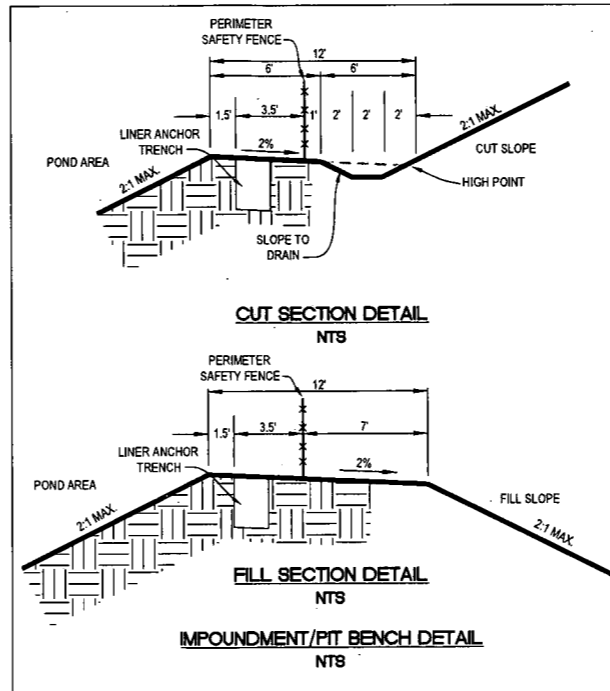
TOP OF BERM ANCHOR TRENCH DETAIL  
NTS



TYPICAL LINER VENT DETAIL  
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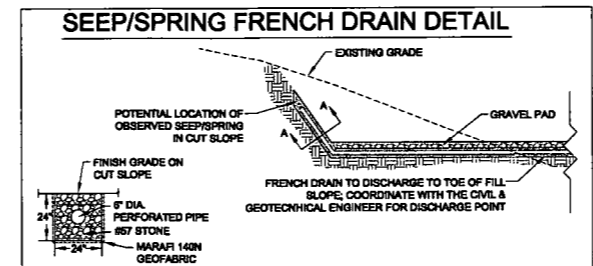


GEOMEMBRANE LINER SYSTEM  
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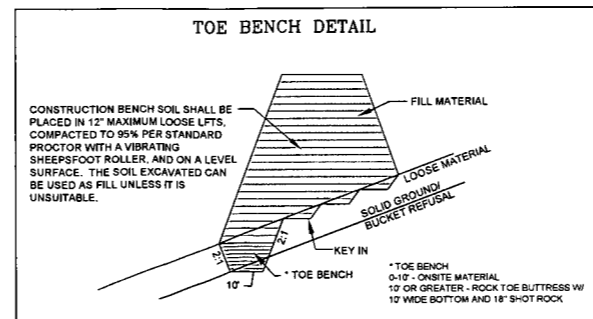


CUT SECTION DETAIL  
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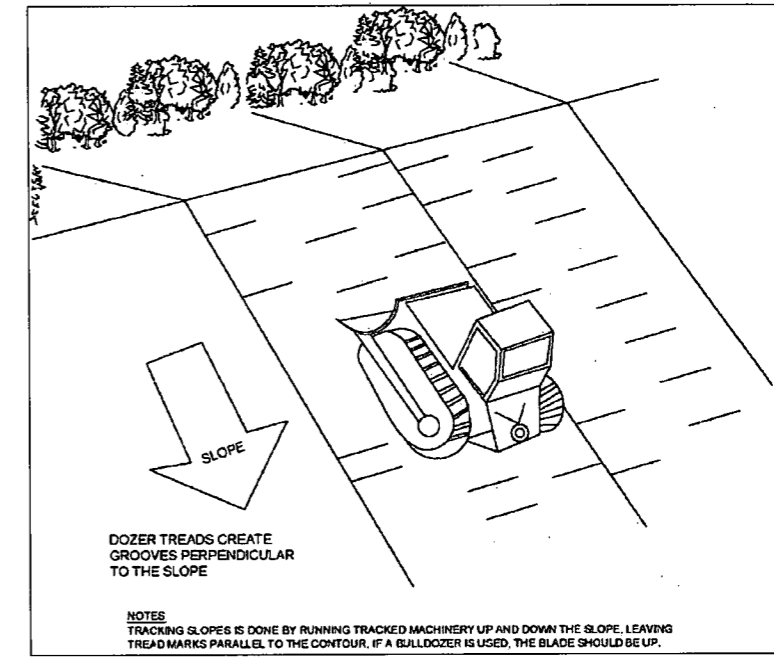
FILL SECTION DETAIL  
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SEEP/SPRING FRENCH DRAIN DETAIL

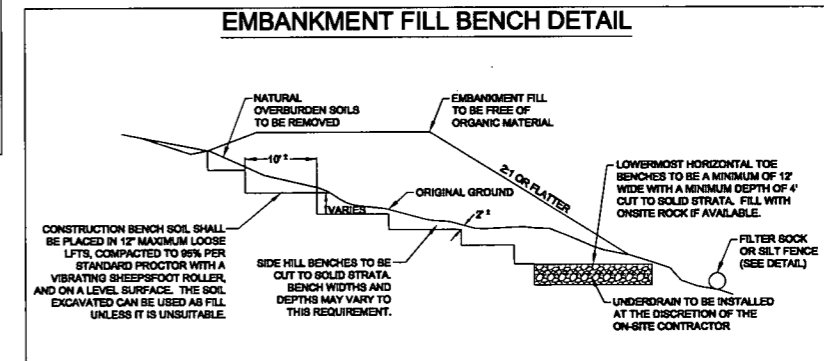


TOE BENCH DETAIL



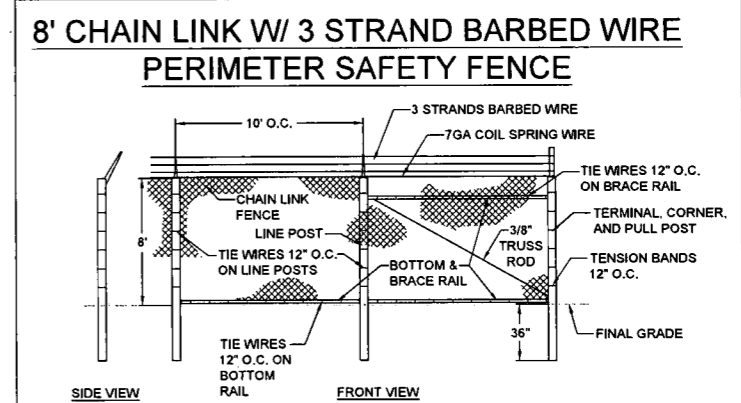
DOZER TREADS CREATE GROOVES PERPENDICULAR TO THE SLOPE

NOTES TRACKING SLOPES IS DONE BY RUNNING TRACKED MACHINERY UP AND DOWN THE SLOPE, LEAVING TREAD MARKS PARALLEL TO THE CONTOUR, IF A BULLDOZER IS USED, THE BLADE SHOULD BE UP.



EMBANKMENT FILL BENCH DETAIL

CONSTRUCTION BENCH SOIL SHALL BE PLACED IN 12' MAXIMUM LOOSE LFTS, COMPACTED TO 95% PER STANDARD PROCTOR WITH A VIBRATING SHEEPSFOOT ROLLER, AND ON A LEVEL SURFACE. THE SOIL EXCAVATED CAN BE USED AS FILL UNLESS IT IS UNSUITABLE.



8' CHAIN LINK W/ 3 STRAND BARBED WIRE PERIMETER SAFETY FENCE

REVISION	DATE

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CONSTRUCTION DETAILS  
**JAMES WEBB**  
CENTRALIZED FRESHWATER IMPOUNDMENT  
CENTRAL DISTRICT  
DODDRIDGE COUNTY, WEST VIRGINIA





**Temporary Seeding**

**a. General Conditions Where Practice Applies**  
 Where exposed soil surfaces are not to be fine-graded or worked for periods longer than 21 days. Temporary vegetative cover with sediment controls must be established where runoff will go directly into a stream. Immediately upon construction of the site (site includes road and location), vegetation must be established on road bank and location slopes. A permanent vegetative cover shall be applied to areas that will be left un-worked for a period of more than six months.

**b. Seed Mixtures and Planting Dates**  
 Refer to Tables 2 through 4 for recommended dates to establish vegetative cover and the approved lists of temporary and permanent plant species, and planting rates. Table 3 gives recommended types of temporary vegetation, rates of application, and optimum seeding dates. In situations where another cover is desired, contact the local soil conservation district for seeding recommendations.

**c. Seed Application**  
 Apply seed by broadcasting, drilling, or by hydroseed according to the rates indicates in Table IV-3. Perform all planting operations at right angles to the slope. Necessary site preparation and roughening of the soil surface should be done just prior to seeding. Seedbed preparation may not be required on newly disturbed areas.

**Permanent Seeding**

**a. General**  
 Permanent vegetative cover will be established where no further soil disturbance is anticipated or needed. Soil fertility and pH level should be tested and adjusted according to seed species planted. Planting of permanent vegetative covers must be performed on all disturbed areas after completion of the drilling process. Any site that contains significant amounts of topsoil shall have the topsoil removed and stockpiled when feasible. Topsoil should not be added to slopes steeper than 2:1 unless a good bonding to the sub-layer can be achieved. After proper grading and seedbed preparation, the vegetation will reestablish ground cover for the control of surface water runoff erosion.

All required seedbed preparation and loosening of soil by disking or dozer tracking should be performed just prior to seeding. If seedbed preparation is not feasible, 50% more seed shall be added to the recommended rates shown in Tables IV-3 and IV-4.

When hydroseeding, seedbed preparation may not be necessary if adequate site preparation was performed. Incorporate the appropriate amount of lime and/or fertilizer in the slurry mix when hydroseeding.

When hydroseeding, first mix the lime, fertilizer, and hydro-mulch in the recommended amount of water. Mix the seed and inoculants together within one hour prior to planting, and add to the slurry just before seeding. Apply the slurry uniformly over the prepared site. Assume that agitation is continuous throughout the seeding operation and the mix is applied within one hour of initial mixing.

**b. Lime and Fertilizer**

1. Lime shall be applied to all permanent seedings. The pH of the soil is to be determined and lime applied accordingly. Once the pH is known, select the amount of lime to be applied from Table IV-5.

2. Fertilizer shall be applied in all permanent seedings. Apply the equivalent for 500 lbs. minimum 10-20-20 fertilizer per acre or use the amount of fertilizer and lime recommended by a certified soil test.

3. Application: For best results and maximum benefits, the lime and fertilizer are to be applied at the time of seedbed preparation.

**c. Permanent Seed Mixtures**

Planners should take into consideration the species makeup of the existing pasture and the landowner's future pasture management plans when recommending seed mixtures. Selection: From Tables IV 4a and b. Permanent Seeding Mixtures Suitable for Establishment in West Virginia.

- Notes:**
- All legumes must be planted with the proper inoculants prior to seeding.
  - Lathco Flatpea is potentially poisonous to some livestock.
  - Only endophyte free varieties of Tall Fescue should be used. Tall Fescue and Crownvetch are also very invasive species, non-native to WV.
  - For unprepared seedbeds or seeding outside the optimum timeframes, add 50% more seed to the specified rate. Mixtures in Table 4b are more wildlife and farm friendly; those listed in bold are suitable for use in shaded woodland settings. Mixtures in italic are suitable for use in filter strips.

**d. Seeding for Wildlife Habitat**

Consider the use of the native plants or locally adapted plants when selecting cover types and species for wildlife habitat. Wildlife friendly species or mixes that have multiple values should be considered. See wildlife friendly species/mixtures in Table IV-4b. Consider selecting no or low maintenance long-lived plants adaptable to sites which may be difficult to maintain with equipment.

**NOTE:**  
 1. NO FESCUE OR TIMOTHY GRASS SHALL BE USED.

**Mulching**

**a. General Organic Mulches**

The application of straw, hay or other suitable materials to the soil surface to prevent erosion. Straw made from wheat or oats is the preferred mulch, the use of hay is permissible, but not encouraged due to the risk of spreading invasive species. Mulch must be applied to all temporary and permanent seeding on all disturbed areas. Depending on site conditions, in critical areas such as waterways or steep slopes, additional or substitute soil protective measures may be used if deemed necessary. Examples include jute mesh and soil stabilization blankets or erosion control matting.

Areas that have been temporarily or permanently seeded should be mulched immediately following seeding. Mulches conserve desirable soil properties, reduce soil moisture loss, prevent crusting and sealing of the soil surface and provide a suitable microclimate for seed germination.

Areas that cannot be seeded because of the season should be mulched to provide some protection to the soil surface. An organic mulch, straw or hay should be used and the area then seeded as soon as weather or seasonal conditions permit. Do not use fiber mulch (cellulose-hydroseed) alone for this practice; at normal application rates it will not give the soil protection of other types of mulch. Wood cellulose fiber mulch is used in hydroseeding operations and applied as part of the slurry. It creates the best seed-soil contact when applied over the top of (as a separate operation) newly seeded areas. Fiber mulch does not alone provide sufficient protection on highly erodible soils, or during less than favorable growing conditions. Fiber mulch should not be used alone during the dry summer months or when used for late fall mulch cover. Use straw mulch during these periods and fiber mulch may be used to tack (anchor) the straw mulch. Fiber mulch is well suited for steep slopes, critical areas and areas susceptible to wind.

**b. Chemical Mulches, Soil Binders and Tackifiers**

A wide range of synthetic spray on materials are marketed to stabilize and protect the soil surface. These are mixed with water and sprayed over the mulch and to the soil. They may be used alone in some cases as temporary stabilizers, or in conjunction with fiber mulch, straw or hay. When used alone most chemical mulches do not have the capability to insulate the soil or retain soil moisture that organic mulches have.

**c. Specifications**

From Table IV-6 select the type of mulch and rate of application that will best suit the conditions at the site.

**d. Anchoring**

Depending on the field situation, mulch may not stay in place because of wind action or rapid water runoff. In such cases, mulch is to be anchored mechanically or with mulch netting.

**1. Mechanical Anchoring**

Apply mulch and pull mulch anchoring tool over the mulch. When a disk is used set the disk straight and pull across slope. Mulch material should be tucked into the soil about three inches.

**2. Mulch netting**

Follow manufacturer's recommendation when positioning and stapling the mulch netting in the soil.

**Table IV-1  
Recommended Seeding Dates**

Planting Dates	Suitability
March 1 - April 15 and August 1 - October 1	Best Seeding Periods
April 15 - August 1	HIGH RISK - moisture stress likely
October 1 - December 1	HIGH RISK - freeze damage to young seedlings
December 1 - March 1	Good seeding period. Dormant seeding

**Table 2  
Acceptable Fertilization Recommendation**

Species	N (lbs/ac)	P2O5 (lbs/ac)	Example Rec. (per acre)
Cool Season Grass	40	80	400 lbs. 10-20-20
CS Grass & Legume	30	60	300 lbs. 10-20-20
Temporary Cover	40	40	200 lbs. 19-19-19

**Table 3  
Temporary Cover**

Species	Seeding Rate (lbs/acre)	Optimum Seeding Dates	Drainage	pH Range
Annual Ryegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well - Poorly	5.5 - 7.5
Field Bromegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well - Mod. Well	6.0 - 7.0
Spring Oats	96	3/1 - 6/15	Well - Poorly	5.5 - 7.0
Sundangrass	40	5/15 - 8/15	Well - Poorly	5.5 - 7.5
Winter Rye	168	8/15 - 10/15	Well - Poorly	5.5 - 7.5
Winter Wheat	180	8/15 - 11/15	Well - Mod. Well	5.5 - 7.0
Japanese Millet	30	6/15 - 8/15	Well	4.5 - 7.0
Redtop	5	3/1 - 6/15	Well	4.0 - 7.5
Annual Ryegrass	26	3/1 - 6/15	Well - Poorly	5.5 - 7.5
Spring Oats	64	3/1 - 6/15	Well - Poorly	5.5 - 7.5

**NOTE:** These rates should be increased by 50% if planted April 15 - August 1 and October 1 - March 1.

**Table 4a  
Permanent Seeding Mixture**

Species/Mixture	Seeding Rate (lbs/acre)	Soil Drainage preference	pH Range
Crownvetch / Tall Fescue	10 - 15	Well - Mod. Well	5.0 - 7.5
Crownvetch / Perennial Ryegrass	10 - 15	Well - Mod. Well	5.0 - 7.5
Flatpea or Perennial Pea / Tall Fescue	20	Well - Mod. Well	4.0 - 8.0
Ladino Clover / Serecia Lespedeza / Tall Fescue	15	Well - Mod. Well	4.5 - 7.5
Tall Fescue / Ladino Clover / Redtop	30	Well - Mod. Well	5.0 - 7.5
Crownvetch / Tall Fescue / Redtop	20	Well - Mod. Well	5.0 - 7.5
Tall Fescue / Birdsfoot Trefoil / Redtop	40	Well - Mod. Well	5.0 - 7.5
Serecia Lespedeza / Tall Fescue / Redtop	10	Well - Mod. Well	5.0 - 7.5
Tall Fescue / Redtop	25	Well - Mod. Well	4.5 - 7.5
Tall Fescue / Creeping Red / Tall Fescue	30	Well - Mod. Well	4.5 - 7.5
Perennial Ryegrass / Tall Fescue / Lathco Flatpea *	3	Well - Mod. Well	5.0 - 7.5
	50	Well - Poorly	4.5 - 7.5
	10	Well - Poorly	5.8 - 8.0
	15	Well - Poorly	5.8 - 8.0
	20		

\* Lathco Flatpea is potentially poisonous to some livestock. All legumes should be planted with proper inoculants prior to seeding. For unprepared seedbeds or seeding outside the optimum timeframe, add 50% more seed to the specified rate.

Mixtures listed in bold are suitable for use in shaded woodland settings; those in italics are suitable for use in filter strips.

**Table 4b  
Wildlife and Farm Friendly Seed Mixtures**

Species/Mixture	Seeding Rate (lbs/acre)	Soil Drainage preference	pH Range
KY Bluegrass / Redtop / Ladino Clover or Birdsfoot Trefoil	20	Well - Mod. Well	5.5 - 7.5
Timothy / Alfalfa / Timothy / Birdsfoot Trefoil	5	Well - Mod. Well	6.5 - 8.0
Crchardgrass / Ladino Clover / Redtop	12	Well - Poorly	5.5 - 7.5
Crchardgrass / Ladino Clover / Redtop	8	Well - Mod. Well	5.5 - 7.5
Crchardgrass / Ladino Clover / Redtop	10	Well - Mod. Well	5.5 - 7.5
Perennial Ryegrass / Creeping Red Fescue / Perennial Ryegrass	2	Well - Mod. Well	5.5 - 7.5
Orchardgrass or KY Bluegrass / Birdsfoot Trefoil / Redtop	20	Well - Mod. Well	6.0 - 7.5
Orchardgrass / Lathco Flatpea * / Perennial Ryegrass	10	Well - Mod. Well	5.5 - 7.5
Lathco Flatpea * / Orchardgrass	30	Well - Mod. Well	5.5 - 7.5
Orchardgrass	20	Well - Mod. Well	5.5 - 7.5

\* Lathco Flatpea is potentially poisonous to some livestock. All legumes should be planted with proper inoculants prior to seeding. For unprepared seedbeds or seeding outside the optimum timeframe, add 50% more seed to the specified rate.

Mixtures listed in bold are suitable for use in shaded woodland settings; those in italics are suitable for use in filter strips.

**Table IV-5  
Lime and Fertilizer Application Table**

pH of Soil	Lime in Tons per Acre	Fertilizer, Lbs. per Acre (10-20-20 or Equivalent)
Above 6.0	2	500
5.0 to 6.0	3	500
Below 5.0	4	500

The pH can be determined with a portable pH testing kit or by sending the soil samples to a soil testing laboratory. When 4 tons of lime per acre are applied it must be incorporated into the soil by disking, backblading or tracking up and down the slope.

**Table IV-6  
Mulch Materials Rates and Uses**

Material	Minimum Rates per acre	Coverage	Remarks
Hay or Straw	2 to 3 Tons	Cover 75% to 90% of Surface	Subject to wind blowing or washing unless tied down
Wood Fiber	100 to 150 bales	Cover all	For hydroseeding
Pulp Fiber	1000 to 1500 lbs	Disturbed Areas	
Wood - Cellulose			
Recirculated Paper			

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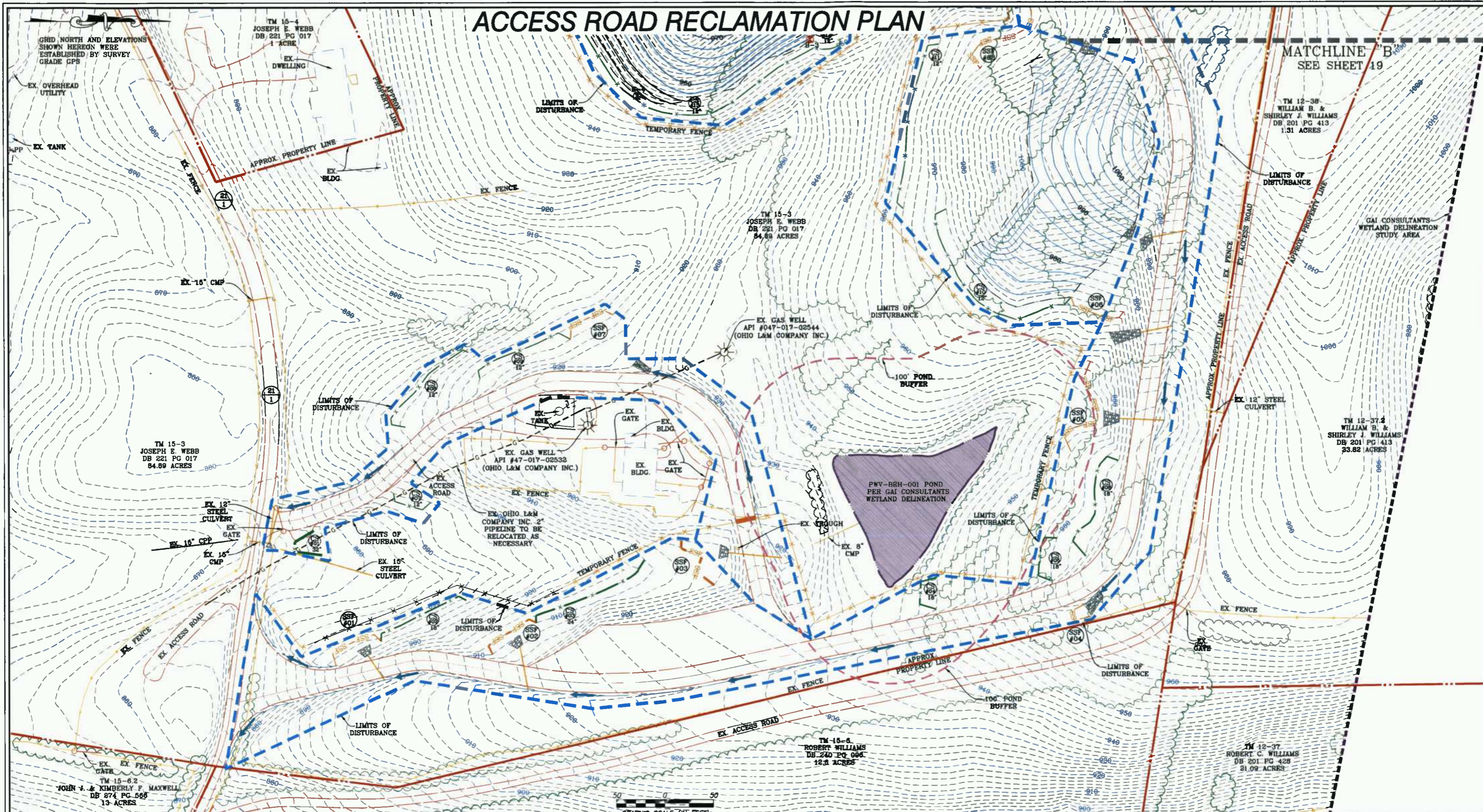
**JAMES WEBB**  
 CENTRALIZED FRESHWATER IMPOUNDMENT  
 CENTRAL DISTRICT  
 DODDRIDGE COUNTY, WEST VIRGINIA

**CONSTRUCTION DETAILS**

08/30/2013

DATE: 08/30/2013  
 SCALE: N/A  
 SHEET 17 OF 20

# ACCESS ROAD RECLAMATION PLAN



## SITE RECLAMATION NARRATIVE

**POST CONSTRUCTION** - THE CONSTRUCTION SITE SHALL BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION. THE ESTABLISHMENT OF FINAL COVER MUST BE INITIATED NO LATER THAN 7 DAYS AFTER REACHING FINAL GRADE. THE ACCESS ROADS AND THE CENTRALIZED FRESHWATER IMPOUNDMENT ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF THE FACILITY. ALL CULVERTS, ROADSIDE DITCHES, BROAD-BASED DIPS, DIVERSION DITCHES, ETC. MUST BE MAINTAINED IN PROPER WORKING ORDER. ANY SOIL THAT IS DISTURBED ALONG THE ACCESS ROAD OR CENTRALIZED WATER IMPOUNDMENT MUST BE REVEGETATED ACCORDING TO THESE PLANS AND THE WDEP OFFICE OF OIL AND GAS FIELD MANUAL. IF NECESSARY, ALL TEMPORARY BMP MEASURES CAN BE REMOVED AFTER THE SITE IS PERMANENTLY STABILIZED AND APPROVAL IS RECEIVED FROM THE WDEP. ANY AREAS DISTURBED BY REMOVAL OF THE BMP'S SHALL BE REPAIRED, STABILIZED, AND PERMANENTLY SEEDED.

**POST USE** - WITHIN 6 MONTHS OF THE EXPIRATION OF THE CERTIFICATE OF APPROVAL OF THE CENTRALIZED FRESHWATER IMPOUNDMENT FACILITY, THE SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. ALL EXISTING BMP'S SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. DRILL CUTTINGS, DRILLING MUD, AND LINERS FOR WELLS PERMITTED UNDER WV CODE 22-6A AND 35CSR-8, MUST BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED SOLID WASTE FACILITY OR, IF THE SURFACE OWNER CONSENTS, THE DRILL CUTTINGS AND ASSOCIATED DRILLING MUD MAY BE MANAGED ON SITE IN A MANNER APPROVED BY THE SECRETARY. THE LINER SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL PIPING FOR THE GROUNDWATER DEWATERING SYSTEM, WATER LINES, AND ASSOCIATED STRUCTURES SHALL BE REMOVED. THE SITE SHALL BE REGRADED AS INDICATED ON THE PLANS TO PRE-CONSTRUCTION GRADES. STOCKPILED TOPSOIL SHOULD BE RE-SPREAD OVER DISTURBED AREA. TOPSOIL SHOULD NOT BE ADDED TO SLOPES STEEPER THAN 2:1 UNLESS GOOD BONDING TO THE SUB-SOIL CAN BE ACHIEVED. UPON COMPLETION OF THE GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE REVEGETATION DETAILS. A NOTICE OF TERMINATION MUST BE FILED WITH THE WDEP WHEN THE SITE REACHES FINAL STABILIZATION. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70% OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS GRAVEL AND PAVEMENT ACCESS ROADS OR BUILDINGS. IT SHOULD BE NOTED THAT THE 70% REQUIREMENT REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENT OF THE SITE.

**NOTE:**  
 1. DURING SITE RECLAMATION ALL FILL AREAS SHALL BE COMPACTED IN 24" MAXIMUM LIFT THICKNESS (12" RECOMMENDED) WITH A VIBRATING SHEEPSFOOT ROLLER TO 90% COMPACTION PER STANDARD PROCTOR DENSITY, ASTM D-698. MOISTURE CONTENT WILL BE CONTROLLED IN ACCORDANCE WITH THE STANDARD PROCTOR TEST (ASTM-D698) RESULTS.

### LEGEND

EX. INDEX CONTOUR	- - - 700	PROP. INDEX CONTOUR	- - - 700
EX. INTERMEDIATE CONTOUR	- - - 700	PROP. INTERMEDIATE CONTOUR	- - - 700
EX. PROPERTY LINE	- - -	PROP. INDEX CONTOUR (ROAD)	- - - 700
EX. ROAD EDGE OF GRAVEL/DIRT	- - -	PROP. INTERMEDIATE CTR (ROAD)	- - -
EX. ROAD EDGE OF PAVEMENT	- - -	PROP. LIMITS OF DISTURBANCE	- - -
EX. ROAD CENTERLINE	- - -	PROP. WELL HEAD	○
EX. DITCHLINE	- - -	PROP. PERIMETER SAFETY FENCE	—
EX. CULVERT	—	PROP. ACCESS GATE WITH EMERGENCY LIFELINE	—
EX. FENCELINE	—	PROP. ROAD EDGE OF GRAVEL	- - -
EX. OVERHEAD UTILITY	—	PROP. ROAD CENTERLINE	- - -
EX. POWER POLE/GUY WIRE	—	PROP. V-DITCH W/ CHECK DAMS	—
EX. PIPELINE & WELL	—	PROP. CULVERT W/ RIP-RAP	—
EX. TRELISE	—	PROP. COMPOST FILTER SOCK	—
EX. DELINEATED STREAM	—	PROP. COMPOST SOCK DIVERSION	—
EX. DELINEATED WETLAND/POND	—	PROP. SUPER SILT FENCE (SSF)	—
EX. BUILDING	—	MATCHLINE	—
100' WETLAND/STREAM BUFFER	—	BRUSH PILE SEDIMENT BARRIER	—
DELINEATION STUDY AREA	—		

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**JAMES WEBB**  
 CENTRALIZED FRESHWATER IMPOUNDMENT  
 CENTRAL DISTRICT  
 DODDRIDGE COUNTY, WEST VIRGINIA

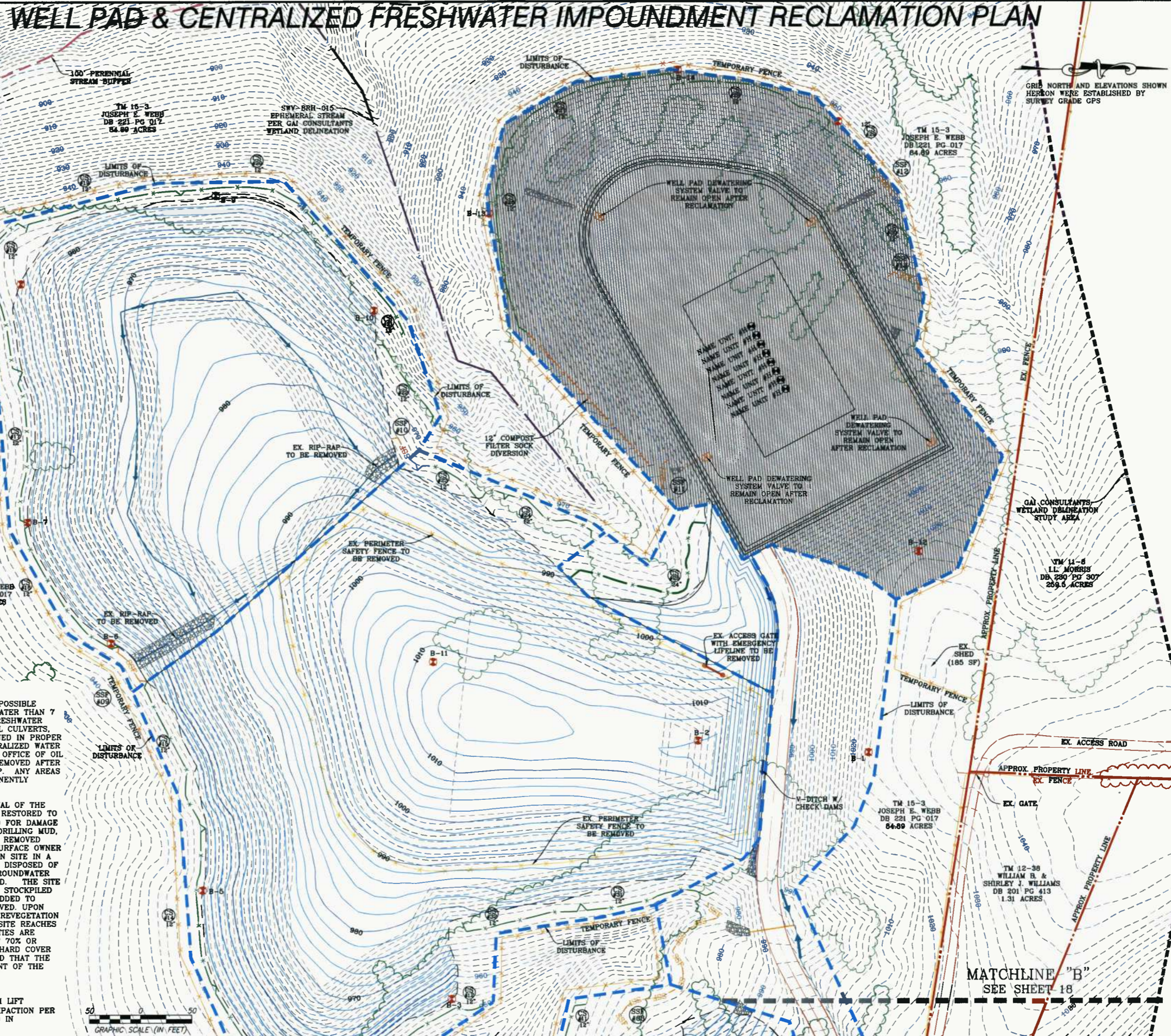
ACCESS ROAD RECLAMATION PLAN

DATE: 08/30/2013  
 SCALE: 1" = 50'  
 SHEET 18 OF 20

# WELL PAD & CENTRALIZED FRESHWATER IMPOUNDMENT RECLAMATION PLAN

## LEGEND

- |                              |     |     |   |     |     |
|------------------------------|-----|-----|---|-----|-----|
| EX. INDEX CONTOUR            | --- | 700 | PROP. INDEX CONTOUR                       | --- | 700 |
| EX. INTERMEDIATE CONTOUR     | --- | 700 | PROP. INTERMEDIATE CONTOUR                | --- | 700 |
| EX. PROPERTY LINE            | --- |     | PROP. INDEX CONTOUR (ROAD)                | --- | 700 |
| EX. ROAD EDGE OF GRAVEL/DIRT | --- |     | PROP. INTERMEDIATE CTR (ROAD)             | --- |     |
| EX. ROAD EDGE OF PAVEMENT    | --- |     | PROP. LIMITS OF DISTURBANCE               | --- |     |
| EX. ROAD CENTERLINE          | --- |     | PROP. WELL HEAD                           | ⊙   |     |
| EX. DITCHLINE                | --- |     | PROP. PERIMETER SAFETY FENCE              | ⊗   |     |
| EX. CULVERT                  | --- |     | PROP. ACCESS GATE WITH EMERGENCY LIFELINE | ⊗   |     |
| EX. FENCELINE                | --- |     | PROP. ROAD EDGE OF GRAVEL                 | --- |     |
| EX. OVERHEAD UTILITY         | --- |     | PROP. ROAD CENTERLINE                     | --- |     |
| EX. POWER POLE/GUY WIRE      | --- |     | PROP. V-DITCH W/ CHECK DAMS               | --- |     |
| EX. PIPELINE & WELL          | --- |     | PROP. CULVERT W/ RIP-RAP                  | --- |     |
| EX. TREELINE                 | --- |     | PROP. COMPOST FILTER SOCK                 | --- |     |
| EX. DELINEATED STREAM        | --- |     | PROP. COMPOST SOCK DIVERSION              | --- |     |
| EX. DELINEATED WETLAND/POND  | --- |     | PROP. SUPER SILT FENCE                    | --- |     |
| EX. BUILDING                 | --- |     | MATCHLINE                                 | --- |     |
| 100' WETLAND/STREAM BUFFER   | --- |     | BRUSH PILE SEDIMENT BARRIER               | --- |     |
| DELINEATION STUDY AREA       | --- |     |   |     |     |



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WELL PAD & CENTRALIZED FRESHWATER IMPOUNDMENT RECLAMATION PLAN

**JAMES WEBB**  
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 CENTRAL DISTRICT  
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SHEET 19 OF 20