

# Commercial/Industrial Floodplain Development Permit

## Doddridge County, WV Floodplain Management

This permit has been issued to CONSOL ENERGY, 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 #: 15-371**

**Date Approved: 8/10/2015**

**Expires: 8/10/2016**

**Issued to: CONSOL ENERGY**

**POC: KELLY EDDY  
(304)884-2131**

**Company Address: PO BOX 1248, JANE LEW, WV 26378**

**Project Address: CAIN RUN CR40, West Union, WV 26456**

**Firm: 54017C0225C**

**Lat/Long: 39.17167N/-80.753333W**

**Purpose of development: BLUE TANK SITE/TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS**

**Issued by: George C. Eidel, Doddridge County FPM (or designee)**

**Date: August 10, 2015**

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

7/11/15



We answer to you.

One Robinson Plaza, Ste. 200, Pittsburgh, PA 15205  
E-mail: rettetw@rettetw.com • Web site: rettetw.com

Phone: (800) 738-8395

### LETTER OF TRANSMITTAL

**TO:** Doddridge County Courthouse  
Floodplain Manager  
c/o Katie Slater  
135 Court Street  
West Union, WV 26456

**DATE:** 6/9/15 **JOB #:** 094865013 **PH #:** 999  
**RE:** Blue Tank  
Floodplain Permit Application

We are sending you:  Enclosed  Under separate cover via:  Mail  Messenger, the following items:  
 Shop Drawings  Prints  Plans  Change Order  
 Specifications  Sketches  Copy: Letter/Contract  Computer Disk  
 Data Sheets  Brochures  As Noted  Permit Application

Copies	Date	No.	Description
1			Doddridge County Floodplain Development Permit Application
1			Blue Tank Plan Set

These are transmitted as checked below:  
 As requested  Reviewed  Resubmit \_\_\_\_\_ copies for approval  
 For your use  Furnish as Corrected  Submit \_\_\_\_\_ copies for distribution  
 For review & comment  Revise and Resubmit  Return \_\_\_\_\_ corrected prints  
 For your information  Rejected   
 For Bids Due:  Prints returned after loan to us.

**Remarks:** \_\_\_\_\_  
\_\_\_\_\_

**Signed:** Matthew Pitts *MP*

**Copy to:** file

*If enclosures are not as noted, kindly notify us at once.*



**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 Kelly Eddy, Permitting Supervisor  
DATE 5-26-15

**SECTION 2: PROPOSED 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: Consol Energy

ADDRESS: P.O. Box 1248, Jane Lew, WV 26378

TELEPHONE NUMBER: Kelly Eddy 304-884-2131

**CONTRACTOR NAME:** Waco Oil & Gas

**ADDRESS:** P.O. Box 397, Glenville, WV 26351

**TELEPHONE #** \_\_\_\_\_

**WV CONTRACTOR LICENCE #** \_\_\_\_\_

**ENGINEER'S NAME:** RETTEW

**ADDRESS:** One Robinson Plaza, Ste 200, 6600 Steubenville Pike, Pittsburgh, PA 15205

**TELEPHONE NUMBER:** 412-446-1728

**PROJECT LOCATION:**

**NAME OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)** I. L. Ike Morris

**ADDRESS OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)** 1297 N. Lewis Street  
Glenville, WV 26351

**DISTRICT:** Southwest

**LAND BOOK:** \_\_\_\_\_

**DESCRIPTION:** Primarily woods and meadow -Center of project Lat: 39.174167, Long: -80.753333

**DEED BOOK REFERENCE:** \_\_\_\_\_

**TAX MAP REFERENCE:** 09-07-0010-0002-0000-6001 (Parcel ID 422903240.0000)

**EXISTING BUILDINGS/USES OF PROPERTY:** None in project vicinity/meadow

**NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY** I. L. Ike Morris

**ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY** 1297 N. Lewis Street, Glenville, WV 26351

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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**

<u>ACTIVITY</u>	<u>STRUCTURAL TYPE</u>
<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 Alteration (including dredging and channel modification)
  - Drainage Improvements (including culvert work)
  - Road, Street, or Bridge Construction
  - Subdivision (including new expansion)
  - Individual Water or Sewer System
  - Other (please specify)
- 

**C. STANDARD SITE PLAN OR SKETCH**

1. **SUBMIT ALL STANDARD SITE PLANS, IF ANY HAVE BEEN PREPARED (ENGINEERING PLANS MUST BE SIGNED AND SEALED).**
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/ PROPOSED CONSTRUCTION PROJECT WITHIN THE FLOODPLAIN \$ 100,000**

**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: I.L. Ike Morris owns more  
ADDRESS: than 2500 feet upstream  
and downstream of the site

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: I.L. Ike Morris  
ADDRESS: 1297 N. Lewis Street  
Glennville, WV 26351

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): Kelly Eddy, permitting supervisor

SIGNATURE: Kelly Eddy DATE: 5-26-15

After completing SECTION 2, APPLICANT should submit form and fees to Clerk of Doddridge County Court 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 .

Stream name \_\_\_\_\_.

Profile # \_\_\_\_\_.

Unavailable

The proposed development is located in a floodway.

See section 4 for additional instructions.

**SIGNED** \_\_\_\_\_

**DATE** \_\_\_\_\_

**SECTION 4: ADDITIONAL INFORMATION REQUIRED FOR DEVELOPMENT IN SPECIAL FLOOD HAZARD AREA (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 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 proofing 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 10 lots or 2 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.  
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 Flood Hazard Area must have a West Virginia Contractor's License and a Manufactured Home Installation License as required by the Federal Emergency Management Agency (FEMA).
  - Other: \_\_\_\_\_

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

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

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_

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

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  N/A  FT. NGVD.
- 2 Actual (As Built) elevation of floodproofing is  N/A  FT. NGVD.

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

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Call  
about this

---

Talk to him 7/9/15  
and he will send  
more info on this

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Call  
Matt Pitts  
412-446-1728  
ex 4318

# The Doddridge Independent

## The Doddridge Independent PUBLISHER'S CERTIFICATE

I, Michael D. Zorn, Publisher of The Doddridge Independent, A newspaper of general circulation published in the town of West Union, Doddridge County, West Virginia, do hereby certify that:

**15-370 - Consol Energy - Blue Tank Site**

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

**Permit Application #15-371**

**Location - Southwest District/ Cain Run/ CR 40**

**39.17167N/-80.753333W**

**Project Description: To aid in the development of individual Marcellus shale gas wells**

was published in The Doddridge Independent 2 times commencing on Friday, July 24, 2015 and Ending on Friday, July 31, 2015 at the request of:

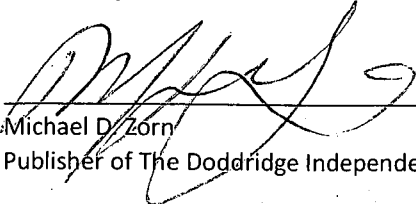
**George Eidel, Doddridge County Floodplain Manager**

Given under my hand this Monday, August 3, 2015

The publisher's fee for said publication is:

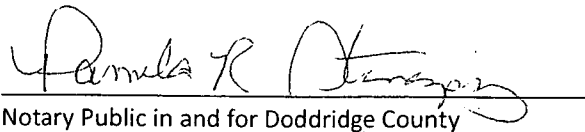
**\$ 25.27 1st Run/\$ 18.95 Subsequent Runs**

**This Legal Ad Total: \$ 44.22**

  
\_\_\_\_\_  
Michael D. Zorn  
Publisher of The Doddridge Independent

Subscribed to and sworn to before me on

this date: 8, 3, 15

  
\_\_\_\_\_  
Notary Public in and for Doddridge County

My Commission expires on

The 17<sup>th</sup> day of May 2019

Legal Advertisement: 7/24 - 7/31  
Doddridge County  
Floodplain Permit Application

Please take notice that on the 1st day of July, 2015  
**15-370 - Consol Energy - Blue Tank Site**  
filed an application for a Floodplain Permit to develop land located at or about:

**Permit Application #15-371**

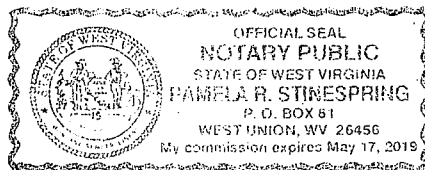
**Location - Southwest District/ Cain Run/ CR 40**

**39.17167N/-80.753333W**

**Project Description: To aid in the development of individual Marcellus shale gas wells**

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 10, 2015, delivered to:

Clerk of the County Court  
118 E. Court Street, West Union, WV 26456  
Beth A Rogers, Doddridge County Clerk  
George Eidel, Doddridge County Flood Plain Manager





# EROSION & SEDIMENT CONTROL PLAN FOR BLUE TANK SITE SOUTHWEST TAX DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA FOR CNX GAS COMPANY, LLC.

**PROJECT INFORMATION**

PROJECT NAME: BLUE TANK SITE

TAX PARCEL:  
SOUTHWEST TAX DISTRICT  
PARCEL ID: 422903240.0000  
SURFACE OWNER:  
OWNER MORRIS, I. L. IKE  
SOUTHWEST TAX DISTRICT  
DODDRIDGE COUNTY, WV  
TOTAL PROPERTY AREA: 6,671.61 ACRES  
TOTAL DISTURBANCE AREA: 4.6 ACRES

SITE LOCATION:  
THE BLUE TANK SITE IS LOCATED OFF OF CAIN RUN (CR 40).

**LOCATION COORDINATES**

BLUE TANK SITE CENTER  
LATITUDE: 39°10'27.04" LONGITUDE: -80°45'12.90" (NAD 27)  
BIG RUN TANK PAD ACCESS ROAD AT COUNTY ROUTE 40  
LATITUDE: 39°10'26.37" LONGITUDE: -80°45'09.28" (NAD 27)

**GENERAL DESCRIPTION**

THE TANK SITE AND ACCESS ROAD ARE BEING CONSTRUCTED TO AID IN THE DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS.

**SITE DISTURBANCE COMPUTATIONS**

TOTAL SITE DISTURBANCE AREA= 4.6 ACRES

**ENTRANCE PERMIT**

CNX GAS COMPANY, LLC WILL OBTAIN DRIVEWAY PERMIT FROM DODDRIDGE COUNTY PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

**MISS UTILITY STATEMENT**

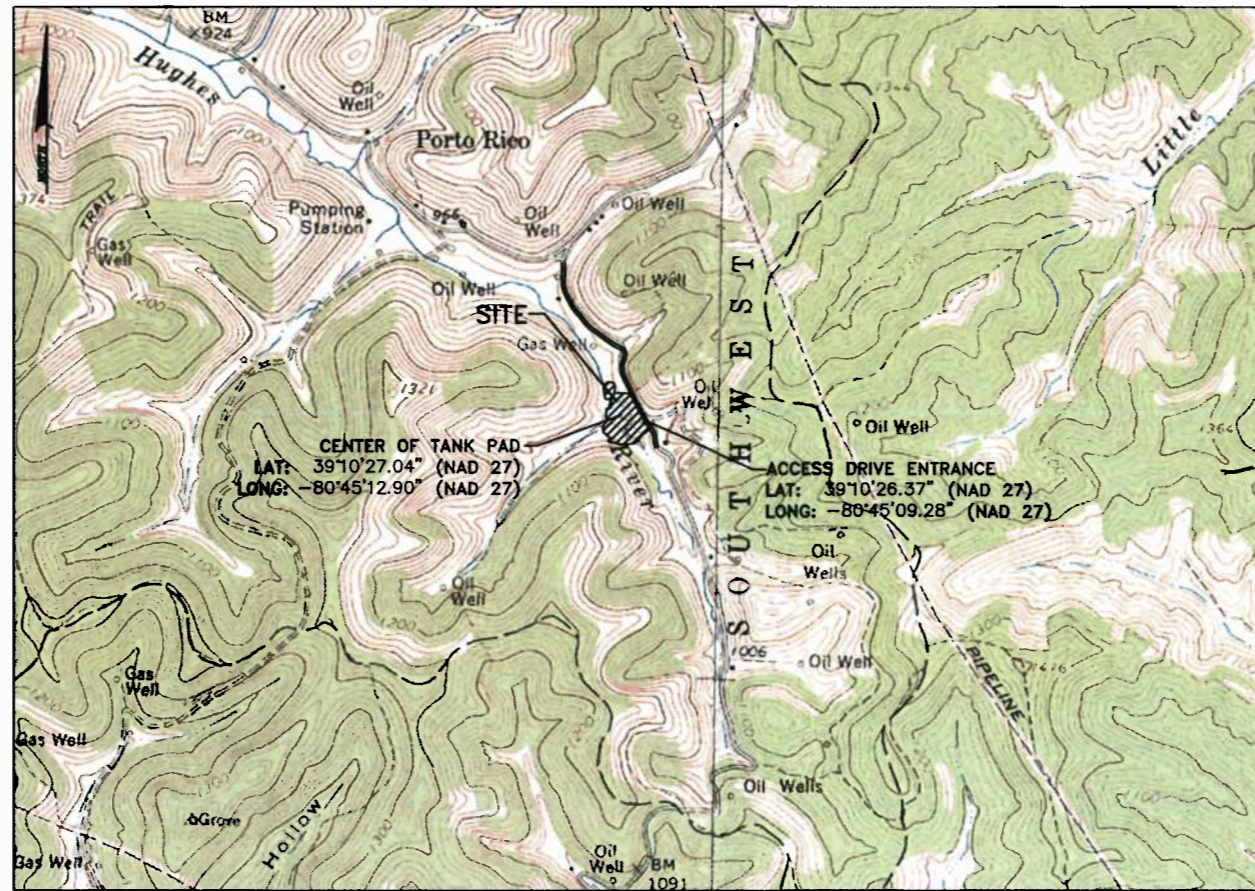
MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN. TICKET # 1414731412. IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE PROJECT.

**ENVIRONMENTAL NOTES**

WETLANDS AND STREAMS ARE SHOWN BASED ON FIELD LOCATIONS DELINEATED BY RETIEW ASSOCIATES ON MARCH 12, 2014 AND LOCATED USING GPS FIELD LOCATION METHODS THAT IS POST-PROCESSED TO SUB-METER ACCURACY (TYPICAL).

**GEOTECHNICAL NOTES**

DRILLING AND SOIL TESTING SERVICES OF THE PROPOSED SITE WERE PERFORMED BY RETIEW ASSOCIATES ON MARCH 24 & 25, 2014. THE DOCUMENT PREPARED BY RETIEW ASSOCIATES DATED APRIL 10, 2014, REFLECTS THE RESULTS OF THE DRILLING AND SOIL TESTING. PLEASE REFER TO THE DOCUMENT BY RETIEW ASSOCIATES FOR ADDITIONAL INFORMATION AS NEEDED. THE CONTRACTOR SHALL CONTACT RETIEW ASSOCIATES FOR SOIL STABILITY RECOMMENDATIONS.



LOCATION MAP

GRAPHIC SCALE



( IN FEET )  
1 inch = 1,000 ft.

**LIST OF DRAWINGS**

- 1 OF 10 . . . . . COVER
- 2 OF 10 . . . . . NOTES
- 3 OF 10 . . . . . NOTES
- 4 OF 10 . . . . . EXISTING CONDITIONS PLAN
- 5 OF 10 . . . . . SOILS PLAN
- 6 OF 10 . . . . . PROPOSED SITE PLAN
- 7 OF 10 . . . . . SITE RECLAMATION PLAN
- 8 OF 10 . . . . . DETAILS
- 9 OF 10 . . . . . DETAILS
- 10 OF 10 . . . . . CONSTRUCTION QUANTITIES

**SOILS CLASSIFICATION**

GaE GILPIN-PEABODY COMPLEX, 15 TO 35 PERCENT SLOPES  
GaF GILPIN-PEABODY COMPLEX, 35 TO 70 PERCENT SLOPES  
Sa SENSABAUGH SILT LOAM  
SaB SENSABAUGH SILT LOAM, 3 TO 8 PERCENT SLOPES

**SOIL CHARACTERISTICS**

SOIL TYPE	DEPTH TO	RESTRICTIVE LAYER		DEPTH TO WATER TABLE
		TYPE		
GaE	20"-40"	LITHIC BEDROCK	-	-
GaF	20"-40"	LITHIC BEDROCK	-	-
Se	-	-	-	48"-72"
SaB	-	-	-	48"-72"

**RECEIVING WATER CLASSIFICATION  
WATER QUALITY DESIGNATION**

- UNNAMED TRIBUTARY TO SOUTH FORK HUGHES RIVER  
- WARMWATER HABITAT (WH)
- SOUTH FORK HUGHES RIVER  
- HIGH QUALITY WARMWATER HABITAT (HQ-WWH)

**CUT & FILL**

PAD:		
PAD CUT	+ 6,017 C.Y.	
PAD STONE (10")	+ 2,049 C.Y.	
PAD FILL	- 8,775 C.Y.	
PAD COMPACTION (10%)	- 602 C.Y.	
PAD TOPSOIL (6" ASSUMED)	- 1,738 C.Y.	
NET FILL (DEFICIT)	= 3,049 C.Y.	
TRUCK PAD AND ACCESS:		
TP & ACCESS CUT	+ 4,017 C.Y.	
TP & ACCESS STONE (10")	+ 420 C.Y.	
TP & ACCESS FILL	- 0 C.Y.	
TP & ACCESS COMPACTION (10%)	- 402 C.Y.	
TP & ACCESS TOPSOIL (6" ASSUMED)	- 349 C.Y.	
NET CUT (SURPLUS)	= 3,596 C.Y.	
RELOCATED ACCESS:		
ACCESS CUT:		
ACCESS STONE (10")	+ 153 C.Y.	
ACCESS FILL:	- 277 C.Y.	
ACCESS COMPACTION:	- 143 C.Y.	
ACCESS TOPSOIL (10")	- 15 C.Y.	
ACCESS TOPSOIL (6")	- 208 C.Y.	
NET FILL (SURPLUS)	= 64 C.Y.	
SITE TOTAL:		
SITE CUT	+ 10,602 C.Y.	
SITE STONE (10")	+ 2,746 C.Y.	
SITE FILL	- 8,918 C.Y.	
SITE COMPACTION	- 1,019 C.Y.	
SITE TOPSOIL (6" ASSUMED)	- 2,295 C.Y.	
NET CUT (SURPLUS)	= 1,116 C.Y.	



**CALL BEFORE YOU DIG!** Dial 811 or 800.245.4848  
Miss Utility of West Virginia

AT LEAST 48 HOURS, BUT NOT MORE THAN 10 WORKING DAYS (EXCLUDING WEEKENDS AND HOLIDAYS), PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THESE ACTIVITIES SHALL CONTACT MISS UTILITY OF WEST VIRGINIA AT 811 OR 1-800-245-4848.  
DESIGN PHASE TICKET # 1414731412, DATE: 05/27/14.

NO.	DATE	PER DEP COMMENTS	REVISION
1	7/28/14		



MANAGER:	P.E.	DESIGN BY:	CHKD BY:	DRAWN BY:	CHKD BY:	RELBROOK NO.
JASON MILLER	P.E.	KME	JEM	KME	JEM	GIS

CLIENT  
CONSOL ENERGY  
PO BOX 1248  
JANE LEW, WV 26378  
CONSOL ENERGY

**RETIEW**  
RETIEW Associates, Inc.  
Twin Towers, 4955 Steubenville Pike, Suite 305  
Pittsburgh, PA 15207-2828 • Fax (412) 446-1733  
Email: retiew@retiew.com  
Website: www.retiew.com  
Engineers • Planners • Surveyors • Landscape Architects  
Environmental Consultants

COVER SHEET  
EROSION & SEDIMENT CONTROL PLAN  
FOR  
**BLUE TANK SITE**  
SOUTHWEST TAX DISTRICT  
DODDRIDGE COUNTY, WV

DATE: JANUARY 8, 2015  
SHEET NO. 1 OF 10  
DWG. NO. 094865013



CONSTRUCTION NOTES

- 1. THE CONTRACTOR IS TO VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION AND WILL NOTIFY THE DESIGN ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLAN. ANY WORK PERFORMED BY THE CONTRACTOR AFTER THE FINDING OF SUCH DISCREPANCIES, SHALL BE DONE AT THE CONTRACTOR'S RISK.
2. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS HEREIN SHALL CONFORM TO THE CURRENT COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS AND/OR CURRENT WDEP EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL STANDARDS AND SPECIFICATIONS. SHOULD A CONFLICT BETWEEN THE DESIGN, SPECIFICATIONS, AND PLANS OCCUR, THE MOST STRINGENT REQUIREMENT WILL APPLY. THE APPROVAL OF THESE PLANS IN NO WAY RELIEVES THE DEVELOPER OR HIS AGENT OF THE RESPONSIBILITIES CONTAINED IN THE WDEP EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL.
3. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. ALSO, A REPRESENTATIVE OF THE DEVELOPER MUST BE AVAILABLE AT ALL TIMES.
4. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST, AND TO TAKE WHATEVER MEASURES ARE NECESSARY TO ENSURE THAT THE STREETS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
5. THE LOCATION OF EXISTING UTILITIES SHOWN IN THESE PLANS ARE FROM FIELD LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES AS NEEDED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE ENGINEER OF ANY CONFLICTS ARISING FROM HIS EXISTING UTILITY VERIFICATION AND THE PROPOSED CONSTRUCTION.
6. THE CONTRACTOR SHALL PROVIDE NOTIFICATION TO THE APPROPRIATE UTILITY COMPANY PRIOR TO CONSTRUCTION OF WATER AND/OR GAS PIPE LINES. INFORMATION SHOULD ALSO BE OBTAINED FROM THE APPROPRIATE AUTHORITY CONCERNING PERMITS, CUT SHEETS, AND CONNECTIONS TO EXISTING LINES.
7. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGES TO THE EXISTING STREETS AND UTILITIES WHICH OCCURS AS A RESULT OF HIS CONSTRUCTION PROJECT WITHIN OR CONTIGUOUS TO THE EXISTING RIGHT-OF-WAY.
8. WHEN GRADING IS PROPOSED WITHIN EASEMENTS OF UTILITIES, LETTERS OF PERMISSION FROM ALL INVOLVED COMPANIES MUST BE OBTAINED PRIOR TO GRADING AND/OR SITE DEVELOPMENT.
9. THE DEVELOPER WILL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITIES WHICH IS REQUIRED AS A RESULT OF HIS PROJECT. THE RELOCATION SHOULD BE DONE PRIOR TO CONSTRUCTION.
10. THESE PLANS IDENTIFY THE LOCATION OF ALL KNOWN GRAVESITES. GRAVESITES SHOWN ON THIS PLAN WILL BE PROTECTED IN ACCORDANCE WITH STATE LAW. IN THE EVENT GRAVESITES ARE DISCOVERED DURING CONSTRUCTION, THE OWNER AND ENGINEER MUST BE NOTIFIED IMMEDIATELY.
11. THE CONTRACTOR(S) SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATING OR BLASTING AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATING OR DEMOLITION.
12. CONTRACTOR TO CONTACT OPERATOR AND ENGINEER IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION. THE ENGINEER OR SURVEYOR IS NOT RESPONSIBLE FOR ANY BURIED WATER WELLS, SPRINGS OR ANY OTHER FEATURES UNCOVERED DURING CONSTRUCTION.
13. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE EROSION AND SEDIMENT CONTROL INSPECTOR, TWO DAYS PRIOR TO THE START OF CONSTRUCTION.
14. THE CONTRACTOR IS RESPONSIBLE FOR ALL FILL MATERIAL TESTING REQUIRED DURING THE CONSTRUCTION OF THIS PROJECT. ALL MATERIAL TESTS SHALL BE CONDUCTED BY A CERTIFIED MATERIALS TESTING LABORATORY AND A CERTIFICATION OF THE MATERIALS TESTED SHALL BE PROVIDED BY A LICENSED PROFESSIONAL ENGINEER REPRESENTING THE LABORATORY. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER CERTIFYING THE CONSTRUCTED FACILITY. FAILURE TO CONDUCT THE DENSITY TEST SHALL BE CAUSE FOR NON-ACCEPTANCE OF THE CONSTRUCTED FACILITY.
15. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE SITE IN ACCORDANCE WITH THE DESIGN PLANS AND CONSTRUCTION DOCUMENTS AND THE SCOPE OF WORK SHALL CONFORM WITH THE GRADES, BERMES, DEPTHS, DIMENSIONS, ETC. SHOWN HEREON.
16. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE AND SUBMIT A GROUNDWATER PROTECTION PLAN FOR THE CONSTRUCTION SITE. CONTACT THE WDEP TO RECEIVE AN APPLICATION AND INFORMATION REGARDING SUBMITTAL.

MAINTENANCE PROGRAM

- 1. BMP'S WILL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. ANY NECESSARY OR REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
a. FILTER SOCK - REMOVE SEDIMENT FROM COMPOST FILTER SOCK WHERE ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FILTER SOCK. REPLACE SECTIONS OF FAILED FILTER SOCK IMMEDIATELY. REMOVE ENTIRE FILTER SOCK UPON COMPLETION OF PROJECT AND ESTABLISHMENT OF VEGETATIVE GROWTH.
b. ROCK CHECK DAM - REPLACE STONE AND REPAIR DAMS AS NECESSARY TO MAINTAIN CORRECT HEIGHT AND CONFIGURATION. SEDIMENT SHOULD BE REMOVED FROM BEHIND THE CHECK DAMS WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE DAM. DISPOSE OF THE SEDIMENT IN AN APPROVED MANNER.
c. RIP RAP OUTLET - IF HIGH FLOWS HAVE CAUSED SCOUR BENEATH RIP RAP OUTLET OR DISLODGING OF STONE, REPAIR IMMEDIATELY.
d. ROCK CONSTRUCTION ENTRANCE - MAINTAIN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. TOP DRESS STONE AS NECESSARY. ALL SEDIMENT SPILLED, DRIPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. WHEELS ON ALL VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY.
2. ALL RE-VEGETATED ACCESS ROADS AND FACILITIES ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT
3. ALL AREAS OF EARTH DISTURBANCE WILL BE REPAIRED WHERE SIGNS OF ACCELERATED EROSION ARE DETECTED.
4. SEEDING AND MULCHING WILL BE REPEATED IN THOSE AREAS THAT APPEAR TO BE FAILING OR HAVE FAILED.

CONSTRUCTION SEQUENCE

- THE DEVELOPMENT OF THE SITE SHALL BE CONSISTENT WITH THE FOLLOWING GENERAL SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL IMPLEMENT, MAINTAIN, AND OPERATE ALL PROPOSED EROSION AND SEDIMENT CONTROL MEASURES TO EFFECTIVELY MITIGATE THE HAZARD OF ACCELERATED EROSION AND SEDIMENTATION TO ACCEPTABLE LEVELS. MINOR DEVIATIONS FROM THIS SEQUENCE SHALL BE EXECUTED BY THE PROJECT'S SUPERINTENDENT AS NEEDED TO ELIMINATE ANY POTENTIAL EROSION CONDITION THAT MAY ARISE FOR THE DURATION OF THE PROJECT. THE WDEP OFFICE OF OIL AND GAS SHALL BE NOTIFIED OF ANY AND ALL SUCH DEVIATIONS FROM THE APPROVED PLANS.
1. HOLD A PRE-CONSTRUCTION CONFERENCE WITH THE CONTRACTOR AND THE APPROPRIATE EROSION AND SEDIMENT CONTROL INSPECTOR 48 HOURS PRIOR TO BEGINNING WORK TO REVIEW THE CONSTRUCTION DRAWING AND PROVIDE ANY REQUESTED GUIDANCE.
2. STAKE THE LIMITS OF CONSTRUCTION.
3. INSTALL THE ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS
4. INSTALL ALL ORANGE SAFETY FENCE AS SHOWN AROUND ANY DELINEATED STREAMS AND WETLANDS TO CLEARLY IDENTIFY THOSE AREAS THAT ARE NOT TO BE DISTURBED.
5. INSTALL ALL BMP'S (COMPOST FILTER SOCKS, SEDIMENT TRAPS, ETC.) AS SHOWN ON THE PLANS AND DETAILS.
6. CLEAR AND GRUB THE ACCESS ROAD AND PAD AREA AS NEEDED. ALL WOODY MATERIAL, BRUSH, TREES, STUMPS, LARGE ROOTS, BOULDERS, AND DEBRIS SHALL BE CLEARED FROM THE SITE AREA AND KEPT TO THE MINIMUM NECESSARY FOR PROPER CONSTRUCTION, INCLUDING THE INSTALLATION OF ANY NECESSARY SEDIMENT CONTROLS. TREES SIX INCHES IN DIAMETER AND LARGER SHALL BE CUT AND LOGS STACKED. SMALLER TREES, BRUSH, AND STUMPS SHALL BE CUT AND/OR GRUBBED AND WINDROWED IN APPROPRIATE AREAS FOR USE AS SEDIMENTS BARRIERS AT WATER DRAINAGE OUTLETS, WINDROWED BELOW THE WELL SITE, USED FOR WILDLIFE HABITAT, BURNED (AS PER WV FOREST FIRE LAWS), REMOVED FROM THE SITE, OR DISPOSED OF BY OTHER METHODS APPROVED BY ODEP.
7. CONSTRUCT THE ACCESS ROAD AS SHOWN ON PLANS, STABILIZE THE ROAD WITH GEOTEXTILE FABRIC AND STONE AND SIDE SLOPES AS SPECIFIED WITH PERMANENT SEEDING, STOCKPILE AND STABILIZE EXCESS MATERIAL ALONG THE ACCESS ROAD, AS NEEDED.
8. RELOCATE EXISTING UNDERGROUND UTILITIES AS INDICATED ON PLANS. ALL WORK TO BE COORDINATED WITH UTILITY OWNER AND CONSOL ENERGY. RELOCATED UTILITIES TO BE MARKED ONCE RELOCATION IS COMPLETE.
9. STRIP THE TOPSOIL FROM THE PAD AREA. ALL STRIPPED TOPSOIL SHALL BE STOCKPILED ON AREAS SHOWN IN THE PLANS AND IMMEDIATELY STABILIZED. ADDITIONAL BMP MEASURES SHALL BE CONSTRUCTED AROUND TOPSOIL STOCKPILES, IF NECESSARY.
10. GRADE THE PAD AREA AS SHOWN ON THE PLANS. IMMEDIATELY STABILIZE THE OUTER AREAS OF THE PAD, INSTALL THE PAD LINER SYSTEM AND STONE STABILIZE SIDE SLOPES WITH STRAW/COCONUT EROSION CONTROL BLANKETS ON ALL SLOPES. APPLY SEED AND MULCH TO ALL DISTURBED AREAS. THIS SHALL BE INCLUDED IN ALL AREAS THAT WILL NOT BE SUBJECT TO REGULAR TRAFFIC AND/OR GRUBBED WITH STONE) (TO BE STABILIZED WITH STONE) OR ANY DISTURBED AREA THAT WILL NOT BE RE-DISTURBED BEFORE SITE RECLAMATION BEGINS.
11. PRIOR TO THE INSTALLATION OF THE TANK SYSTEM, THE CONTRACTOR SHALL CONTACT THE ENGINEER/SURVEYOR TO COMPLETE AN AS-BUILT SURVEY OF THE CONSTRUCTED TANK TO ENSURE CONFORMANCE WITH THE DESIGN DRAWINGS. THE AS-BUILT WILL BE REVIEWED BY THE ENGINEER AND THE CONTRACTOR IS RESPONSIBLE FOR ANY CORRECTIVE ACTION DEEMED NECESSARY BY THE ENGINEER FOR ANY DEVIATION(S) FROM THE DESIGN DRAWINGS.
12. INSTALL THE TANK SYSTEM.
13. PREVIOUSLY DISTURBED AREAS AND IMMEDIATE DOWN SLOPE AREAS SHALL BE INSPECTED AFTER EACH RAINFALL STORM EVENT AND MONITORED WEEKLY FOR SIGNS OF ACCELERATED EROSION. IMPLEMENT ADDITIONAL BMP'S AS DEEMED NECESSARY. THESE INSPECTIONS SHALL CONTINUE DURING THE DURATION OF THE PROJECT AND SUBSEQUENT SITE RECLAMATION.
14. ONCE THE TANK SYSTEM HAS BEEN COMPLETED, SUBMIT THE AS-BUILT CERTIFICATION FOR THE TANK FACILITY TO THE WDEP OFFICE OF OIL & GAS, PRIOR TO PLACING FLUIDS IN THE STRUCTURE.
15. ONCE DISTURBED AREAS HAVE BEEN RE-VEGETATED AND STABILIZED FOLLOWING RECLAMATION, THE TEMPORARY BMP'S IN THOSE AREAS MAY BE REMOVED. CONTINUE TO MONITOR THESE AREAS TO ENSURE A UNIFORM RATE OF 70% VEGETATIVE COVERAGE IS MAINTAINED. ANY AREAS FOUND TO BE DEFICIENT SHALL BE RE-SEEDDED AND MULCHED.

SITE CLEANUP & RECYCLE PROGRAM

- 1. GARBAGE, FUELS OR ANY SUBSTANCE HARMFUL TO HUMAN, AQUATIC OR FISH LIFE, WILL BE PREVENTED FROM ENTERING SPRINGS, STREAMS, PONDS, LAKES, WETLANDS OR ANY WATER COURSE OR WATER BODY.
2. OILS, FUELS, LUBRICANTS AND COOLANTS WILL BE PLACED IN SUITABLE CONTAINERS AND DISPOSED PROPERLY.
3. ALL TRASH AND GARBAGE WILL BE COLLECTED AND DISPOSED PROPERLY.
4. ALL SEDIMENT REMOVED FROM SEDIMENT CAPTURING DEVICES SHALL BE PLACED ON THE TOPSOIL STOCKPILE, THEN SEEDED AND MULCHED, AS NECESSARY. ALTERNATIVELY, THE REMOVED SEDIMENT CAN BE TRANSPORTED TO A SITE WITH AN APPROVED PERMIT.

TANK PAD CONSTRUCTION STANDARDS

- THE DESIGN, CONSTRUCTION, AND REMOVAL OF EMBANKMENTS ASSOCIATED WITH THE TANK PAD MUST BE ACCOMPLISHED IN SUCH A MANNER AS TO PROTECT THE HEALTH AND SAFETY OF THE PEOPLE, THE NATURAL RESOURCES, AND ENVIRONMENT OF THE STATE. THE EMBANKMENTS SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED TO BE STRUCTURALLY SOUND AND REASONABLY PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.
1. THE FOUNDATION FOR THE TANK PAD MUST BE STRIPPED AND GRUBBED TO A MINIMUM DEPTH OF TWO FEET PRIOR TO PLACEMENT AND COMPACTION OF EARTHEN FILL MATERIAL. NO EMBANKMENT FILL SHALL BE PLACED ON FROZEN MATERIAL. REMOVE ROCK PIECES GREATER THAN THREE INCHES IN ANY DIMENSION. BACKFILL VOIDS CREATED BY REMOVAL OF ROCK.
2. ANY SPRINGS ENCOUNTERED WITHIN THE FOUNDATION AREA SHALL BE DRAINED TO OUTSIDE/DOWNSTREAM TOE OF EMBANKMENT. CONSTRUCTED DRAIN SECTION SHALL BE AN EXCAVATED 2'X2' TRENCH AND BACK FILLED WITH TYPE A SAND, COMPACTED BY HAND TAMPER. NO GEOTEXTILES SHALL BE SUE TO LINE TRENCH. THE LAST THREE FEET OF DRAIN AT THE DOWNSTREAM END SHALL BE CONSTRUCTED WITH AASHTO #6 MATERIAL.
3. SOILS FOR EARTHEN EMBANKMENT CONSTRUCTION SHALL BE LIMITED TO TYPES GC, GM, SC, SM, CL, OR ML (ASTM-2487-UNIFIED SOILS CLASSIFICATION). SOILS MUST CONTAIN A MINIMUM OF 20% PF PLUS NO. 200 SIEVE AND BE "WELL GRADED" MATERIAL WITH NO COBBLES OR BOULDER SIZE MATERIAL MIXED WITH CLAY. A MINIMUM OF THREE SAMPLES SHALL BE CLASSIFIED.
4. THE EARTHEN EMBANKMENT SHALL BE COMPACTED BY A VIBRATING SHEEPSFOOT ROLLER. THE LIFTS MUST BE IN HORIZONTAL LAYERS WITH A MAXIMUM LOOSE LIFT THICKNESS OF 12" AND MAXIMUM PARTICLE SIZE LESS THAN 6". ALL FILL SHALL BE COMPACTED TO 98% AT TOP 2 FEET PER THE STANDARD PROCTOR TEST (ASTM-698) EXCEPT THE TOP 2 FEET OF THE PAD WHICH SHALL BE 98%.
5. THE PLACEMENT OF ALL FILL MATERIAL SHALL BE FREE OF WOOD, STUMPS AND ROOTS, LARGE ROCKS AND BOULDERS, AND ANY OTHER NONCOMPACTABLE SOIL MATERIAL. THE EMBANKMENT SHALL BE COMPACTED TO A MINIMUM OF VISIBLE NON-MOVEMENT; HOWEVER, THE COMPACTION EFFORT SHALL NOT EXCEED THE OPTIMUM MOISTURE LIMITS.
6. THE MINIMUM SIDESLOPES SHALL BE 2H:1V, UNLESS OTHERWISE SPECIFIED.
7. ALL EXPOSED EMBANKMENT SLOPES NOT COVERED BY COMPACTED ROCKFILL OR RIPRAP SHALL BE LIMED, FERTILIZED, SEEDED AND MULCHED. PERMANENT VEGETATIVE GROUND COVER IN COMPLIANCE WITH THE WDEP EROSION AND SEDIMENT CONTROL FIELD MANUAL MUST BE ESTABLISHED UPON THE COMPLETION OF THE PAD CONSTRUCTION. EMBANKMENTS SHALL BE MAINTAINED WITH A GRASSY VEGETATIVE COVER AND FREE OF BRUSH AND/OR TREES.
8. ALL EMBANKMENT CONSTRUCTION AND COMPACTION TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

GEOTECHNICAL PLAN NOTES:

- 1. CLEARING, GRUBBING, THE STRIPPING OF ORGANIC SURFACE SOILS, AND THE REMOVAL OF UNSUITABLE/UNSTABLE SOILS SHALL BE PERFORMED IN ALL STRUCTURAL AREAS.
2. AFTER STRIPPING HAS BEEN COMPLETED, THE RESULTING SUBGRADE SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO STRUCTURAL FILL PLACEMENT. SUBGRADE SOILS IDENTIFIED AS BEING UNSUITABLE OR UNSTABLE, INCLUDING UNSTABLE COLLUVIAL SOILS, SHALL BE UNDERCUT TO A STABLE SOIL STRATUM AND BACKFILLED WITH CONTROLLED, COMPACTED FILL. ALTERNATIVELY, THE UNSUITABLE SOILS CAN BE SCARIFIED, AERATED, AND RECOMPACTED TO CREATE A STABLE SUBGRADE. ALL UNSUITABLE SOIL CONTAINING EXCESSIVE ORGANICS OR DEBRIS SHALL BE WASTED.
3. PROVIDE DRAINAGE MEASURES FOR SPRINGS OR PERCHED WATER THAT ARE ENCOUNTERED DURING CONSTRUCTION. THE TREATMENT, WHICH WILL BE DETERMINED IN THE FIELD DEPENDING ON THE CONDITIONS, MAY INCLUDE PLACEMENT OF DRAIN TILE, MATTRESS DRAINS, INTERCEPTOR TRENCHES, AND/OR SUMPS TO COLLECT THE WATER. ALL WATER SHALL OUTLET BY GRAVITY OUTSIDE OF THE LIMITS OF THE PAD SLOPES.
4. ON-SITE SOILS MEETING USCS DESIGNATIONS OF CL, ML OR MORE GRANULAR WITH A MAXIMUM PARTICLE SIZE OF 6 INCHES SHALL BE USED AS FILL IF AVAILABLE. FILL CONSISTING OF ON-SITE GRANULAR SOILS MEETING THE USCS CLASSIFICATION OF SC, SM, GC, AND GM OR MORE GRANULAR SHOULD BE UTILIZED IN THE TOE BENCHES. UNSUITABLE MATERIALS WITH UNACCEPTABLE FRACTIONS OF ORGANICS OR DEBRIS ARE NOT PERMITTED FOR USE AS FILL. CARBONACEOUS SHALE AND COAL ARE NOT PERMITTED FOR USE AS FILL. SEGREGATE ALL COAL AND CARBONACEOUS MATERIAL ENCOUNTERED DURING EXCAVATION.
5. PLACE ALL FILL ON A STABLE, NEARLY LEVEL SUBGRADE. COMPACTION EQUIPMENT SHALL CONSIST OF LARGE (20 TON MINIMUM) VIBRATORY SELF-PROPELLED SHEEPSFOOT ROLLERS FOR COHESIVE SOILS AND SMOOTH-DRUM ROLLERS FOR GRANULAR SOILS. SMOOTH-DRUM ROLLERS ARE NOT PERMITTED FOR THE INITIAL COMPACTION OF COHESIVE SOILS.
6. COMPACT STRUCTURAL FILL TO THE FOLLOWING MINIMUM SPECIFICATIONS:
- SOIL FILL BELOW THE UPPER TWO FEET OF PAD SUBGRADE - MAXIMUM NINE INCH LOOSE LIFTS COMPACTED TO 98% OF MAXIMUM DRY DENSITY AND WITHIN THREE PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D-698.
- SOIL FILL WITHIN THE UPPER TWO FEET OF PAD SUBGRADE - MAXIMUM NINE INCH LOOSE LIFTS COMPACTED TO 98% OF MAXIMUM DRY DENSITY AND WITHIN TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D-698.
IT IS NOT RECOMMENDED TO USE SOIL FILL THAT IS MORE THAN THREE PERCENTAGE POINTS ABOVE THE OPTIMUM MOISTURE CONTENT. IF THE CLIENT DESIRES TO USE SOIL EXCEEDING THREE PERCENTAGE POINTS ABOVE THE OPTIMUM MOISTURE CONTENT, THE FOLLOWING MEASURES SHALL BE PROVIDED:
- COMPACTION SHALL BE CONTROLLED BY DETERMINING THE MAXIMUM ACHIEVABLE COMPACTION FROM A CONTROL STRIP.
- WET SOIL SHALL NOT BE PLACED IN EMBANKMENT SLOPES, WITHIN THE UPPER THREE FEET OF THE PAD SURFACE OR UNDER AREAS OF THE PAD THAT WILL SUPPORT RIG LOADS. CONSULT THE ENGINEER FOR AREAS OF FILL PLACEMENT.
- ENSURE THE MAXIMUM RECOMMENDED LIFT THICKNESS IS MAINTAINED TO ALLOW FOR MAXIMUM ACHIEVABLE COMPACTION.
- DRY SOILS BY MIXING WITH DRIER SOIL AND/OR ROCK.
- SEQUENCE CONSTRUCTION TO ALLOW FOR SOME MOISTURE REDUCTION BY NATURAL DRYING OR AERATING.
- STATIC COMPACTION METHODS MAY BE SPECIFIED TO REDUCE INSTABILITY.
- PROVIDE MASS GRADING OBSERVATION AND TESTING TO MAKE SURE THAT THE CONTRACTOR IS CONTROLLING MATERIAL PLACEMENT AND COMPACTION IN THE MOST EFFECTIVE MANNER.
7. FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER TO ENSURE ADEQUATE COMPACTION TO THE EDGE OF THE FILL BY PLACING THE FILL 3 FEET WIDER THAN NECESSARY AND CUTTING BACK THE SLOPE TO THE REQUIRED GRADE. UPON COMPLETION OF THE FINAL GRADING, THE SLOPES SHALL BE TRACKED DOWN WITH TRACKED EQUIPMENT PRIOR TO PLACING TOPSOIL.
8. THE SIDES OF TEMPORARY EXCAVATIONS SHALL BE ADEQUATELY SLOPED OR SHORED/BRACED TO PROVIDE STABLE SIDES AND SAFE WORKING CONDITIONS FOR OPERATORS, LABORERS AND ENGINEERING INSPECTORS TO PROOFROLL THE SUBGRADE AND PERFORM TEST PITS. ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY STANDARDS SHALL BE FOLLOWED BY THE CONTRACTOR.
9. PROOF-ROLL THE FINAL PAD SURFACE WITH A LOADED TRIAXLE DUMP TRUCK TO IDENTIFY ANY AREAS OF UNSTABLE SOILS. UNSTABLE SOILS SHALL BE REMOVED BY OVEREXCAVATION AND REPLACEMENT WITH CONTROLLED COMPACTED SOIL OR ROCKFILL. PROVIDE A CUT/FILL TRANSITION ZONE AND PLACE SUBSURFACE DRAINS AT THE TRANSITION ZONE AS DIRECTED BY THE ENGINEER.
10. THE SUBGRADE SHALL BE SEALED ON A DAILY BASIS TO MINIMIZE DISTURBANCE AND MOISTURE INTRUSION.
11. EARTHWORK OPERATIONS SHALL BE OBSERVED AND TESTED ON A FULL-TIME BASIS BY A SOILS TECHNICIAN UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER. THE OBSERVATION AND TESTING SHALL INCLUDE OBSERVATION OF STABILITY OF TOE AND BONDING BENCHES, INCLUDING PRESENCE OF UNSTABLE COLLUVIAL SOILS; INSTALLATION OF DRAINAGE MEASURES; LIFT THICKNESS OF MATERIAL; COMPACTION EFFORT, TYPE AND MOISTURE OF SOIL; GRADATION OF ROCKFILL; AND, MOISTURE AND DENSITY OF COMPACTION. ALL COMPACTION EFFORT SHALL BE VERIFIED BY IN-PLACE DENSITY TESTING ON EACH LIFT AT A MAXIMUM 100-FOOT GRID PATTERN.

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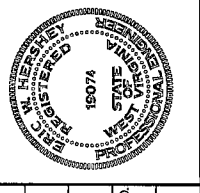


Table with 2 columns: Manager, Designer, Drafter, Surveyor. Values include Jason Miller, P.E., and other project staff.

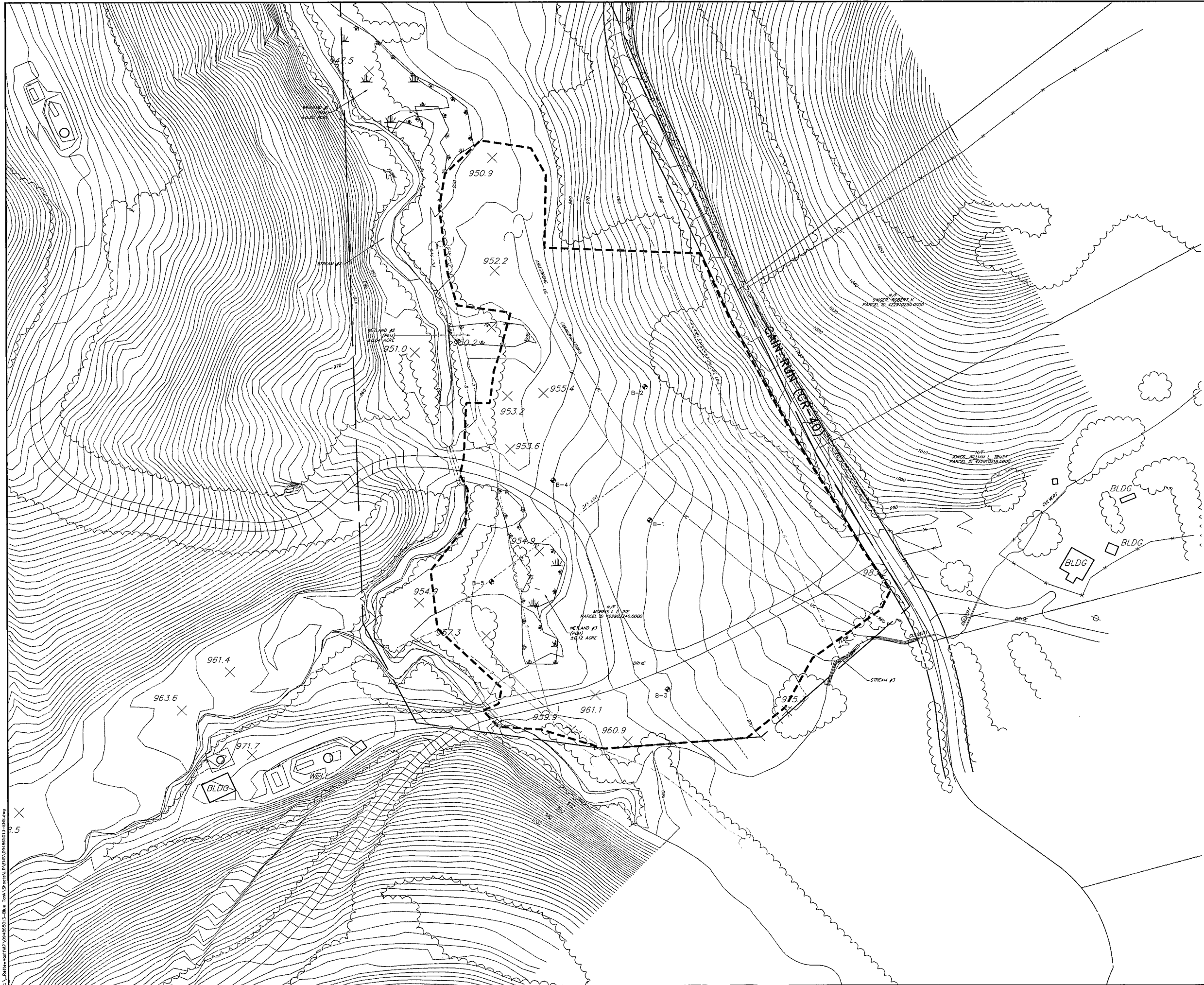
CLIENT: CONSOL ENERGY, PO BOX 1248, JANE LEW, WV 26378. Includes logo for CONSOL ENERGY.

RETIEW Associates, Inc. 4955 Steubenville Pike, Suite 305, Steubenville, WV 26041. Phone: 412-446-2728, Fax: 412-446-1733. Email: retiew@retiew.com, Website: www.retiew.com.

NOTES EROSION & SEDIMENT CONTROL PLAN FOR BLUE TANK SITE. SOUTHWEST TAX DISTRICT, DODDRIDGE COUNTY, WV.

Table with 2 columns: Date, Sheet No., Dwg. No. Values: JANUARY 8, 2015, 2 of 10, 094865013.



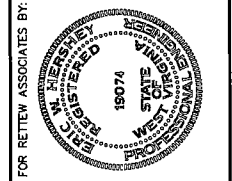


**LEGEND**

---	EXISTING ROVI-OF-WAY LINE
---	EXISTING PROPERTY LINE
---	EXISTING DRAIN
---	PROPOSED GRAVEL
X	PROPOSED FENCE
---	EXISTING FENCE
G	PROPOSED GAS LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD LINE
F	PROPOSED FILL LIMITS
---	EXISTING FILL LIMITS
C	PROPOSED CUT LIMITS
---	EXISTING CUT LIMITS
---	EXISTING HECRAKE
---	EXISTING CONTOUR LINE
---	PROPOSED HECRAKE CONTOUR LINE (10')
---	PROPOSED INTERMEDIATE CONTOUR LINE
---	CHANNEL FLOW DIRECTION
---	AREA OF INTEREST
---	LIMIT OF DISTURBANCE
---	SOIL TYPE BOUNDARY LINE
---	SOIL TYPE DESIGNATION
---	WETLAND
---	ROCK FILTER
---	FILTER SOCK
---	CONSTRUCTION FENCE
---	CUT LINE
---	FILL LINE
---	RP-RAP OUTLET PROTECTION
---	EXISTING UTILITY POLE
---	EXISTING STRUCTURES
---	SHEET NUMBER
---	BORING



NO.	DATE	PER. DEP.	COMMENTS	REVISION
1	7/28/14			



FOR REVIEW ASSOCIATES BY:

MANAGER:	JASON MILLER, P.E.
DESIGN BY:	CHD BY: JEM
DRAWN BY:	KME
SURV. CHIEF:	JEM
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Engineers • Planners • Surveyors • Landscape Architects  
 Environmental Consultants

EXISTING CONDITIONS PLAN  
 EROSION & SEDIMENT CONTROL PLAN  
 FOR  
**BLUE TANK SITE**

SOUTHWEST TAX DISTRICT      DODDRIDGE COUNTY, WV

DATE: JANUARY 8, 2015

SHEET NO. 4 OF 10

DWG. NO. 094865013

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**LEGEND**

	EXISTING RIGHT-OF-WAY LINE
	EXISTING PROPERTY LINE
	EXISTING DITCH
	PROPOSED GRAVEL
	PROPOSED FENCE
	EXISTING FENCE
	PROPOSED GAS LINE
	EXISTING GAS LINE
	EXISTING OVERHEAD LINE
	PROPOSED FILL LIMITS
	EXISTING STREAM LINE
	EXISTING RESIDUE
	PROPOSED CUT LIMITS
	EXISTING CONTOUR LINE
	PROPOSED INDEX CONTOUR LINE (10')
	PROPOSED INTERMEDIATE CONTOUR LINE
	CHANNEL FLOW DIRECTION
	AREA OF INTEREST
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	SOIL TYPE DESIGNATION
	WETLAND
	ROCK FILTER
	FILTER SOCK
	CONSTRUCTION FENCE
	CUT LINE
	FILL LINE
	RIP-RAP OUTLET PROTECTION
	EXISTING UTILITY POLE
	EXISTING STRUCTURE
	SHEET NUMBER
	BORING

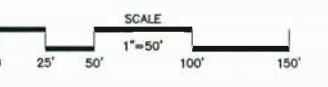
**SOILS CLASSIFICATIONS**

GsE GULPIN-PEABODY COMPLEX, 15 TO 35 PERCENT SLOPES, VERY STONY

GsF GULPIN-PEABODY COMPLEX, 35 TO 70 PERCENT SLOPES, VERY STONY

Se SENSABAUGH SILT LOAM

SeB SENSABAUGH SILT LOAM, 3 TO 8 PERCENT SLOPES, RARELY FLOODED



NO.	DATE	REV.	COMMENTS
1	7/28/14		



FOR REVIEW ASSOCIATES BY:

MANAGER:	JASON MILLER, P.E.
DESIGN BY:	CHND BY: JEM KME
DRAWN BY:	KME
SURV. CHIEF:	GIS

CUSTOMER

**CONSOL ENERGY**  
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**RETTEW**

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Twin Towers, 4955 Steubenville Pike, Suite 305  
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Engineers • Planners • Surveyors • Landscape Architects  
Environmental Consultants

SOILS PLAN  
EROSION & SEDIMENT CONTROL PLAN  
FOR  
**BLUE TANK SITE**  
SOUTHWEST TAX DISTRICT DODDRIDGE COUNTY, WV

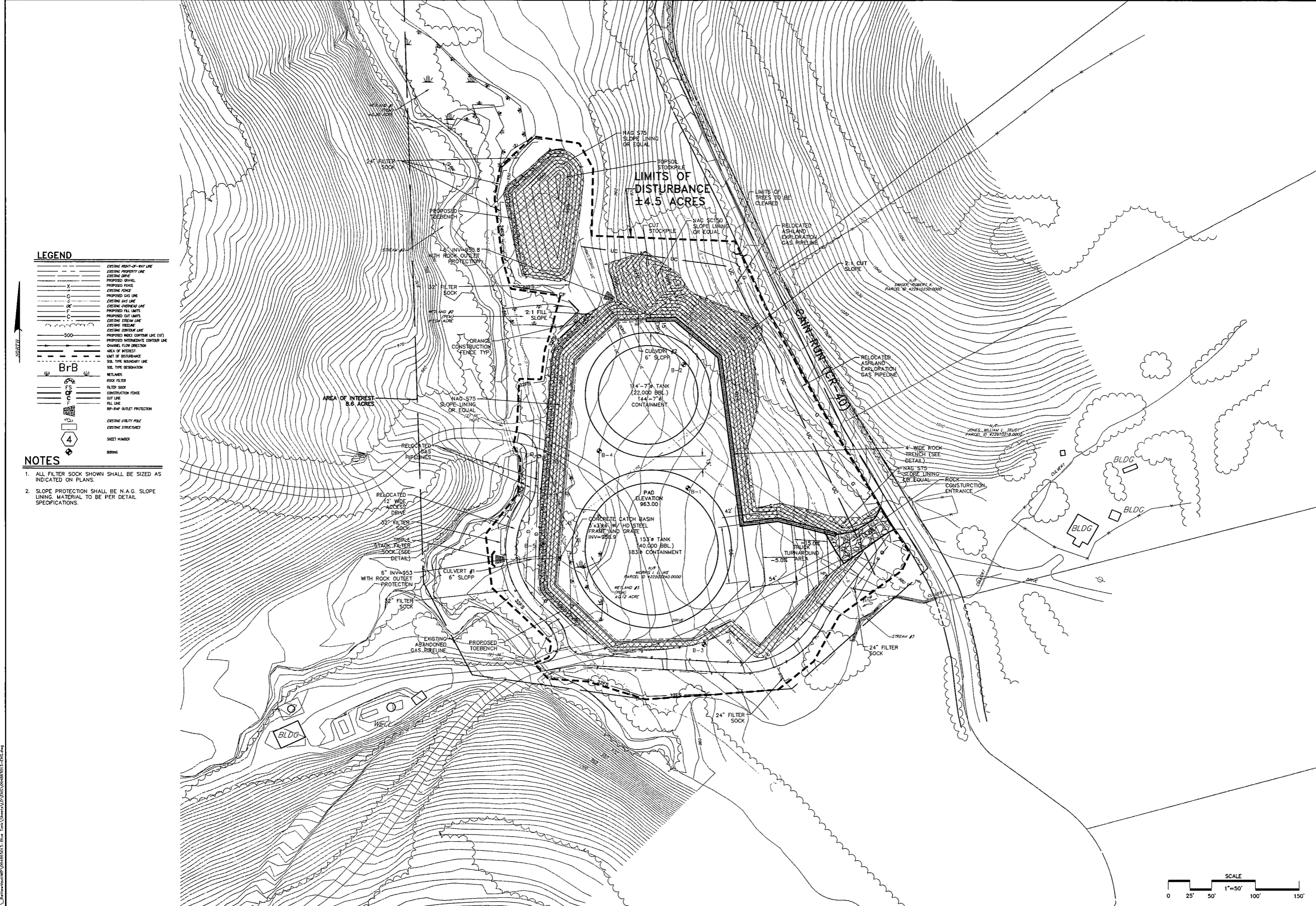
DATE: JANUARY 8, 2015

SHEET NO. 5 OF 10

DWG. NO. 094865013

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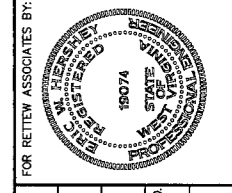
**LEGEND**

- EXISTING RIGHT-OF-WAY LINE
- EXISTING PROPERTY LINE
- EXISTING DRIVE
- PROPOSED DRIVE
- PROPOSED GRAD
- PROPOSED FENCE
- EXISTING FENCE
- PROPOSED GAS LINE
- EXISTING GAS LINE
- EXISTING OVERHEAD LINE
- PROPOSED FILL LIMITS
- PROPOSED CUT LIMITS
- EXISTING STREAM LINE
- EXISTING FLOODLINE
- EXISTING CONTOUR LINE
- PROPOSED INDEX CONTOUR LINE (10')
- PROPOSED INTERMEDIATE CONTOUR LINE
- CHANGED FLOW DIRECTION
- AREA OF INTEREST
- LIMIT OF DISTURBANCE
- SOIL TYPE BOUNDARY LINE
- SOIL TYPE DESIGNATION
- WETLANDS
- ROCK FILTER
- FILTER SOCK
- CONSTRUCTION FENCE
- CUT LINE
- FILL LINE
- RIP-RAP OUTLET PROTECTION
- EXISTING UTILITY POLE
- EXISTING STRUCTURES
- SHEET NUMBER
- BORING

**NOTES**

1. ALL FILTER SOCK SHOWN SHALL BE SIZED AS INDICATED ON PLANS.
2. SLOPE PROTECTION SHALL BE N.A.G. SLOPE LINING MATERIAL TO BE PER DETAIL SPECIFICATIONS.

NO.	DATE	PER DEP COMMENTS
1	7/28/14	



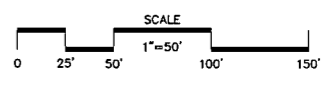
MANAGER:	JASON MILLER, P.E.
DESIGN BY:	CHKD BY: JEM KME
DRAWN BY:	CHKD BY: JEM KME
SURV. CHIEF:	FELDBOOK NO. GIS

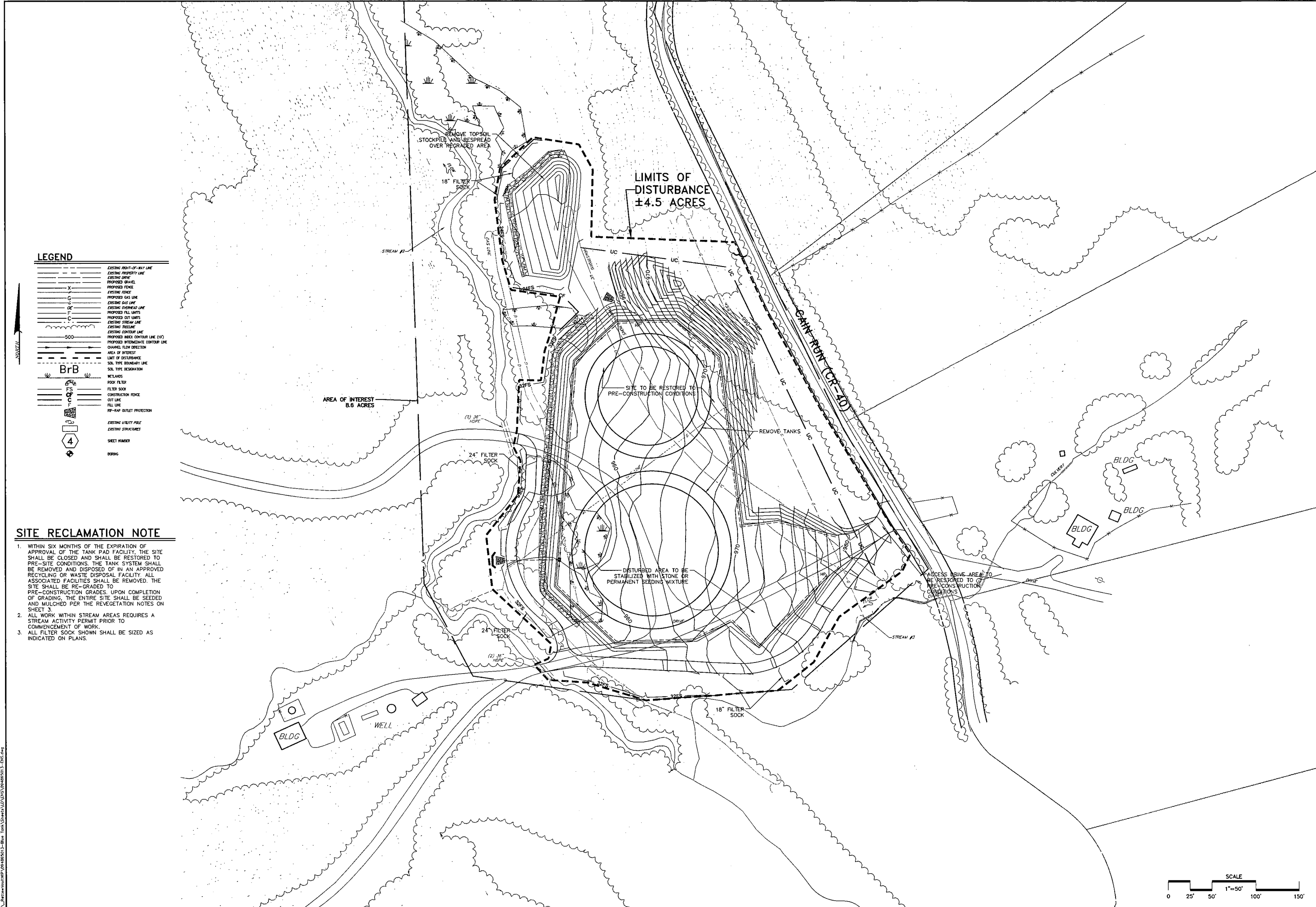
CLIENT  
**CONSOL ENERGY**  
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 Engineers • Planners • Surveyors • Landscape Architects  
 Environmental Consultants

PROPOSED SITE PLAN  
 EROSION & SEDIMENT CONTROL PLAN  
 FOR  
**BLUE TANK SITE**  
 SOUTHWEST TAX DISTRICT  
 DODDRIDGE COUNTY, WV

DATE: JANUARY 8, 2015  
 SHEET NO. 6 OF 10  
 DWG. NO. 094865013





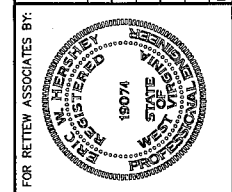
**LEGEND**

---	EXISTING RIGHT-OF-WAY LINE
---	EXISTING PROPERTY LINE
---	EXISTING DRIVE
---	PROPOSED GRAVEL
---	PROPOSED FENCE
---	EXISTING FENCE
---	PROPOSED GAS LINE
---	EXISTING GAS LINE
---	EXISTING OVERHEAD LINE
---	PROPOSED FILL LIMITS
---	PROPOSED CUT LIMITS
---	EXISTING STREAM LINE
---	EXISTING FLOODLINE
---	EXISTING CONTOUR LINE
---	PROPOSED INDEX CONTOUR LINE (10')
---	PROPOSED INTERMEDIATE CONTOUR LINE
---	CHANNEL FLOW DIRECTION
---	AREA OF INTEREST
---	LIMIT OF DISTURBANCE
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---	SOIL TYPE DESIGNATION
---	WETLANDS
---	ROCK FILTER
---	FILTER SOCK
---	CONSTRUCTION FENCE
---	CUT LINE
---	FILL LINE
---	RE-GRAP OUTLET PROTECTION
---	EXISTING UTILITY POLE
---	EXISTING STRUCTURES
---	SHEET NUMBER
---	ROBING

**SITE RECLAMATION NOTE**

1. WITHIN SIX MONTHS OF THE EXPIRATION OF APPROVAL OF THE TANK PAD FACILITY, THE SITE SHALL BE CLOSED AND SHALL BE RESTORED TO PRE-SITE CONDITIONS. THE TANK SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL ASSOCIATED FACILITIES SHALL BE REMOVED. THE SITE SHALL BE RE-GRADED TO PRE-CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE ENTIRE SITE SHALL BE SEEDED AND MULCHED PER THE VEGETATION NOTES ON SHEET 3.
2. ALL WORK WITHIN STREAM AREAS REQUIRES A STREAM ACTIVITY PERMIT PRIOR TO COMMENCEMENT OF WORK.
3. ALL FILTER SOCK SHALL BE SIZED AS INDICATED ON PLANS.

NO.	DATE	PER DEP COMMENTS	REVISION
1	7/28/14		



FOR RETIEW ASSOCIATES BY:

MANAGER:	JASON MILLER, P.E.
DESIGN BY:	CHKD BY: JEM
	KME
DRAWN BY:	CHKD BY: JEM
	KME
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CLIENT

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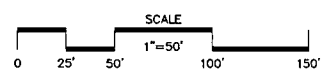
SITE RECLAMATION PLAN  
 EROSION & SEDIMENT CONTROL PLAN  
 FOR  
**BLUE TANK SITE**

SOUTHWEST TAX DISTRICT  
 DODDRIDGE COUNTY, WV

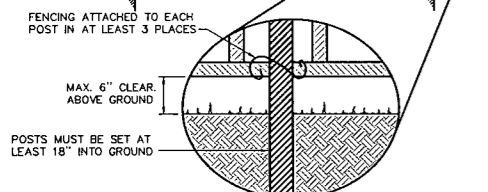
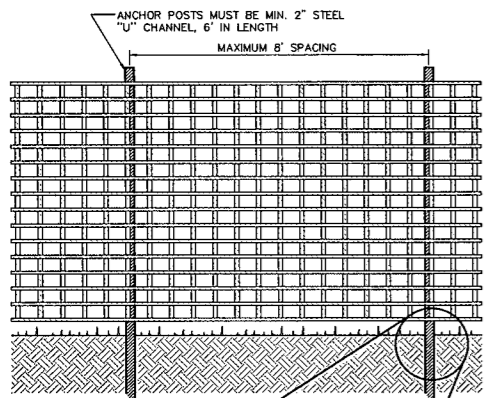
DATE: JANUARY 8, 2015

SHEET NO. 7 OF 10

DWG. NO. 094865013



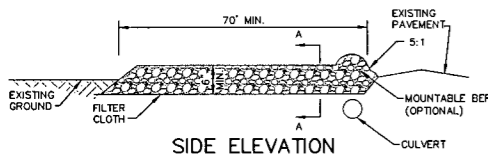
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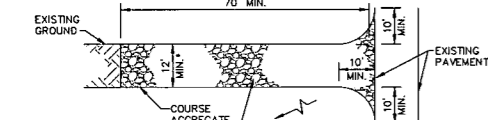
- NOTES:**
1. PROTECTION BARRIER SHALL BE 4' HIGH, CONSTRUCTED OF DURABLE AND HIGHLY VISIBLE MATERIAL (PLASTIC ORANGE CONSTRUCTION FENCE AND SNOW-FENCE MAY BE USED).
  2. PROTECTION BARRIERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE WORK AT THE SITE.
  3. ADDITIONAL WARNING SIGNS SHOULD ALSO BE PLACED ON THE FENCING AND IN APPROPRIATE AREAS NEAR THE WORK ZONE.

**CONSTRUCTION FENCE DETAIL**

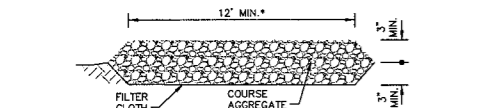
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**SIDE ELEVATION**



**PLAN VIEW**

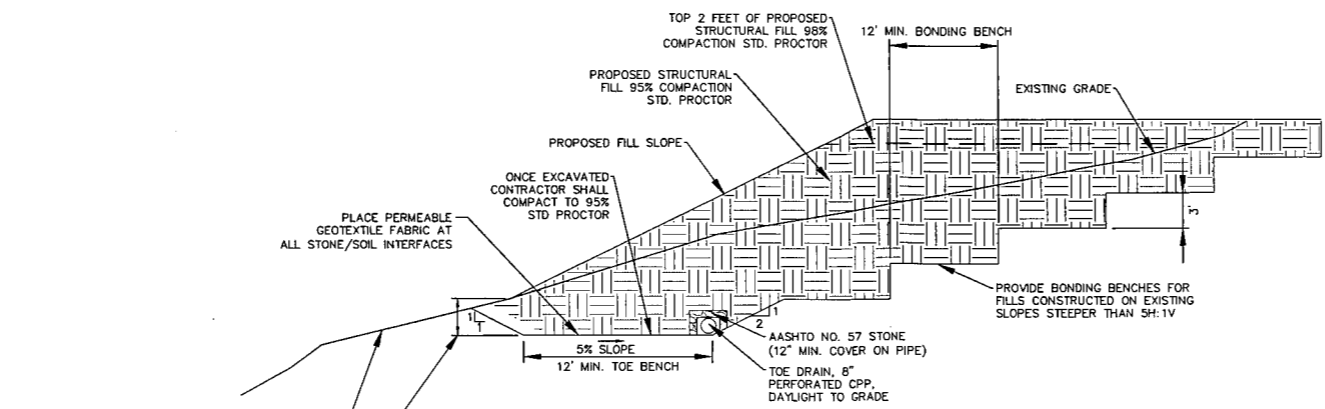


**SECTION A-A**

- NOTES:**
1. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED WHEREVER CONSTRUCTION TRAFFIC ENTERS AND LEAVES A SITE.
  2. USE 2-4" STONE FOR LOW VOLUME ENTRANCES. LARGER STONE (4-6") FOR HEAVY USE OR MATERIAL DELIVERY ENTRANCES.
  3. LENGTH IS AS REQUIRED, BUT NOT LESS THAN 70' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MIN. LENGTH WOULD APPLY).
  4. THICKNESS SHOULD BE NOT LESS THAN 6".
  5. THE WIDTH SHALL BE A MIN. OF 10' BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS.
  6. GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
  7. ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF A CULVERT IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES SHALL BE USED.
  8. IF NECESSARY, DIVERT ANY WATER RUNNING DOWN ACCESS ROAD TO A SEDIMENT TRAP LOCATED ON EITHER SIDE OF THE STABILIZED CONSTRUCTION ENTRANCE.
  9. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANSUP OF ANY MEASURES USED TO TRAP SEDIMENT.
  10. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  11. WHEELS ON ALL VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO APPROVED SEDIMENT TRAPPING DEVICE.
  12. IF THE STREET IS WASHED PRECAUTIONS MUST BE TAKEN TO PREVENT Muddy WATER FROM RUNNING INTO WATERWAYS OR STORM SEWERS.
  13. INSPECTION AND NEEDED MAINTENANCE SHOULD BE PROVIDED DAILY BUT AT A MINIMUM EVERY SEVEN DAYS AND AFTER EVERY RAIN OF 0.5 INCH OR GREATER.

**STABILIZED CONSTRUCTION ENTRANCE**

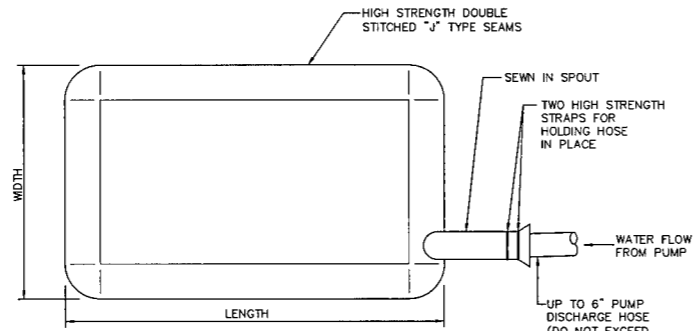
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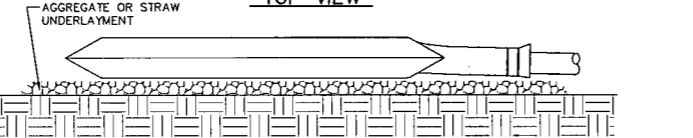
- NOTES:**
1. BENCHES SHALL BE EXCAVATED INTO EXISTING SLOPE AS SPECIFIED OR UNTIL BEDROCK IS EXPOSED.
  2. ALL BENCHES SHALL BE SLOPED TO PROMOTE POSITIVE DRAINAGE DURING CONSTRUCTION, 1% - 3% TYP.
  3. REFER TO SUBSURFACE INVESTIGATION REPORT FOR BLUE TANK PAD DATED APRIL 10, 2014 FOR EARTHWORK CONSTRUCTION RECOMMENDATIONS.
  4. TOE BENCH MAY REQUIRE ROCK TOE OR OTHER MODIFICATIONS TO THIS DESIGN DETAIL AS REQUIRED BY THE FIELD ENGINEER DURING CONSTRUCTION. FIELD ENGINEER TO DETERMINE LOCATIONS OF TOE DRAINS AND ENSURE DRAINS CAN DAYLIGHT TO GRADE.

**FILL SLOPE STABILIZATION DETAIL**

NOT TO SCALE



**TOP VIEW**

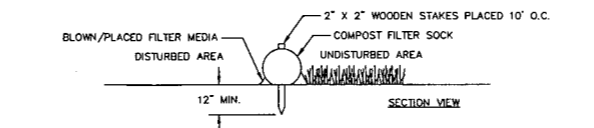


**SIDE VIEW**

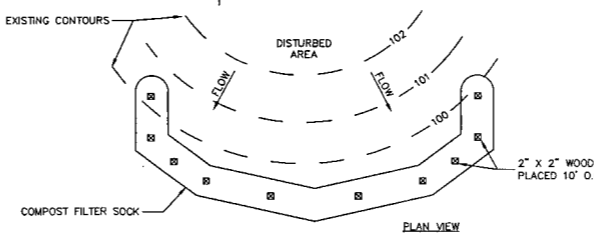
- NOTES:**
1. THE BAG SHALL BE INSTALLED ON A VERY SLIGHT SLOPE SO INCOMING WATER FLOWS DOWNHILL THROUGH THE BAG WITHOUT CREATING MORE EROSION.
  2. THE NECK OF THE FILTER BAG SHALL BE TIGHTLY STRAPPED (MINIMUM TWO STRAPS) TO THE DISCHARGE HOSE TO PREVENT THE BAG FROM COLLAPSE.
  3. THE BAG SHALL BE PLACED ON AN AGGREGATE OR HAY PALM BED TO MAXIMIZE WATER FLOW THROUGH THE ENTIRE SURFACE AREA OF THE BAG.
  4. THE FILTER BAG IS FULL WHEN IT NO LONGER CAN EFFICIENTLY FILTER SEDIMENT OR PASS WATER AT A REASONABLE RATE.
  5. FLOW RATES VARY DEPENDING ON THE SIZE OF THE DEWATERING DEVICE, THE TYPE OF GROUND, ROCK, OR OTHER SUBSTRATE UNDER THE BAG AND THE DEGREE OF THE SLOPE ON WHICH THE BAG LIES. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR FLOW RATES.
  6. USE OF EXCESSIVE FLOW RATES OR OVERFILLING THE DEWATERING DEVICE WITH SEDIMENT WILL CAUSE RUPTURES OF THE BAG OR FAILURE OF THE HOSE ATTACHMENT STRAPS.
  7. THE FILTER BAG CAN BE LEFT IN PLACE AFTER CUTTING THE TOP OFF AND SEEDING AND MULCHING THE ACCUMULATED SEDIMENT OR REMOVED AND DISPOSED OF OFF-SITE IN AN APPROVED LANDFILL.
  8. EACH STANDARD DEWATERING DEVICE SHALL HAVE A FILL SPOUT LARGE ENOUGH TO ACCOMMODATE THE DISCHARGE HOSE. USE TWO STAINLESS STEEL STRAPS TO SECURE THE HOSE AND PREVENT PUMPED WATER FROM ESCAPING WITHOUT BEING FILTERED.
  9. THE DEWATERING DEVICE SHALL BE A NONWOVEN BAG, WHICH IS SEWN WITH A DOUBLE NEEDLE STITCHING USING A HIGH STRENGTH THREAD.
  10. THE DEWATERING DEVICE SEAMS SHALL HAVE AN AVERAGE WIDE WIDTH STRENGTH PER ASTM D 4884 OF 100 LB/IN (1.15 KG/METER).
  11. THE GEOTEXTILE FABRIC SHALL BE A NONWOVEN FABRIC WITH THE FOLLOWING PROPERTIES:
- | PROPERTIES     | TEST METHODS | ENGLISH                   | METRIC                        |
|----------------|--------------|---------------------------|-------------------------------|
| GRAB TENSILE   | ASTM D-4632  | 250 LBS.                  | 113 KG                        |
| PUNCTURE       | ASTM D-4833  | 165 LBS.                  | 75 KG                         |
| FLOW RATE      | ASTM D-4491  | 70 GAL./MIN./ SQUARE FOOT | 2.5 LITERS/MIN./ SQUARE METER |
| PERMITTIVITY   | ASTM D-4491  | 1.3 SEC.-1                | 1.3 SEC.-1                    |
| MULLEN BURST   | ASTM D-3786  | 550 LBS./ SQUARE INCH     | 3.79 MPa                      |
| UV RESISTANT   | ASTM D-4355  | 70%                       | 70%                           |
| AOS % RETAINED | ASTM D-4751  | 100%                      | 100%                          |
12. THE FILTERING DEVICES MUST BE INSPECTED FREQUENTLY DURING PUMPING OPERATIONS AND REPAIRED OR REPLACED ONCE THE SEDIMENT BUILD-UP PREVENTS THE STRUCTURE FROM FUNCTIONING AS DESIGNED.
  13. THE ACCUMULATED SEDIMENT THAT IS REMOVED FROM A DEWATERING DEVICE MUST BE SPREAD ON-SITE AND STABILIZED OR DISPOSED OF AT AN APPROVED DISPOSAL SITE AS PER APPROVED PLAN.

**DEWATERING BAG**

NOT TO SCALE



**SECTION VIEW**

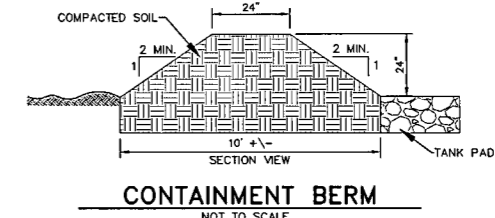


**PLAN VIEW**

- NOTES:**
1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.
  2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT.
  3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
  4. 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.
  5. 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.
  6. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS. PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
  7. 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.
  8. FILTER SOCK GREATER THAN 24\"/>

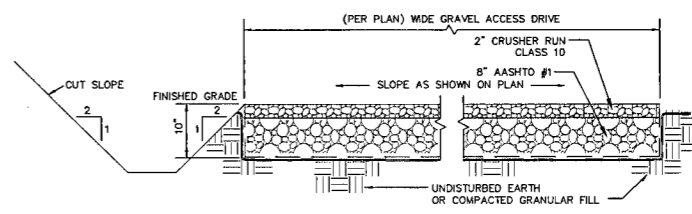
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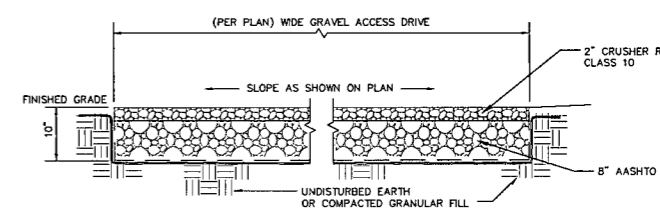
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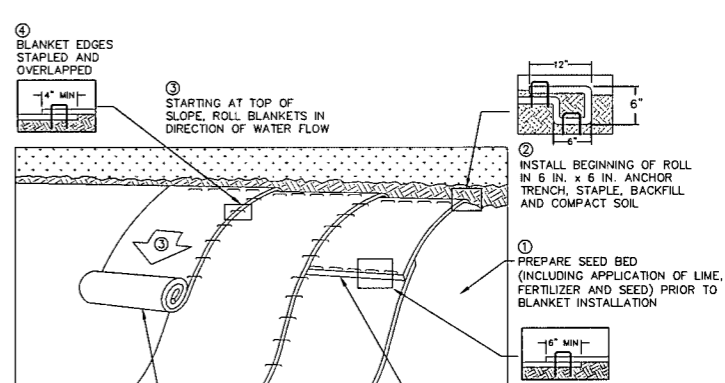
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**PAD CROSS-SECTION**

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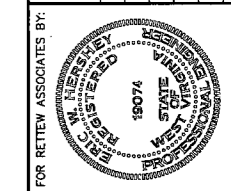


- NOTES:**
1. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
  2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
  3. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
  4. ROLL THE BLANKET DOWN THE SLOPE. BLANKET WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKET MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
  5. THE EDGES OF PARALLEL BLANKET MUST BE STAPLED WITH 4" MINIMUM OVERLAP.
  6. CONSECUTIVE BLANKET SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH A MINIMUM 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
  7. PROVIDE ANCHOR TRENCH AT OE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
  8. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKET.
  9. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

- NOTE:**
- HYDRAULICALLY APPLIED SLOPE BLANKET MAY BE USED AS AN EQUIVALENT TO SLOPE STABILIZATION MATTING.
- | SLOPE      | SLOPE LENGTH | SLOPE LINING | STAPLE PATTERN |
|------------|--------------|--------------|----------------|
| 2:1 SLOPES | MAX. 30'     | NAG S75      | C              |
| 2:1 SLOPES | MAX. 55'     | NAG SC150    | C              |

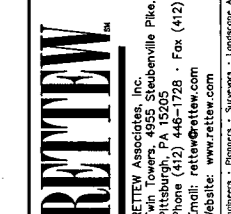
**EROSION CONTROL BLANKET INSTALLATION**

NOT TO SCALE



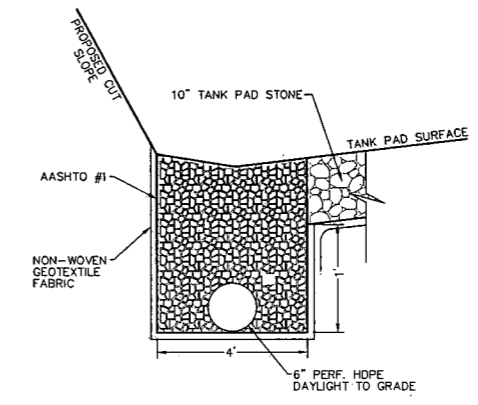
FOR REVIEW ASSOCIATES BY:  
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 DESIGN BY: CHD BY: JEM  
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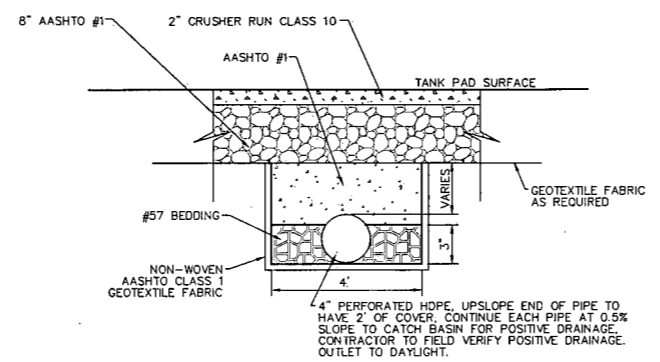


EROSION & SEDIMENT CONTROL PLAN  
 DETAILS  
 FOR  
**BLUE TANK SITE**  
 SOUTHWEST TAX DISTRICT  
 DODDRIIDGE COUNTY, WV

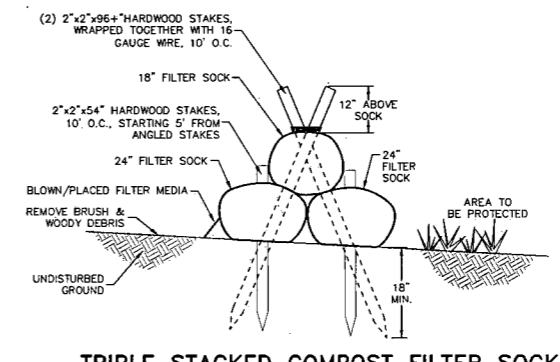
DATE: JANUARY 8, 2015  
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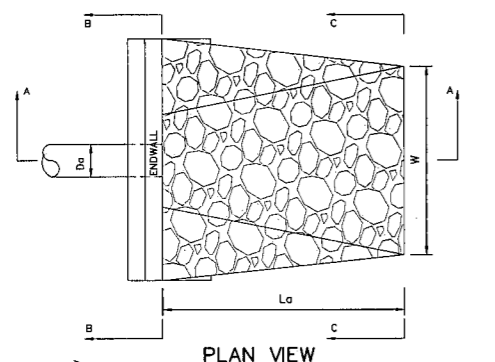
**DRAINAGE TRENCH DETAIL**  
NOT TO SCALE



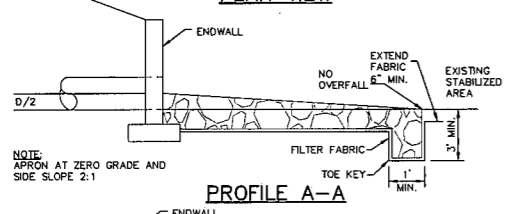
**PAD DRAIN TILE DETAIL**  
NOT TO SCALE



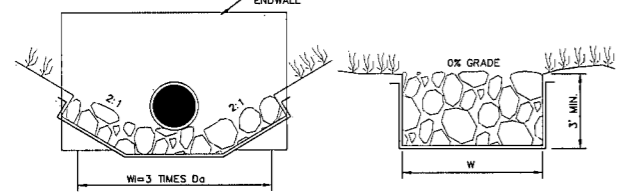
**TRIPLE STACKED COMPOST FILTER SOCK**  
NOT TO SCALE



**PLAN VIEW**



**PROFILE A-A**



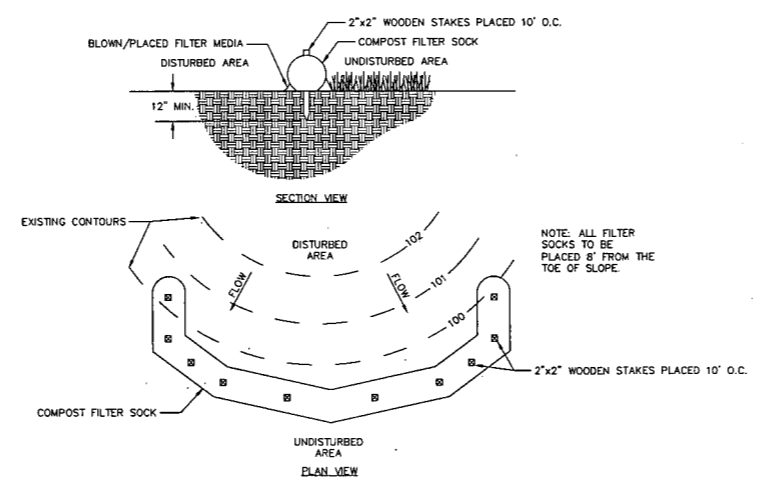
**SECTION B-B**

**SECTION C-C**

OUTLET NO.	PIPE DIA (IN)	RIPRAP SIZE (IN)	RIPRAP THICK (IN)	APRON LENGTH (FT)	W1 (FT)	W (FT)
CULVERT 1	6	R-6	27	6	1.5	7.5
CULVERT 2	6	R-6	27	6	1.5	7.5

- NOTES:**
- THE SUBGRADE FOR THE FILTER, RIPRAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
  - THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIPRAP OR FILTER.
  - FILTER CLOTH SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF CLOTH OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE CLOTH. ALL OVERLAPS, WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF CLOTH SHALL BE A MINIMUM OF 1'.
  - STONE FOR THE RIPRAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIPRAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR FILTER CLOTH. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
  - THE RIPRAP OUTLET SHOULD BE INSPECTED AFTER HIGH FLOWS FOR EVIDENCE OF SCOUR BENEATH THE RIPRAP OR FOR DISLODGED STONES. IF A SIGNIFICANT NUMBER OF STONES HAVE BEEN DISLODGED IT WILL BE NECESSARY TO RECALCULATE STONE SIZE AND REPLACE THE EXISTING STONE WITH PROPERLY SIZED STONE. ANY REPAIRS MUST BE MADE IMMEDIATELY.

**DISCHARGE TO UNCONFINED SECTION  
OUTLET PROTECTION**  
NOT TO SCALE



COMPOST SHALL MEET THE FOLLOWING STANDARDS:

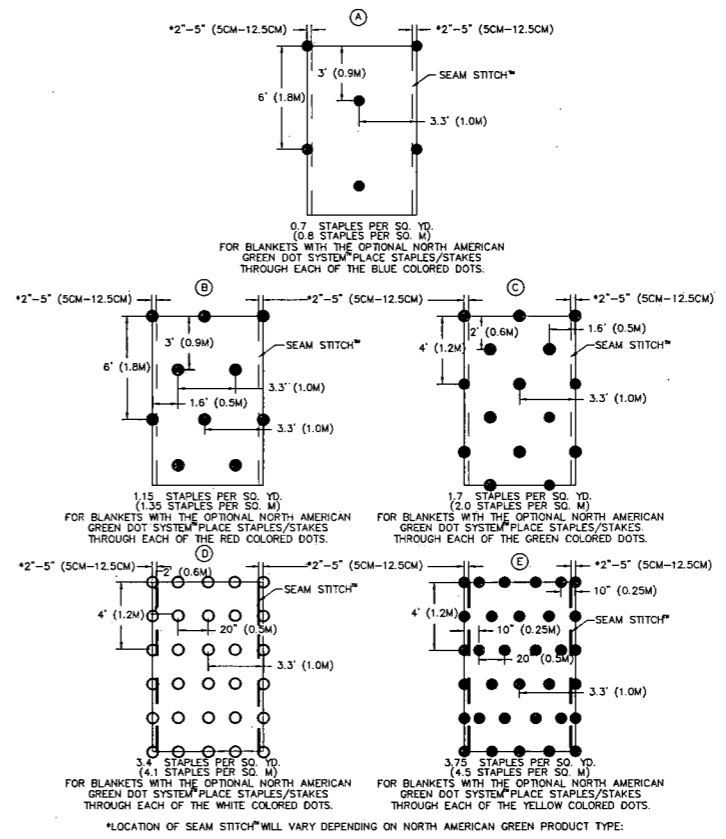
ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.0
MOISTURE CONTENT	35% - 35%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 gS MAXIMUM

SLOPE PERCENT	MAXIMUM SLOPE LENGTH ABOVE SEDIMENT CONTROL IN FEET*				
	8" **	12" **	18" **	24" **	32" **
2 OR LESS	6.5	9.5	14.5	19	26
5	500	750	1000	1300	1650
10	400	500	550	650	750
15	200	250	300	400	500
20	140	170	200	225	450
25	100	125	140	250	400
30	60	75	110	200	275
35	60	75	90	130	200
40	60	75	80	100	125
45	40	50	60	80	100
50	40	50	55	65	75

\* BASED ON A FAILURE OF 36" SUPER SILT FENCE (SIRE REINFORCED AT 1000' OF SLOPE, WATERSHED EQUIVALENT TO RECEIVING LENGTH OF SEDIMENT CONTROL DEVICE, 1"/24 HR. RAIN EVENT.

\*\* EFFECTIVE HEIGHT OF SEDIMENT CONTROL AFTER INSTALLATION AND WITH CONSTANT HEAD FROM RUNOFF AS DETERMINED BY OHIO STATE UNIVERSITY.

**COMPOST FILTER SOCK**  
NOT TO SCALE



**STAPLE PATTERN GUIDE**  
NOT TO SCALE

FOR REVIEW ASSOCIATES BY:

**REVIEW ASSOCIATES, INC.**  
15074  
WEST OF VINTAGE  
STATE OF OHIO  
PROFESSIONAL ENGINEER

MANAGER: JASON MILLER, P.E.  
DESIGN BY: KME  
DRAWN BY: KME  
SURV. CHIEF: GIS

CHKD BY: JEM  
CHKD BY: JEM  
FELDBOOK NO.:

CLIENT

**CONSOL ENERGY**  
PO BOX 1248  
JANE LEW, WV 26378

**CONSOL ENERGY**

**REVIEW**

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Engineers • Planners • Surveyors • Landscape Architects  
Environmental Consultants

DETAILS  
EROSION & SEDIMENT CONTROL PLAN  
FOR  
**BLUE TANK SITE**

SOUTHWEST TAX DISTRICT  
DODDRIDGE COUNTY, WV

DATE: JANUARY 8, 2015

SHEET NO. 9 OF 10

DWG. NO. 094865013

C:\Users\jmillers\Documents\094865013.dwg

QUANTITY SUMMARY		
DESCRIPTION	UNITS	QUANTITY
<b>1) CLEARING AND GRUBBING</b>		
1A.) TREE CLEARING	ACRES	0.6
1B.) GRUBBING	ACRES	4.5
<b>2) COMPOST FILTER SOCK</b>		
2B.) 18"	LF	21.0
2C.) 24"	LF	381.0
2D.) 32"	LF	675.0
<b>3) AGGREGATE SURFACING</b>		
3A.) TURN-AROUND & PAD AREA AASHTO #1 AGGREGATE (8")	TONS	2,963.0
3B.) TURN-AROUND & PAD AREA CRUSHER RUN AGGREGATE (2")	TONS	1,778.0
3C.) 12' RELOCATED ACCESS ROAD AASHTO #1 AGGREGATE (8")	TONS	332.0
3D.) 12' RELOCATED ACCESS ROAD CRUSHER RUN AGGREGATE (2")	TONS	200.0
3E.) GEOTEXTILE	SY	10,027.0
<b>4) SLOPE MATTING</b>		
4A.) NAG S75	SY	3,360.0
4B.) NAG SC150	SY	1,445.0
<b>5) SEED &amp; MULCH</b>		
5A.) SEED & MULCH	ACRES	2.6
<b>6) EXCAVATION</b>		
6A.) TOTAL CUT FOR PROJECT (NO SWELL)	CY	10,187.0
6B.) TOTAL TOPSOIL FOR PROJECT (ASSUME 6")	CY	2,296.0
<b>7) OUTLET PROTECTION</b>		
7A.) RIP RAP APRON (R-6)	TONS	8.0
<b>8) UNDERDRAINS</b>		
8A.) 4" PERFORATED HDPE PIPE	LF	740.0
8B.) AASHTO #1 PIPE COVER	TONS	1,073.0
8C.) AASHTO #57 UNDERDRAIN BEDDING	TONS	200.0
8D.) GEOTEXTILE	SY	768.0
<b>9) CONCRETE CATCH BASIN</b>		
9A.) 3' X 3' X 4" CATCH BASIN WITH HD STEEL FRAME & GRATE	EA	1.0
<b>10) ROCK TRENCH</b>		
10A.) 6" PERFORATED HDPE PIPE	SY	421.0
10B.) AASHTO #1 PIPE COVER	TONS	729.0
10C.) GEOTEXTILE	SY	435.0
<b>11) CONSTRUCTION ENTRANCE</b>		
11A.) ROCK CONSTRUCTION ACCESS	TONS	53.0
<b>12) CULVERTS</b>		
12A.) 6" SLOPP	LF	110.0
<b>13) CONSTRUCTION FENCE</b>		
13A.) CONSTRUCTION FENCE	LF	187.0
<b>14) TOE/BONDING BENCH</b>		
14A.) FOUNDATION BENCH DRAIN	LF	582.0
14B.) FOUNDATION BENCH DRAIN OUTLET	LF	100.0
14C.) TOE BENCH EXCAVATION	CY	1,272.0

NOTES: 1) Final Keyway Excavation quantity may be revised in the field if different or unfavorable conditions, such as existing slope failures, unstable soils, seepage, unfavorable rock bedding, or low-strength clay seams, are encountered.

FOR RETIEW ASSOCIATES BY:

MANAGER: JASON MILLER, P.E.	CHKD BY: KME	DESIGN BY: JEM	DATE: 1/7/2015
DESIGN BY: KME	CHKD BY: JEM	DATE: 1/7/2015	PER DEP. COMMENTS:
DESIGN BY: KME	CHKD BY: JEM	DATE: 1/7/2015	REVISION

CLIENT  
**CONSOL ENERGY**  
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 JANE LEW, WV 26378

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DETAILS  
 EROSION & SEDIMENT CONTROL PLAN  
 FOR  
**BLUE TANK SITE**  
 SOUTHWEST TAX DISTRICT DODDRIDGE COUNTY, WV

DATE: JANUARY 8, 2015  
 SHEET NO. 10 OF 10  
 DWG. NO. 094865013