

Commercial/Industrial Floodplain Development Permit

Doddridge County, WV Floodplain Management

This permit has been issued to CNX GAS COMPANY, LLC , 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: #14-214

Date Approved: 05/22/2014

Expires:05/22/2015

Issued to: CNX GAS COMPANY, LLC

**POC: AMANDA WRIGHT
304-884-2027**

**Company Address :ONE ENERGY DRIVE
JANE LEW, WV 26378**

Project Address: SOUTH FORK HUGHES RIVER

Firm: 54017C0250C

Lat/Long: 39.16581,80.75212

Purpose of development: MORRIS TANK PAD

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

Date:05/22/2014

For additional information regarding this permit, please contact
Doddridge County Floodplain Manager at 304.873.2631, or via email at
doddridgecountyfpm@gmail.com
118 East Court Street; West Union, WV 26456



DODDRIDGE COUNTY COMMISSION

BETH A. ROGERS, Clerk
Room 102
118 East Court Street
West Union, WV 26456-1297
Phone (304) 873-2631

Deputies:
Beth A. Kellar
Jennifer L. Moore
Pauletta McKinney

F A X C O V E R S H E E T

7-9-14

DATE

TO: Christie

FROM: Dodd. Co Flood Plain

SENDER'S DIRECT PHONE NUMBER: (304) 873-2631

RE:

462-5656

~~Christie~~ Christie

COMMENTS:

Christie
Marr's Tank
Site #2
XND

Number of pages (including this page):

2

TRANSACTION REPORT

P. 01

JUL-09-2014 WED 01:54 PM

FOR: DODDRIDGE CO. CLERK

304 873 1840

SEND

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
JUL-09	01:53 PM	3044625656	27"	2	FAX TX	OK	099	

TOTAL : 27S PAGES: 2



DODDRIDGE COUNTY COMMISSION

BETH A. ROGERS, Clerk
Room 102
118 East Court Street
West Union, WV 26456-1297
Phone (304) 873-2631

Deputies:
Beth A. Keller
Jennifer L. Moore
Pauletta McKinney

FAX COVER SHEET

7-9-14

DATE

TO: Christie

FROM: Dodd. Co Flood Plans

SENDER'S DIRECT PHONE NUMBER: (304) 873-2631

RE:

COMMENTS:

Number of pages (including this page):

2



PROFESSIONAL ENERGY CONSULTANTS

A DIVISION OF SMITH LAND SURVEYING, INC.

2014 MAY 19 PM 3:10

BETH A. ROGERS
COUNTY CLERK
DODDRIDGE COUNTY, WV

May 9, 2014

Ms. Catie Slater
Floodplain Coordinator
Doddridge County Commission
118 East Court Street
West Union, WV 26456

RE: CNX Gas Company, LLC
Morris Tank Site No. 2

Ms. Slater,

On behalf of CNX, Smith Land Surveying, Inc. is asking for your concurrence that a Doddridge County floodplain/building permit is not required for this project. CNX has proposed an above ground storage tank pad with a containment berm and an access road to aid in the development of multiple Marcellus Shale gas wells. The site is located in Doddridge County approximately 0.9 miles south of the junction of WV CR 54/1 and WV CR 40 near Porto Rico. The location of the tank pad is Latitude 39.16581, Longitude -80.75212 (NAD 83). The location of the access road at CR 40 is Latitude 39.16292, Longitude -80.75061 (NAD 83). Total disturbance area of the site is approximately 12.1 acres.

This site does not impact a floodplain. Please see the attached project location map, site plans, and FEMA firmette.

On behalf of CNX, SLS is requesting your concurrence to begin construction on the Morris Tank Site No. 2 Project once the WVDEP's NPDES Storm Water Permit is received. Please feel to contact Thomas Meeks with SLS at 304-462-5634 or tmeeks@slssurveys.com, or Amanda Wright with CNX at 304-884-2027 or AmandaWright@consolenergy.com should you have any questions or comments. Please send the permit and any other correspondence to Thomas Meeks or Leslie Pierce (lpierce@slssurveys.com) at Smith Land Surveying.

Respectfully submitted,

Thomas M. Meeks, P.S.
Surveying Manager



cc: Amanda Wright/CNX Gas Company LLC

#14-214
Morris Tank
Site No. 2

**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 _____

5/9/14

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: CNX Gas Company, LLC

ADDRESS: One Energy Drive Jane Lew, WV 26378

TELEPHONE NUMBER: 304-884-2027

BUILDER'S NAME: CNX Gas Company, LLC

ADDRESS: One Energy Drive Jane Lew, WV 26378

TELEPHONE NUMBER: 304-884-2027

ENGINEER'S NAME: Smith Land Surveying

ADDRESS: 226 West Main Street, Glenville, WV 26351

TELEPHONE NUMBER: 304-462-5634

PROJECT LOCATION: The Morris Tank Site No. 2 is located almost a mile south of the junction of WC County Route 54/1 and WV County Route 40. The coordinates of the tank pad is Latitude 39.16581 Longitude -80.75212 (NAD 83) and the coordinates of the access road at County Route 40 is Latitude 39.16292 Longitude -80.75061 (NAD 83).

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

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

DISTRICT: Southwest District

DATE/FROM WHOM PROPERTY

PURCHASED _____

LAND BOOK DESCRIPTION: _____

DEED BOOK REFERENCE: _____

TAX MAP REFERENCE: 10-2 Southwest (Morris)

EXISTING BUILDINGS/USES OF PROPERTY: _____

NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY _____

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

<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 Altercation (including dredging and channel modification)
- Drainage Improvements (including culvert work)
- Road, Street, or Bridge Construction
- Subdivision (including new expansion)
- Individual Water or Sewer System
- Other (please specify)
-

C. STANDARD SITE PLAN OR SKETCH

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

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

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: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

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

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____

ADDRESS: _____

NAME: _____


ADDRESS: _____

E. CONFIRMATION FORM

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

- (A) PERSONAL SERVICE OF PROCESS BY THE DODDRIDGE COUNTY SHERIFF AT THE RATES PERMITTED BY LAW FOR SUCH SERVICE.
- (B) SERVICE BY CERTIFIED MAIL RETURN RECEIPT REQUESTED.
- (C) PUBLICATION.
- (D) COURT REPORTING SERVICES AT ANY HEARINGS REQUESTED BY THE APPLICANT.
- (E) CONSULTANTS AND/OR HEARING EXPERTS UTILIZED BY DODDRIDGE COUNTY FLOODPLAIN ADMINISTRATOR/MANAGER OR FLOODPLAIN APPEALS BOARD FOR REVIEW OF MATERIALS AND/OR TESTIMONY REGARDING THE EFFICACY OF GRANTING OR DENYING THE APPLICANT'S FLOODPLAIN PERMIT.

NAME (PRINT): Amanda Wright

SIGNATURE:  DATE: 5/9/14

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 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 50 lots or 5 acres, whichever is the lesser, the applicant must provide 100-year flood elevations if they are not otherwise available).

Plans showing the extent of watercourse relocation and/or landform alterations.

Top of new fill elevation _____ Ft. NGVD (MSL).
For floodproofing structures applicant must attach certification from registered engineer or architect.

Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood. A copy of all data and calculations supporting this finding must also be submitted.

Manufactured homes located in a floodplain area must have a West Virginia Contractor's License and a Manufactured Home Installation License as required by the Federal Emergency Management Agency (FEMA).

Other:

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

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

SIGNED _____ DATE _____

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

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

CONDITIONS: _____

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

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

COMPLETE 1 OR 2 BELOW:

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

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

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

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

INSPECTIONS:

DATE: _____ BY: _____
DEFICIENCIES ? Y/N

COMMENTS _____

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

Certificate of Compliance issued: DATE: _____ BY: _____

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

PERMIT NUMBER: _____

PERMIT DATE: _____

PURPOSE –

CONSTRUCTION LOCATION: _____

OWNER'S ADDRESS: _____

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

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

SIGNED _____ DATE _____



P.O. BOX 150, GLENVILLE, WV 26351
 (304) 462-5634 • FAX (304) 462-5656

LETTER OF TRANSMITTAL

DATE 5/11/14	JOB NO. 8091
ATTENTION Catie Slater	
RE: CNX Gas Company Morris Tank Site #2	

TO: Doddridge County Floodplain Manager
118 East Court Street
West Union, WV 26456

> WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

- Shop drawings Prints Plans Samples Specifications
 Copy of letter Change order _____

COPIES	DATE	NO.	DESCRIPTION
1			Cover letter regarding CNX Gas Company's Morris Tank Site #2
1			Floodplain Permit Application
1			FEMA Map
1			Vicinity Map
1			Site Plans

THESE ARE TRANSMITTED as checked below:

- For approval Approved as submitted Resubmit _____ copies for approval
 For your use Approved as noted Submit _____ copies for distribution
 As requested Returned for corrections Return _____ corrected prints
 For review and comment _____
 FOR BIDS DUE _____ 20 _____ PRINTS RETURNED AFTER LOAN TO US

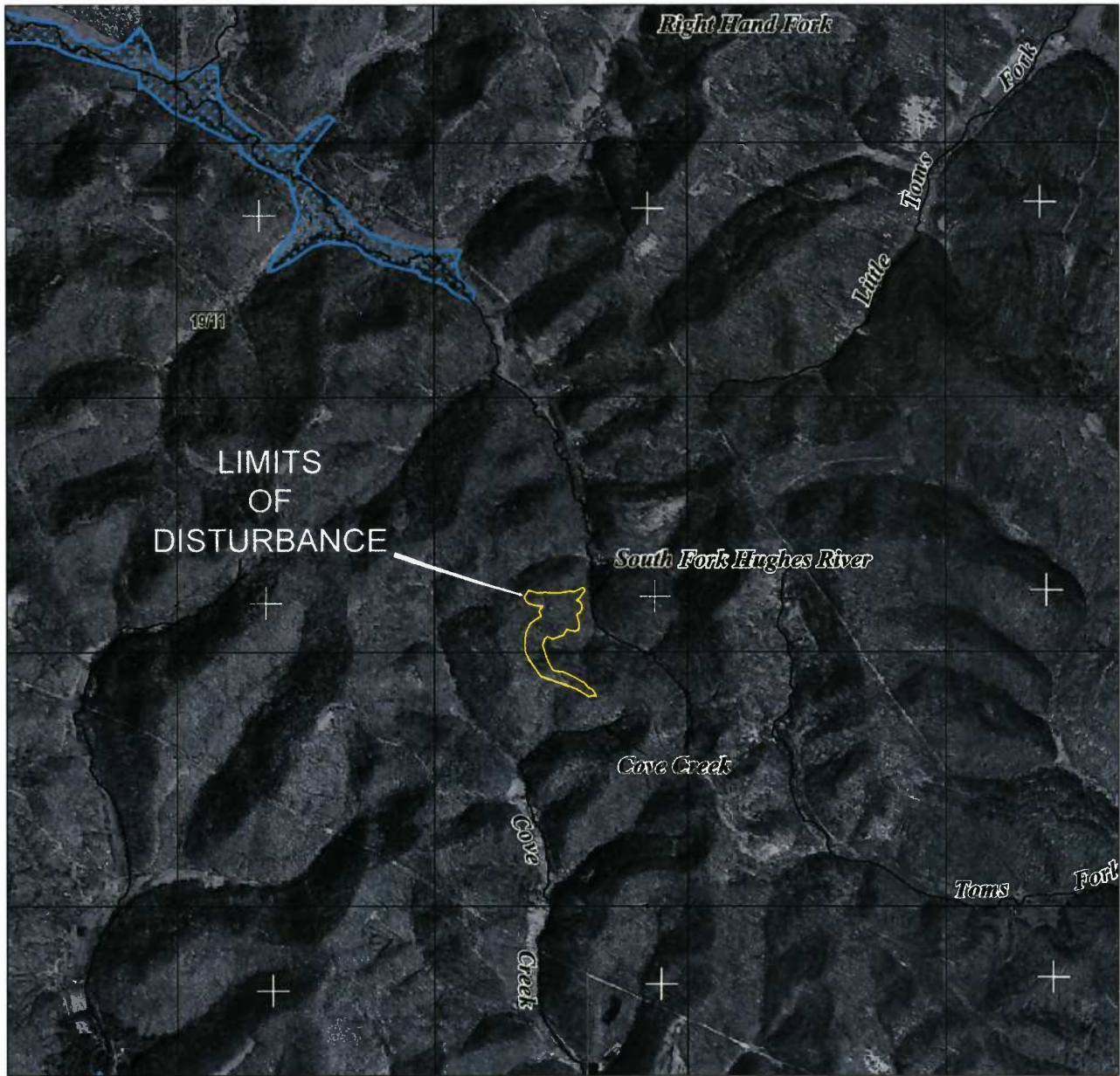
REMARKS _____

COPY TO SLS Files; CNX Gas Company, LLC

SIGNED: Deanna McVicker

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

MORRIS TANK SITE NO. 2 FEMA MAP



LIMITS
OF
DISTURBANCE

NOTES

DODDRIDGE COUNTY, WV: FEMA
FIRM MAPS 54017C0225C &
54017C0250C

SCALE

1 INCH = 2000-FEET



JOB #: 8091
DRAWN BY: CMH
DATE: 05-07-14
SCALE: 1" = 2000'

MORRIS TANK SITE NO. 2

THIS DOCUMENT WAS PREPARED BY:
SMITH LAND SURVEYING, INC.
FOR: CNX



MORRIS TANK SITE NO. 2 VICINITY MAP



SCALE
1 INCH = 2000-FEET

NOTES
DODDRIDGE COUNTY, WV: OXFORD
AND NEW MILTON TOPO QUADS

2000' 4000' 6000'



JOB #: 8091
DRAWN BY: CMH
DATE: 05-07-14
SCALE: 1" = 2000'

MORRIS TANK SITE NO. 2

THIS DOCUMENT WAS PREPARED BY:
SMITH LAND SURVEYING, INC.
FOR: CNX



Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, INC.



(304) 462-5634

SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.
WWW.SLSSURVEYS.COM



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 _____

PROJECT INFORMATION

PROJECT NAME: MORRIS TANK PAD #2
 TAX PARCEL:
 SOUTHWEST DISTRICT
 MAP 10 PARCEL 2 (TOTAL PROPERTY AREA = 6603.75 ACRES)
 SURFACE OWNER:
 OWNER: I L MORRIS
 SOUTHWEST DISTRICT
 DODDRIDGE COUNTY, WV
 TOTAL PROPERTY AREA: 6603.75 ACRES
 TOTAL DISTURBANCE AREA: 12.1 +/- ACRES
 SITE LOCATION:
 THE MORRIS TANK PAD #2 SITE IS LOCATED 4.775' +/-
 SOUTH OF THE JUNCTION OF WV CR 54/1 AND WV CR 40.

LOCATION COORDINATES

MORRIS TANK PAD #2 CENTER
 LATITUDE: 39.16581 LONGITUDE: 80.75212 (NAD 83)
 MORRIS TANK PAD #2 ACCESS ROAD AT CR 40
 LATITUDE: 39.16292 LONGITUDE: 80.75061 (NAD 83)

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 = 12.1 +/- ACRES

ENTRANCE PERMIT

CNX GAS COMPANY, LLC WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109) FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

MISS UTILITY STATEMENT

MISS UTILITY OF WEST VIRGINIA WAS NOTED FOR THE LOCATING OF UTILITIES PRIOR TO THIS PROJECT DESIGN; TICKET # 1329580237. IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE PROJECT.

FLOODPLAIN NOTE

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT ARE LOCATED IN FEMA FLOOD ZONE X PER THE FLOOD INSURANCE RATE MAP (FIRM) NUMBER 54017C0250C, DATED 10/04/2011.

ENVIRONMENTAL NOTES

A WETLAND INVESTIGATION WAS PERFORMED ON AUGUST 29, 2013 BY ALLSTAR ECOLOGY TO REVIEW THE SITE FOR WATERS AND WETLANDS THAT ARE MOST LIKELY WITHIN THE REGULATORY PURVIEW OF THE U.S. ARMY CORPS OF ENGINEERS (USACE) AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE SEPTEMBER 19, 2013 REPORT FOR THE MORRIS TANK PAD #2 SITE PREPARED BY ALLSTAR ECOLOGY, SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE REPORT DOES NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND WETLANDS WHICH MAY BE REGULATED BY THE USACE OR THE WVDEP. IT IS STRONGLY RECOMMENDED THAT THE AFORMENTIONED AGENCIES BE CONSULTED IN AN EFFORT TO GAIN WRITTEN CONFIRMATION OF THE DELINEATION DESCRIBED BY THIS REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING WETLAND FILLS AND STREAM CROSSINGS.

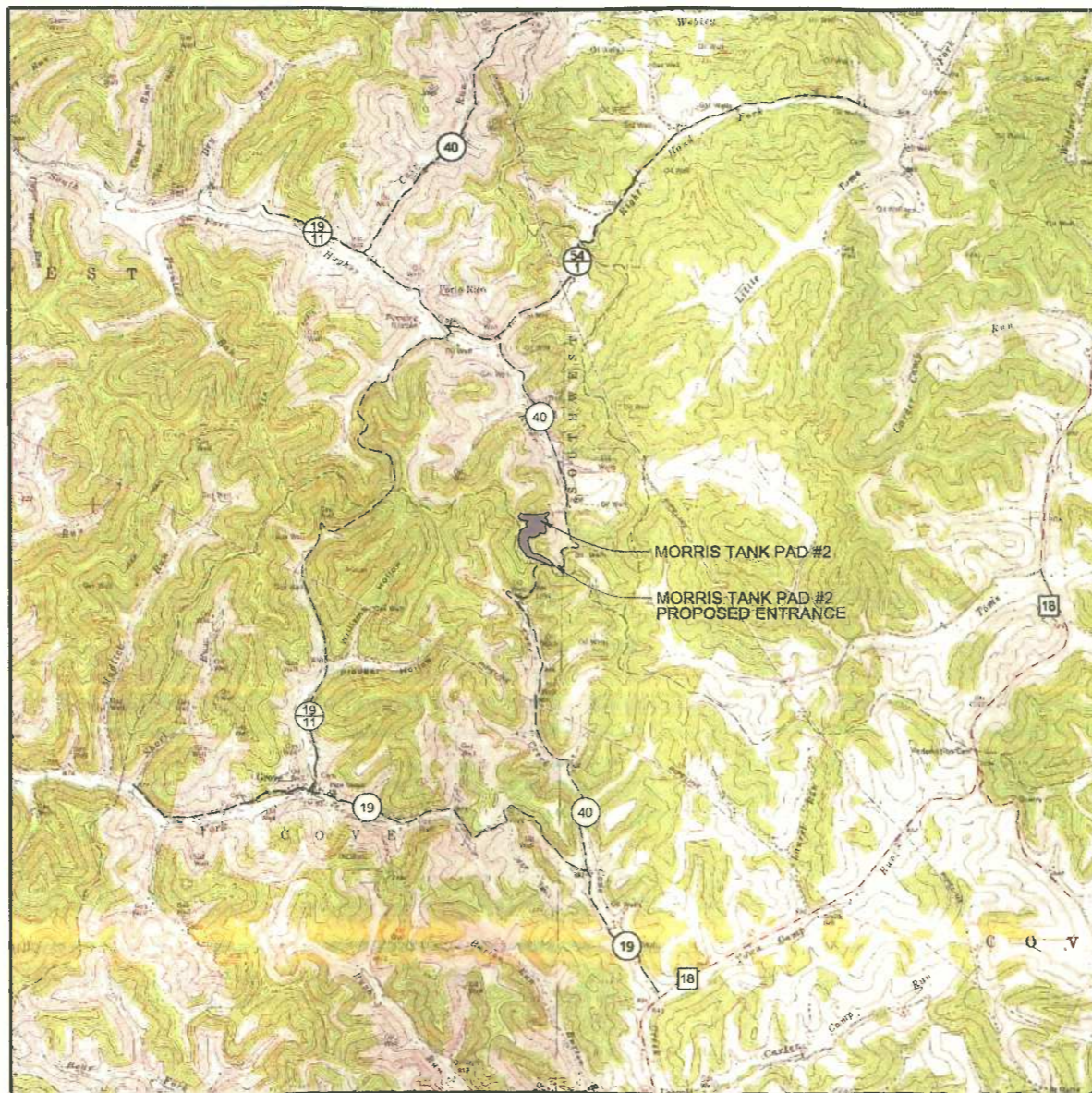
GEOTECHNICAL NOTES

A SUBSURFACE INVESTIGATION OF THE PROPOSED SITE WAS PERFORMED BY TERRACON ON MARCH 26, 2014. RECOMMENDATIONS FOR SITE PREPARATION, EMBANKMENT CONSTRUCTION, ROADWAY CONSTRUCTION, SLOPE STABILITY AND SUPPORT OF THE PROPOSED WATER STORAGE TANK CAN BE FOUND IN THE GEOTECHNICAL REPORT DATED APRIL 30, 2014 PREPARED BY TERRACON. ALL SLOPES, BENCHES, TOE KEY, SUBSURFACE DRAINAGE OR OTHER GRADING PRACTICES MUST FOLLOW THE RECOMMENDATIONS AS OUTLINED IN THIS REPORT. IT IS THE OWNER'S AND CONTRACTOR'S RESPONSIBILITY TO FOLLOW THE RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT IN CONJUNCTION WITH THE FOLLOWING PLAN TO CONSTRUCT THE PROPOSED SITE.

MORRIS TANK PAD #2 CNX GAS COMPANY, LLC (PROPOSED TANK WITH CONTAINMENT BERM)

SITUATE ON THE WATERS OF TRIBUTARIES TO SOUTH FORK HUGHES RIVER
 IN SOUTHWEST DISTRICT, DODDRIDGE COUNTY, WEST VIRGINIA

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



OXFORD AND NEW MILTON QUADRANGLES
 WEST VIRGINIA
 7.5 MINUTE SERIES



MISS Utility of West Virginia
 1-800-245-4845
 West Virginia State Law
 (Section XIV, Chapter 24-C)
 Requires that you call two
 business days before you dig in
 the state of West Virginia.
 IT'S THE LAW!!

LIST OF DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	OVERALL PLAN SHEET INDEX
4 - 5	ACCESS ROAD AND TANK PAD LAYOUT
6	ACCESS ROAD PROFILE
7 - 10	ACCESS ROAD CROSS SECTIONS AND TYPICAL SECTIONS
11	TANK PAD CROSS SECTION
12 - 13	ACCESS ROAD AND TANK PAD RECLAMATION PLAN
14 - 16	CONSTRUCTION DETAILS
17	TOE BENCH MAP
18	EXISTING UTILITY LOCATIONS
19	CONSTRUCTION QUANTITIES

LEGEND			
EX. INDEX CONTOUR	--- 1550 ---	PROP. INDEX CONTOUR	— 1550 —
EX. INTERMEDIATE CONTOUR	--- ---	PROP. INTERMEDIATE CONTOUR	--- ---
EX. BOUNDARY LINE	— P —	PROP. CUT LINE	- - - C - - -
EX. EDGE OF ROAD PAVEMENT	— E —	PROP. FILL LINE	- - - F - - -
EX. GUARDRAIL	— G —	PROP. LIMITS OF DISTURBANCE	— L —
EX. FENCELINE	— F —	PROP. CONTAINMENT BERM	— B —
EX. GATE	— G —	PROP. ROAD CENTERLINE	— R —
EX. OVERHEAD UTILITY	— O —	PROP. FLAT BOTTOM DITCH	— D —
EX. OVERHEAD UTILITY R/W	— O —	PROP. CULVERT	— C —
EX. UTILITY POLE	— U —	PROP. RIP-RAP OUTLET PROTECTION	— R —
EX. GUY WIRE	— G —	PROP. RIP-RAP INLET PROTECTION	— R —
EX. TELEPHONE LINE	— T —	PROP. COMPOST FILTERSOCK	— CF —
EX. GASLINE	— G —	PROP. ROCK CONSTRUCTION ENTRANCE	— R —
EX. GASLINE R/W	— G —	ECMB DITCH LINING	— E —
EX. WATERLINE	— W —	TURF REINFORCEMENT MAT DITCH LINING	— T —
EX. WATER WELL	— W —	X-SECTION GRID INDEX	— X —
EX. GAS WELL	— G —	X-SECTION GRID INTERMEDIATE	— X —
EX. TREELINE	— T —	X-SECTION PROPOSED GRADE	— X —
EX. REFERENCE TREE	— R —	X-SECTION EXISTING GRADE	— X —
EX. DELINEATED STREAM	— S —		
EX. BUILDING	— B —		

OPERATOR
 CNX GAS COMPANY, LLC
 OPERATOR ID: 494458046
 P.O. BOX 1248
 JANE LEW, WV 26378
 PHONE: (304) 889-2009

ENGINEER
 STANTEC CONSULTING SERVICES, INC
 111 ELKINS STREET
 FAIRMONT, WV 26554
 PHONE: (304) 367-9401

SURVEYOR
 SMITH LAND SURVEYING, INC.
 PO BOX 150
 226 WEST MAIN STREET
 GLENVILLE, WV 26351
 PHONE: (304) 462-5634

Professional Energy Consultants
 A DIVISION OF SULLY LAND SURVEYING, INC.
 SURVEYORS
 ENGINEERS
 ENVIRONMENTAL
 PROJECT MGMT.
 WWW.SLSURVEYS.COM
 (304) 462-5634

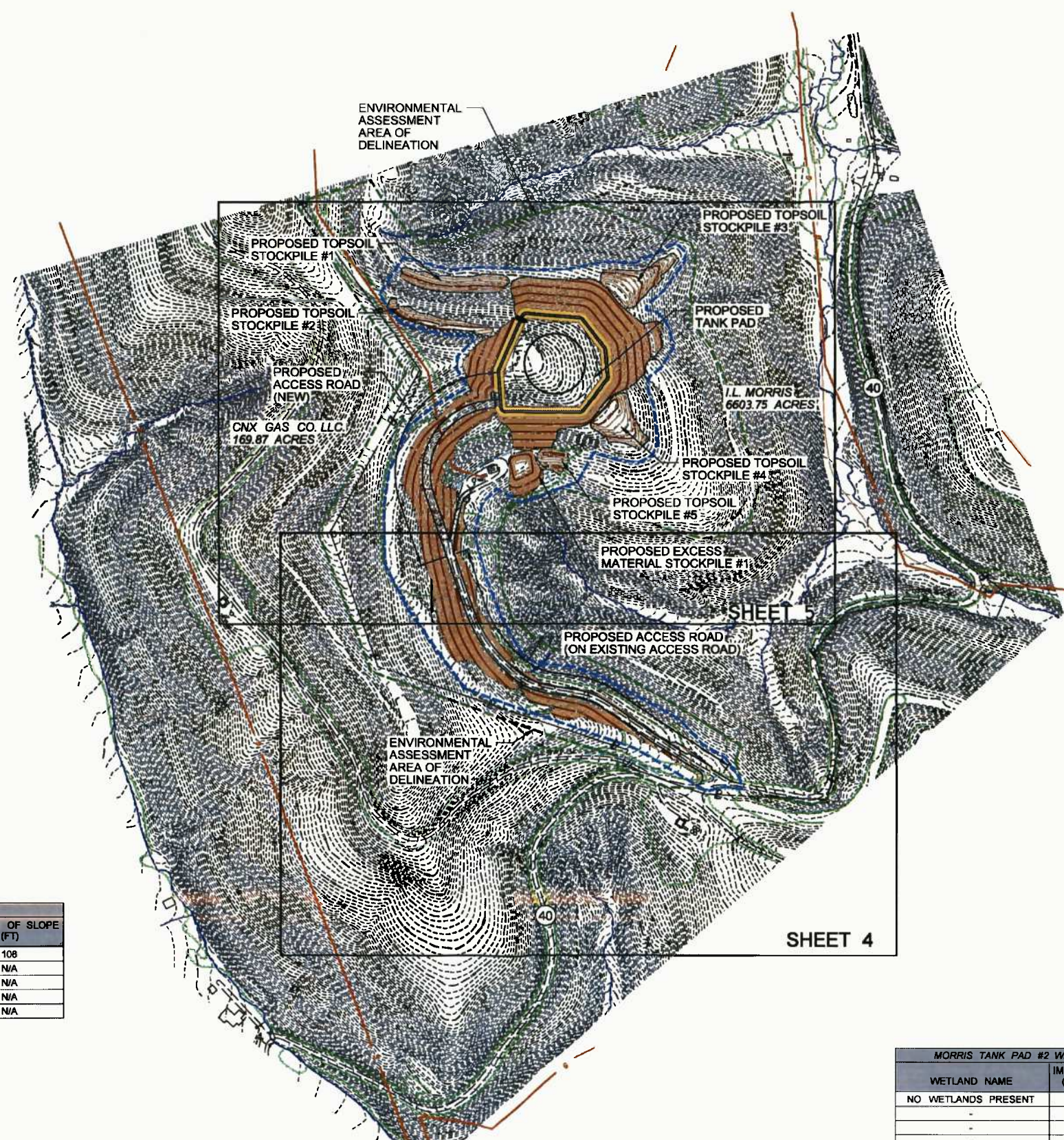


5/5/2014
 THIS DOCUMENT WAS
 PREPARED BY:
 STANTEC
 FOR
 CNX GAS COMPANY, LLC.

TITLE SHEET
MORRIS TANK PAD #2
 SOUTHWEST DISTRICT
 DODDRIDGE COUNTY, WV

DATE: 05/05/2014
 SCALE: AS SHOWN
 DESIGNED BY: JMR/RJH
 FILE NO.: SLS-8091
 SHEET 1 OF 19
 REV:





LIMIT OF DISTURBANCE
 TOTAL AREA: 12.1 ACRES

TOPSOIL STOCKPILES	
NAME	VOLUME (CY)
#1	754
#2	409
#3	1,116
#4	1,124
#5	275
REDISTRIBUTE*	1,286
TOTAL	4,964

EXCESS MATERIAL STOCKPILES	
NAME	VOLUME (CY)
#1	1,515
TOTAL	1,515

**REMAINING TOPSOIL TO BE REDISTRIBUTED ON FINISHED GRADE CUT AND FILL SLOPES


MORRIS TANK PAD #2 SITE EARTHWORK SUMMARY						
DESCRIPTION	CUT (CY)	FILL (CY)	SPOIL (CY)	BORROW (CY)	MAX SLOPE (%)	LENGTH OF SLOPE (FT)
ACCESS ROAD	7,335	5,159	2,176	0	16.0%	108
TANK PAD	25,707	26,398	0	691	N/A	N/A
STRIPPED TOPSOIL (6")	4,895	0	4,895	0	N/A	N/A
TOTALS	37,937	31,557	7,071	691	N/A	N/A
TOTAL REQUIRED STOCKPILE VOLUME*			6,380		N/A	N/A
TOTAL AVAILABLE STOCKPILE VOLUME*			6,479			
EXCESS MATERIAL			0			

* INCLUDES TOPSOIL


1. THE EARTHWORK QUANTITIES PROVIDED ARE AN ESTIMATE FOR CONSIDERATION. THE QUANTITIES SHOWN ARE CALCULATED USING A 10% CUT/SWELL FACTOR AND A 1:1 FILL/SHRINK FACTOR. THE QUANTITIES SHOWN MAY BE GREATER OR LESSER THAN ACTUALLY EXCAVATED. THE ENGINEER IS NOT RESPONSIBLE FOR VARIANCES FROM THE ESTIMATED QUANTITIES AND DOES NOT CERTIFY TO THEIR ACCURACY.
2. THE EARTHWORK ESTIMATES PROVIDED ABOVE DO NOT REFLECT QUANTITIES ASSOCIATED WITH IMPLEMENTING THE RECOMMENDATIONS AS OUTLINED IN THE GEOTECHNICAL REPORT DATED APRIL 30, 2014 PREPARED BY TERRACON. (I.E., EXCAVATION FROM EXISTING GRADE TO BOTTOM OF BENCHES AND STONE/EARTH FILL IN BENCHES)

MORRIS TANK PAD #2 WETLAND AND STREAM IMPACT TABLE			
WETLAND NAME	IMPACT (AC)	STREAM NAME	IMPACT (LF)
NO WETLANDS PRESENT	-	STREAM #1	41
-	-	STREAM #2	0
-	-	-	-
-	-	-	-
-	-	-	-






111 ELONG STREET
 DODD RIDGE, INDIANA 46038
 PHONE: 317-341-8000



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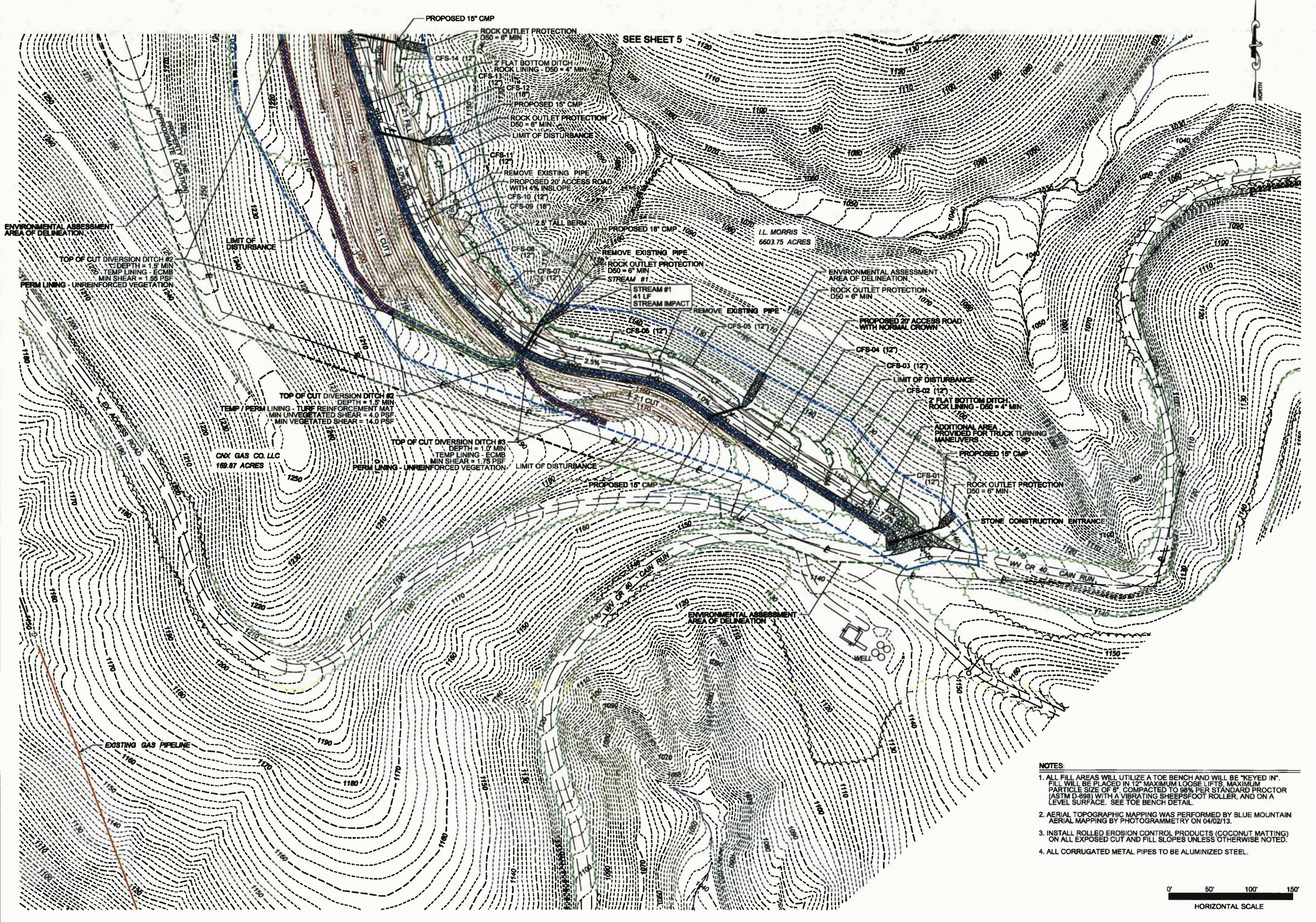


RICHARD L. GALES
 REGISTERED
 17220
 STATE OF
 INDIANA
 PROFESSIONAL ENGINEER

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 STANTEC
 FOR:
 CNX GAS COMPANY, L.L.C.

OVERALL PLAN SHEET INDEX
MORRIS TANK PAD #2
 SOUTHWEST DISTRICT
 DODD RIDGE COUNTY, WV

DATE: 05/05/2014
 SCALE: AS SHOWN
 DESIGNED BY: JMR/RJH
 FILE NO.: SLS-8091
 SHEET: 3 OF 18
 REV:



- NOTES:**
1. ALL FILL AREAS WILL UTILIZE A TOE BENCH AND WILL BE "KEYED IN". FILL WILL BE PLACED IN 12" MAXIMUM LOOSE LIFTS, MAXIMUM PARTICLE SIZE OF 8", COMPACTED TO 98% PER STANDARD PROCTOR (ASTM D-898) WITH A VIBRATING SHEEPSFOOT ROLLER, AND ON A LEVEL SURFACE. SEE TOE BENCH DETAIL.
 2. AERIAL TOPOGRAPHIC MAPPING WAS PERFORMED BY BLUE MOUNTAIN AERIAL MAPPING BY PHOTOGRAMMETRY ON 04/02/13.
 3. INSTALL ROLLED EROSION CONTROL PRODUCTS (COCONUT MATTING) ON ALL EXPOSED CUT AND FILL SLOPES UNLESS OTHERWISE NOTED.
 4. ALL CORRUGATED METAL PIPES TO BE ALUMINIZED STEEL.

Stantec
111 ELKINS STREET
PHONE: 304-363-2600

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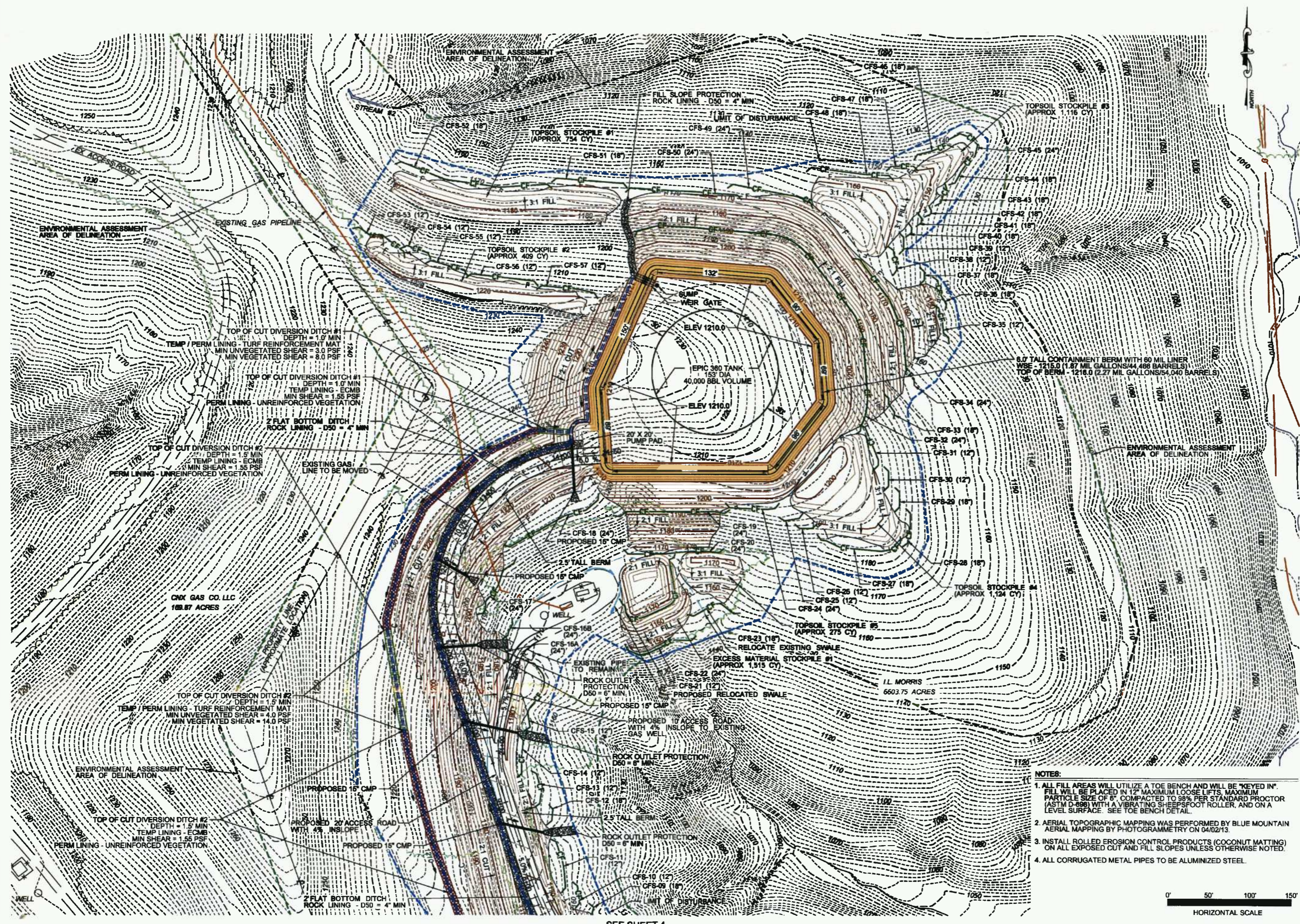
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1001 W. 82ND ST.
DODD RIDGE, WV 26041

EDWARD L. GAINES
REGISTERED
17220
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

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FOR
C.N.X. GAS COMPANY, LLC.

ACCESS ROAD
MORRIS TANK PAD #2
SOUTHWEST DISTRICT
DODD RIDGE COUNTY, WV

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SHEET 4 OF 19
REV:



SEE SHEET 4

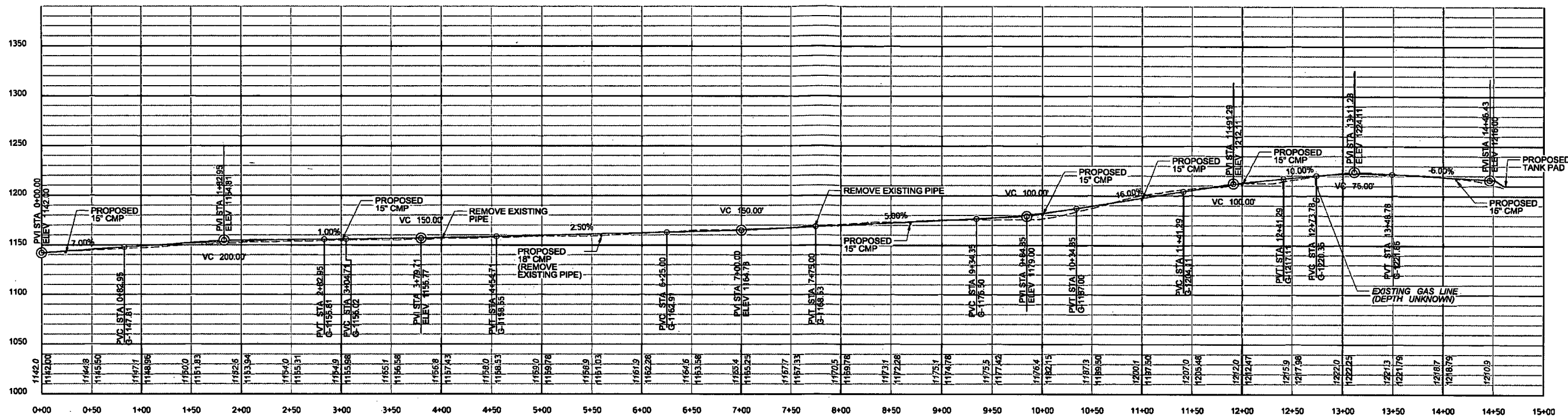
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 2. AERIAL TOPOGRAPHIC MAPPING WAS PERFORMED BY BLUE MOUNTAIN AERIAL MAPPING BY PHOTOGRAMMETRY ON 04/02/13.
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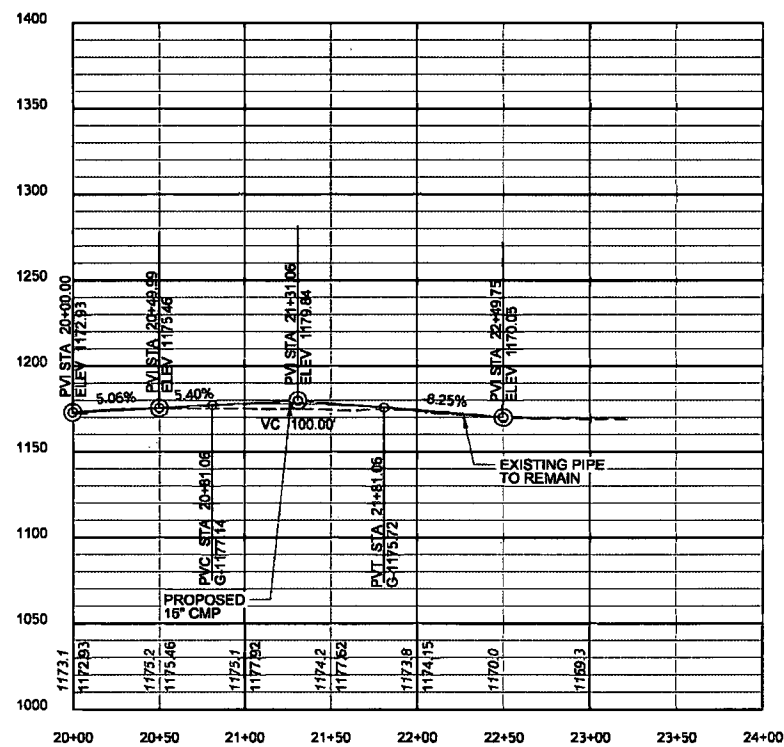
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ACCESS ROAD AND TANK PAD
MORRIS TANK PAD #2
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV

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REV:



MAIN ACCESS ROAD PROFILE

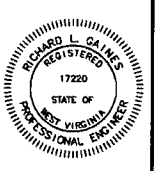


ACCESS ROAD TO EXISTING WELL PROFILE

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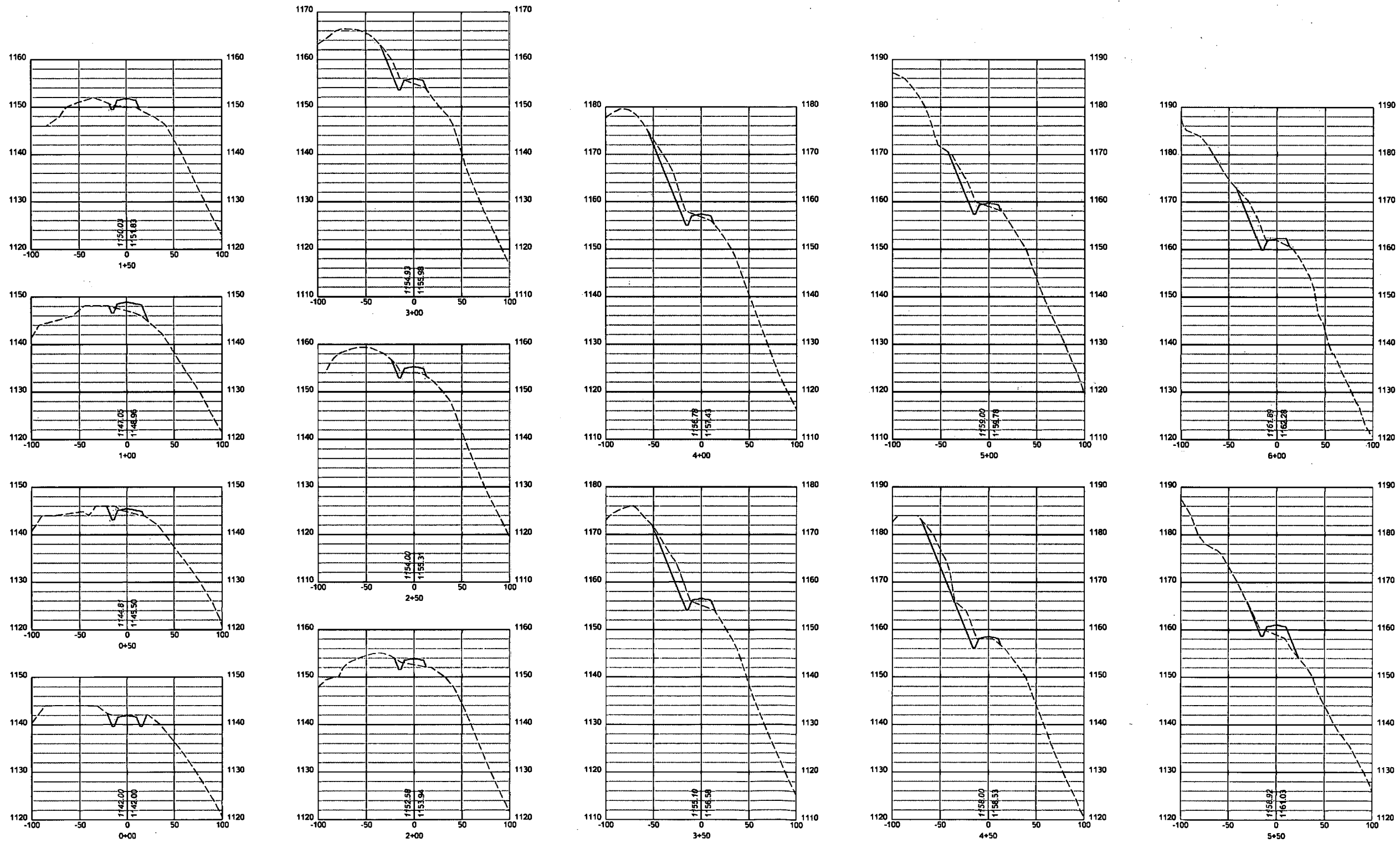
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ACCESS ROAD PROFILE
MORRIS TANK PAD #2
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 DODDRIDGE COUNTY, WY

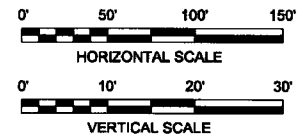
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 FILE NO.: SLS-8081
 SHEET 8 OF 19
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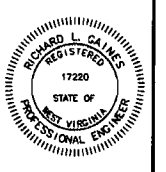
LEGEND
 — PROPOSED GRADE
 - - - EXISTING GRADE

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MAIN ACCESS ROAD CROSS SECTIONS



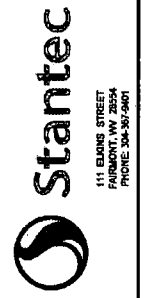
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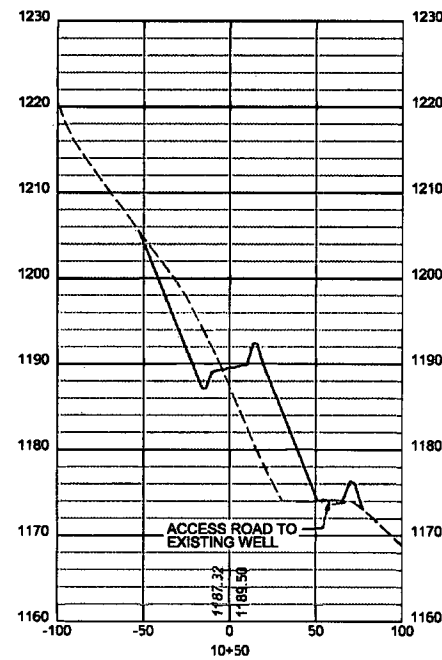
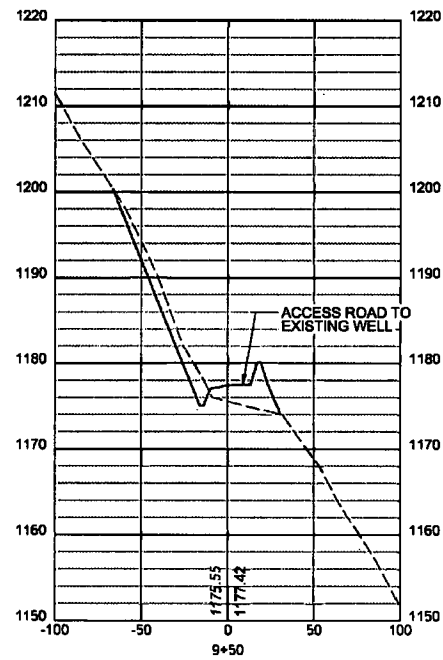
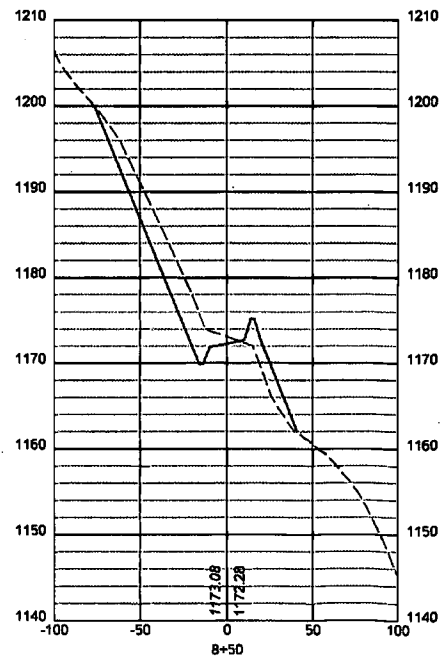
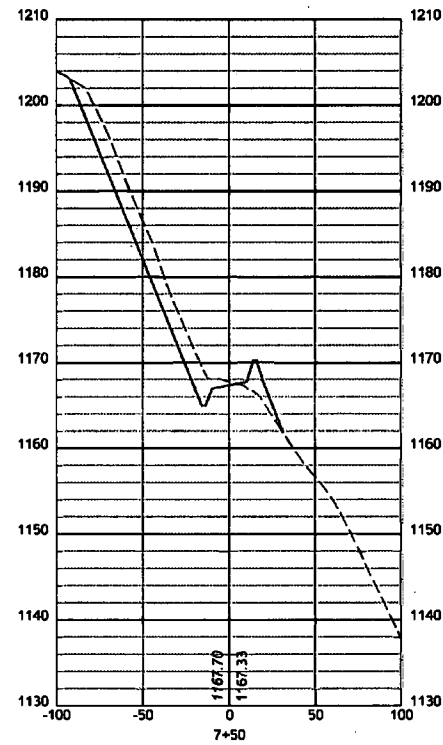
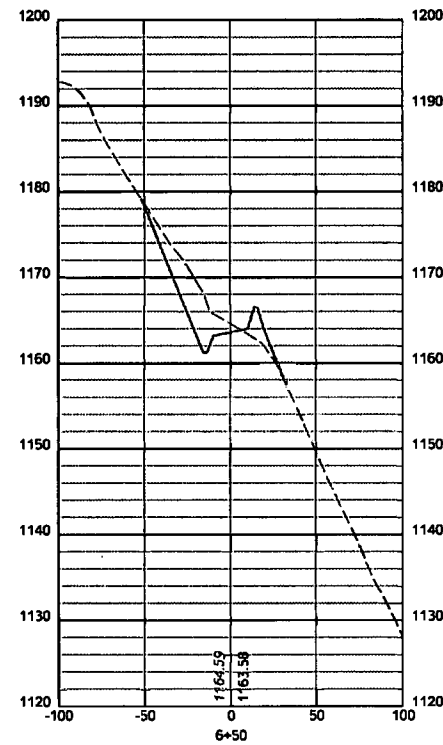
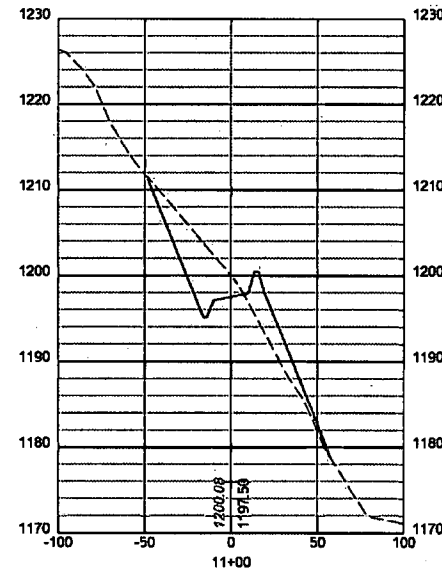
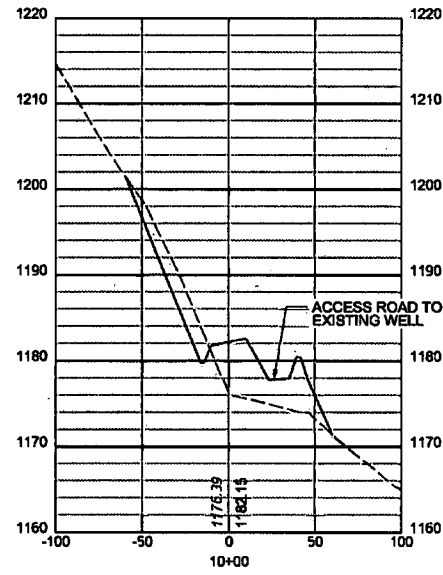
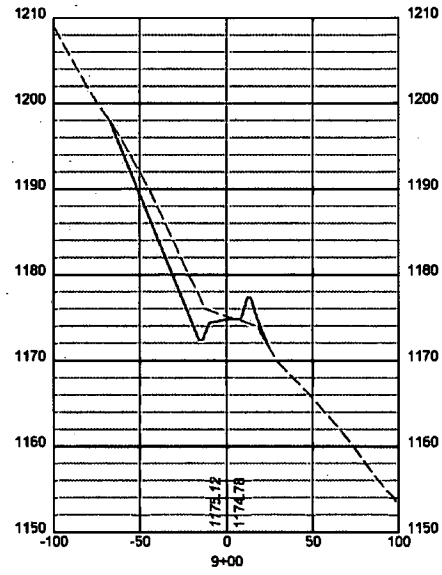
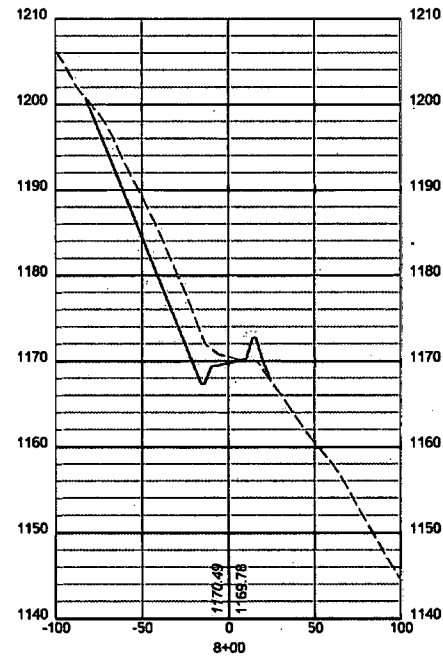
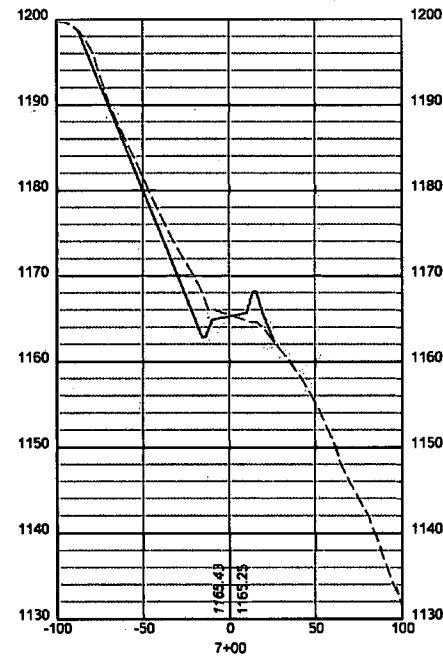


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ACCESS ROAD CROSS SECTIONS
MORRIS TANK PAD #2
 SOUTHWEST DISTRICT
 DODDRIDGE COUNTY, WV

DATE: 05/05/2014
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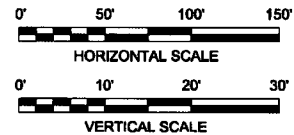


MAIN ACCESS ROAD CROSS SECTIONS

LEGEND
 — PROPOSED GRADE
 - - - EXISTING GRADE

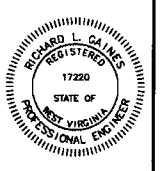
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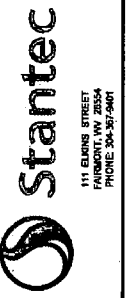
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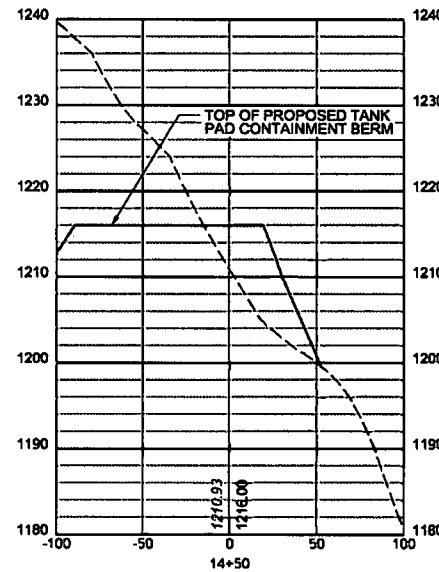
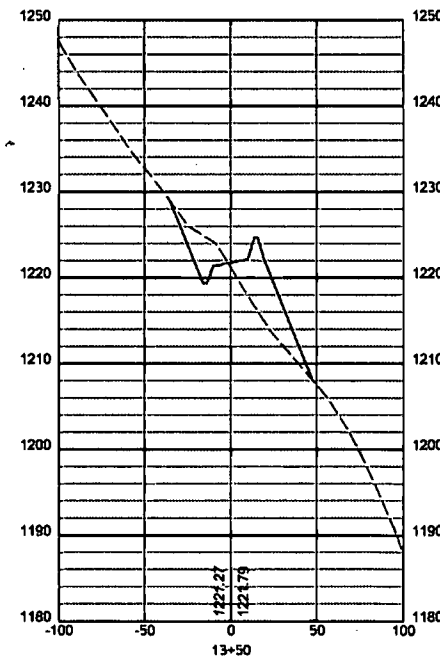
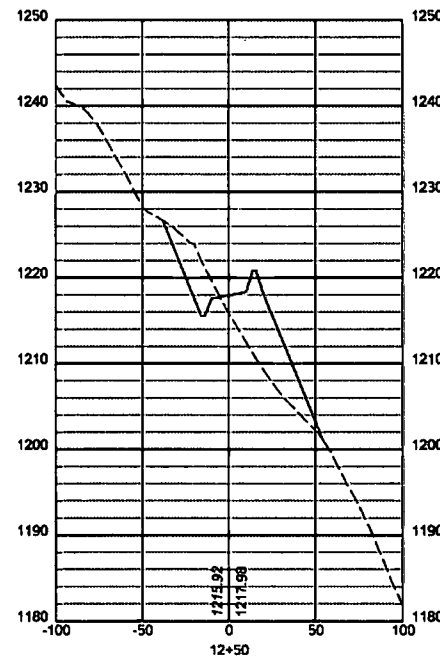
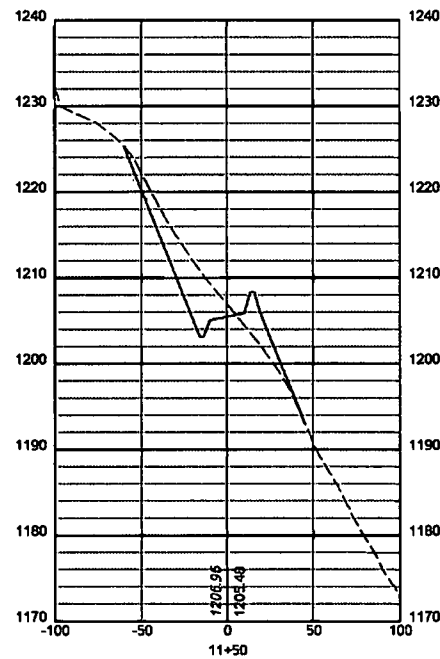
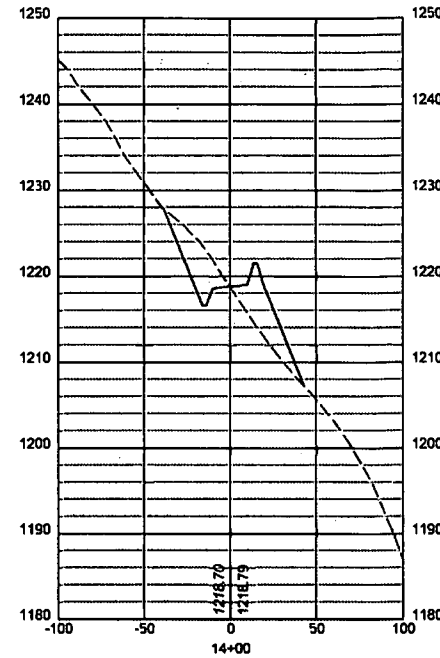
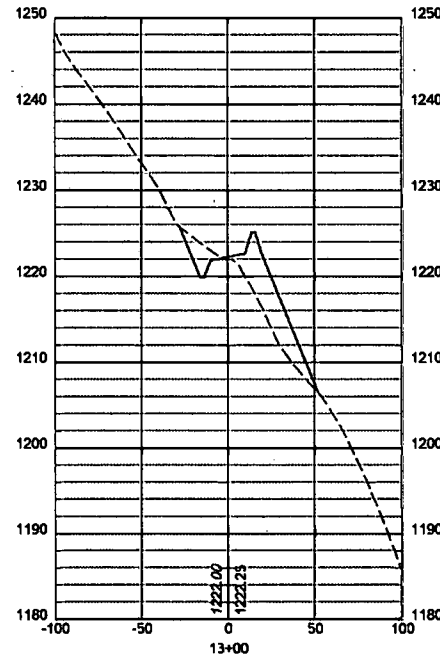
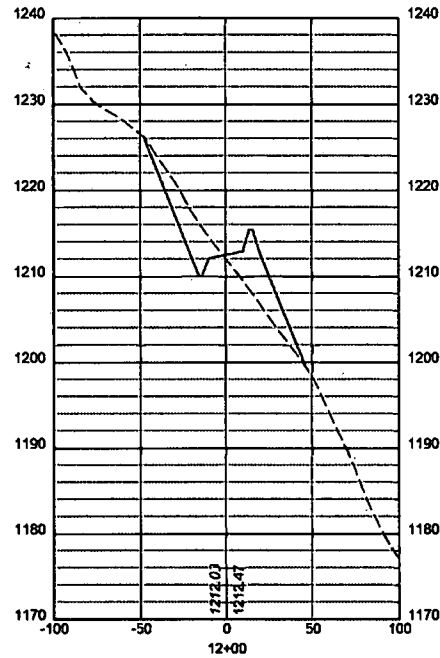
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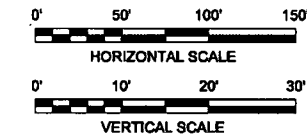
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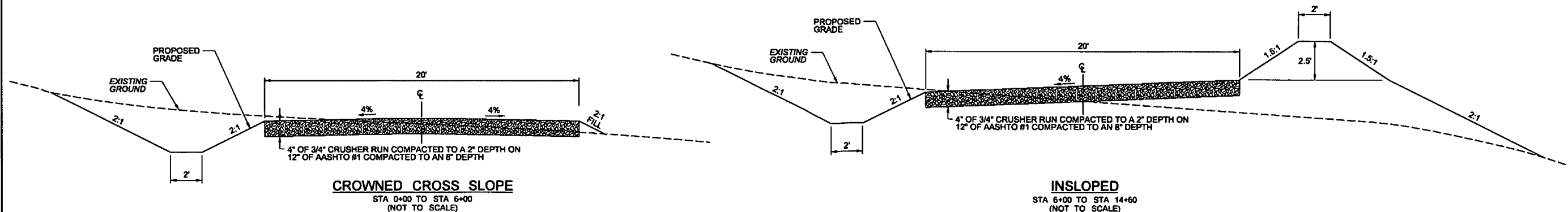


LEGEND
 — PROPOSED GRADE
 - - - EXISTING GRADE

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MAIN ACCESS ROAD CROSS SECTIONS



MAIN ACCESS ROAD TYPICAL SECTIONS
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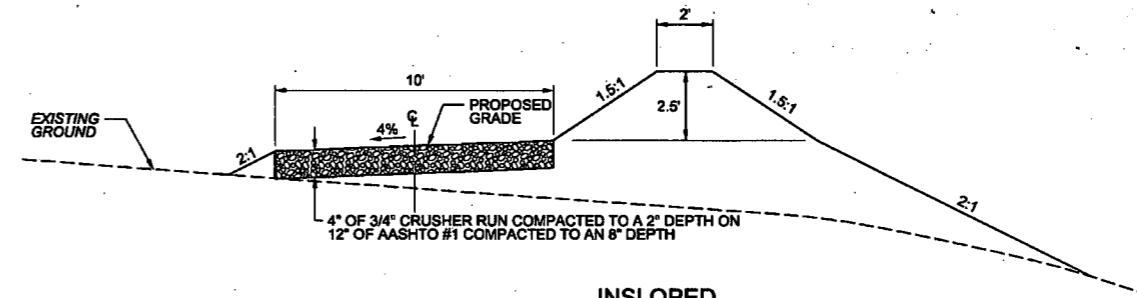
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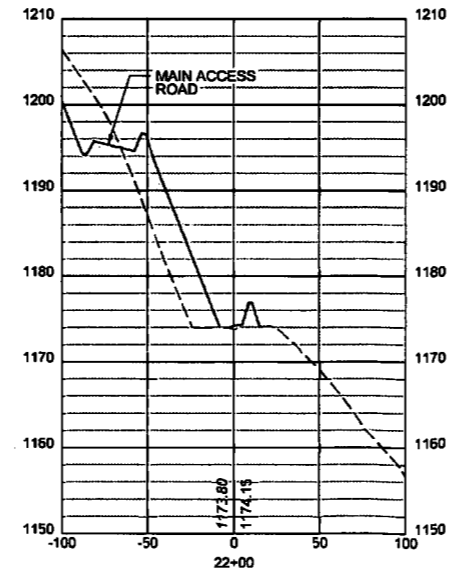
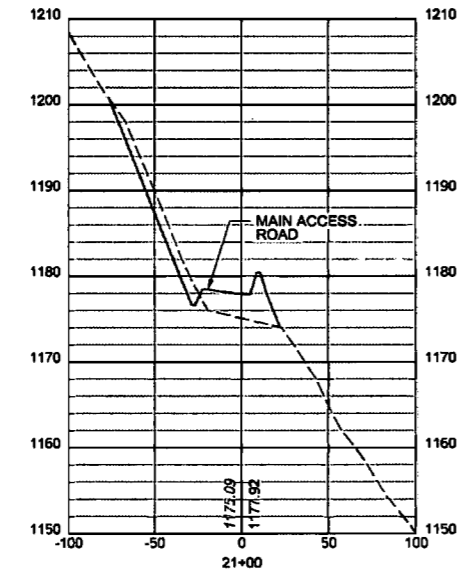
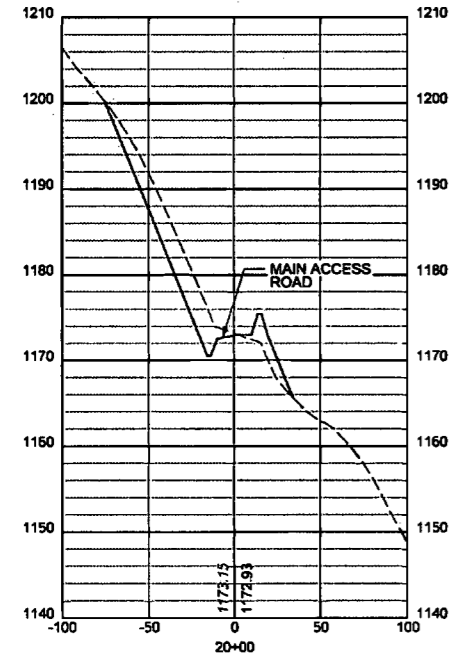
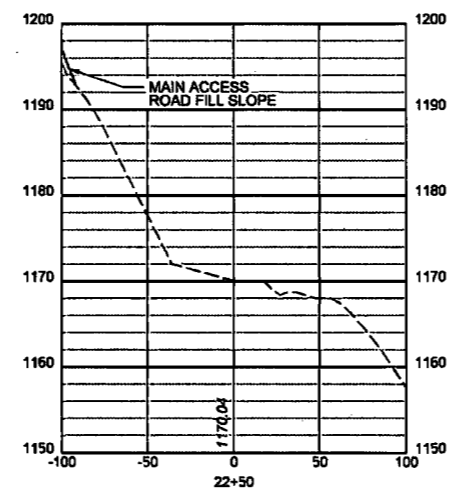
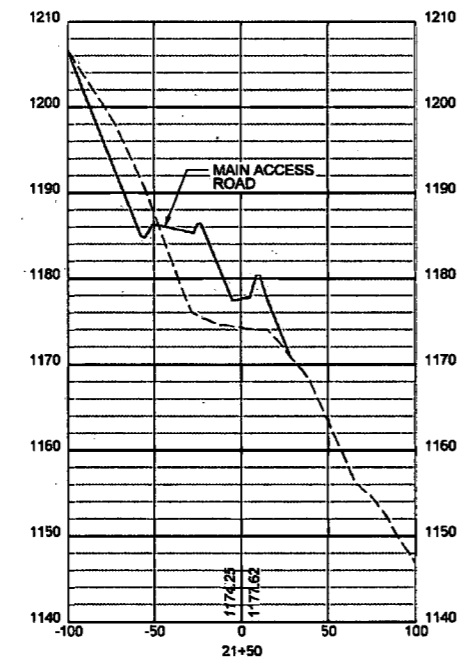
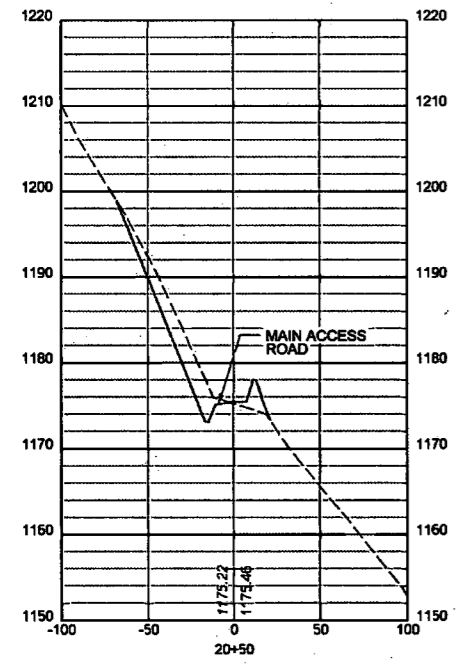
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ACCESS ROAD CROSS SECTIONS
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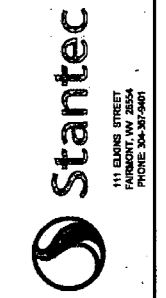
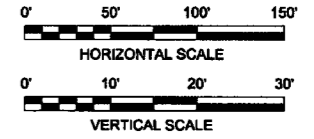
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 (NOT TO SCALE)
ACCESS ROAD TO EXISTING WELL TYPICAL SECTION



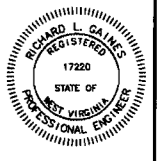
ACCESS ROAD TO EXISTING WELL CROSS SECTIONS

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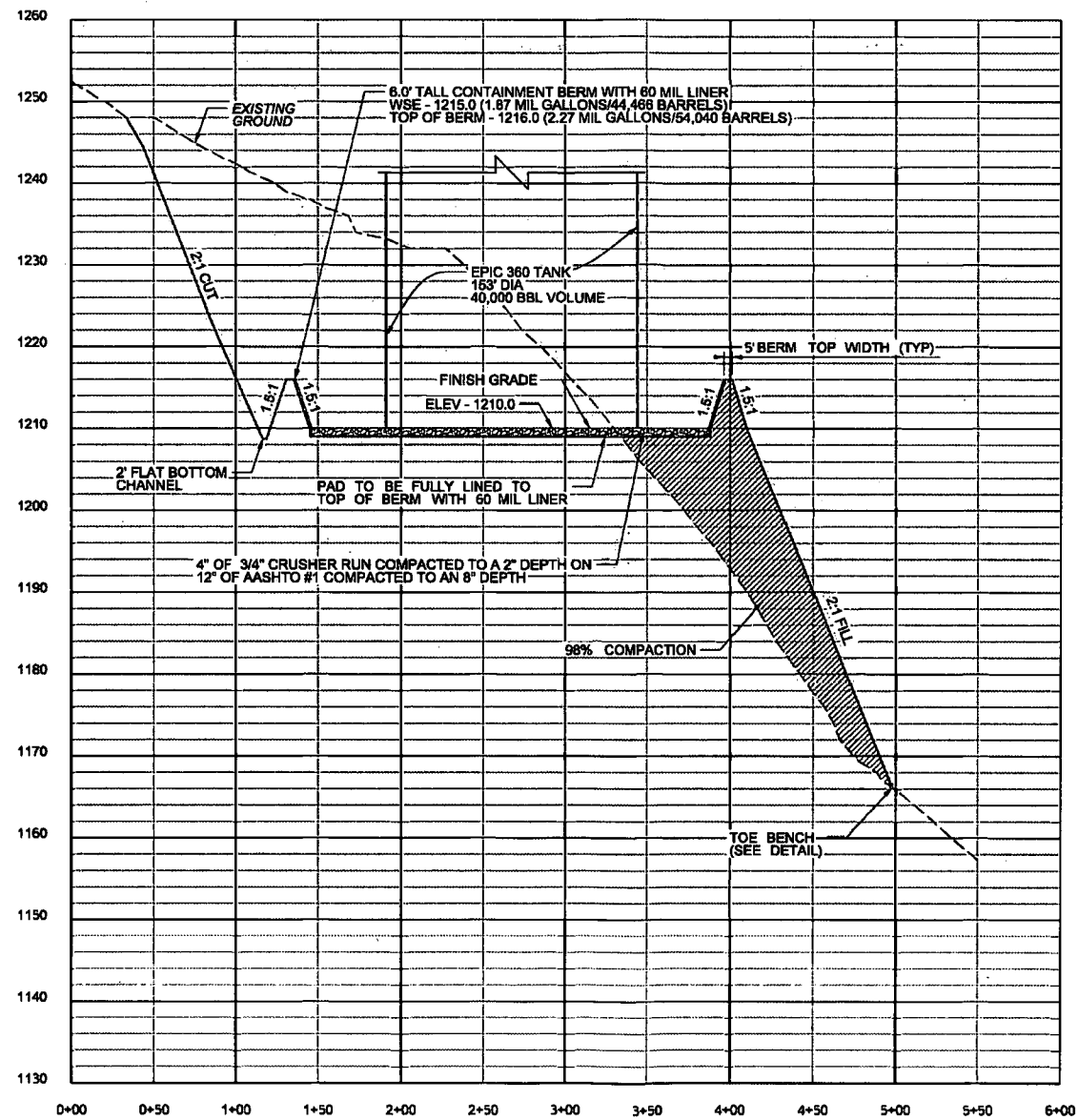
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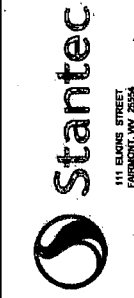
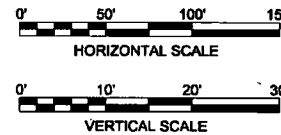


TANK PAD CROSS SECTION A-A

NOTE:

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2. THE TANK PAD SECTION CONSISTS OF 4" OF 3/4" CRUSHER RUN COMPACTED TO A 2" DEPTH ON 12" OF AASHTO #1 COMPACTED TO AN 8" DEPTH.



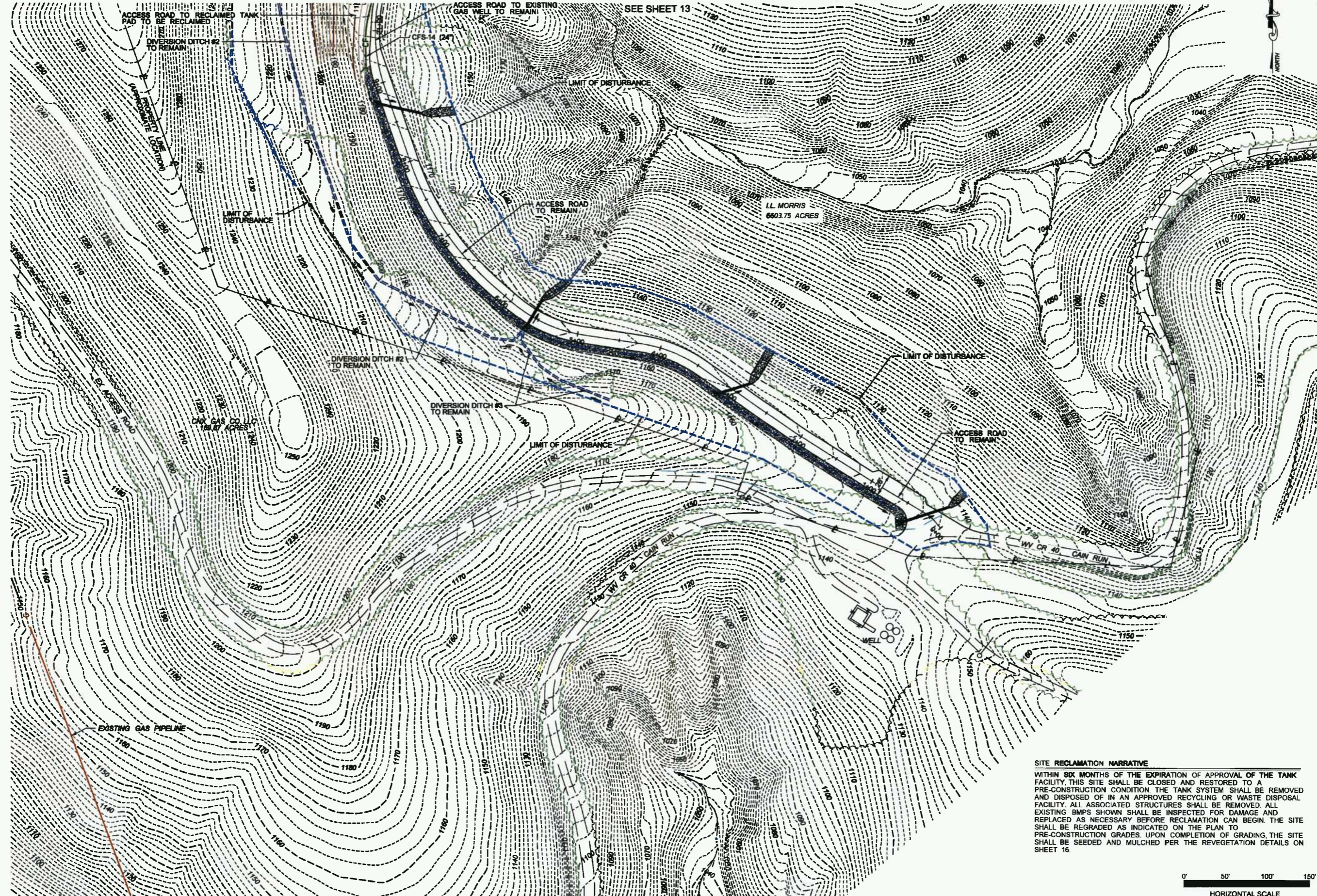
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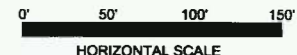
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TANK PAD CROSS SECTION
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SITE RECLAMATION NARRATIVE
 WITHIN SIX MONTHS OF THE EXPIRATION OF APPROVAL OF THE TANK FACILITY THIS SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. THE TANK SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL ASSOCIATED STRUCTURES SHALL BE REMOVED. ALL EXISTING BMPs SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. THE SITE SHALL BE REGRADED AS INDICATED ON THE PLAN TO PRE-CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE REVEGETATION DETAILS ON SHEET 16.



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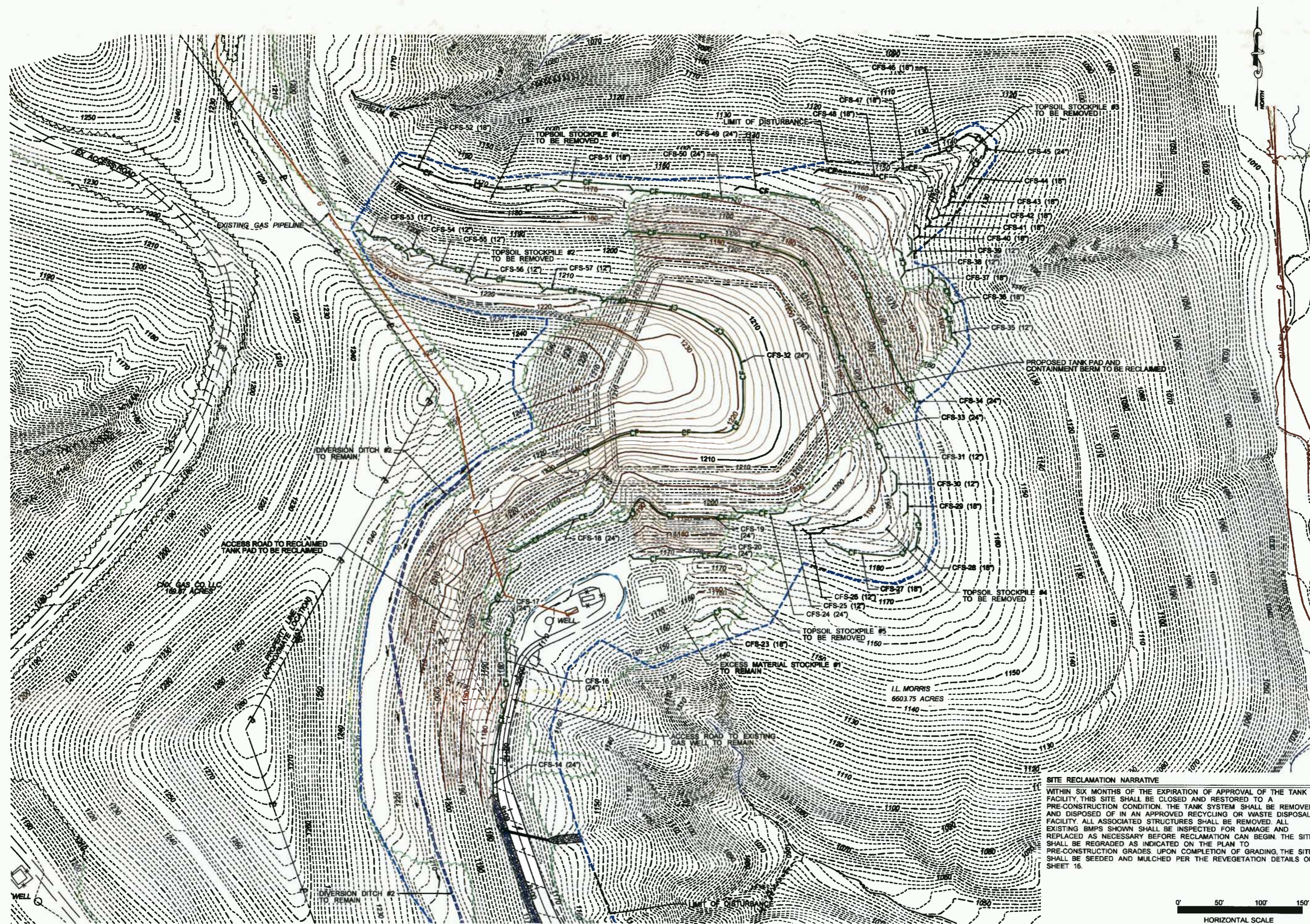
Professional Engineer
 RICHARD L. GAINES
 17220
 STATE OF
 WEST VIRGINIA

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ACCESS ROAD RECLAMATION PLAN
MORRIS TANK PAD #2
 SOUTHWEST DISTRICT
 DODDRIDGE COUNTY, WV

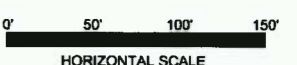
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 SHEET 12 OF 18
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SEE SHEET 12

SITE RECLAMATION NARRATIVE
WITHIN SIX MONTHS OF THE EXPIRATION OF APPROVAL OF THE TANK FACILITY THIS SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. THE TANK SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL ASSOCIATED STRUCTURES SHALL BE REMOVED. ALL EXISTING BMPs SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. THE SITE SHALL BE REGRADED AS INDICATED ON THE PLAN TO PRE-CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE VEGETATION DETAILS ON SHEET 16.

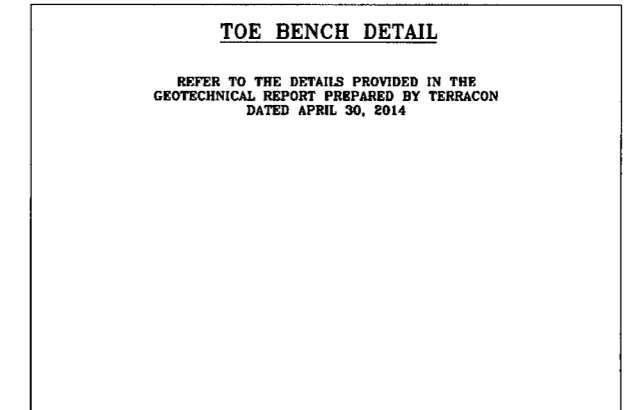
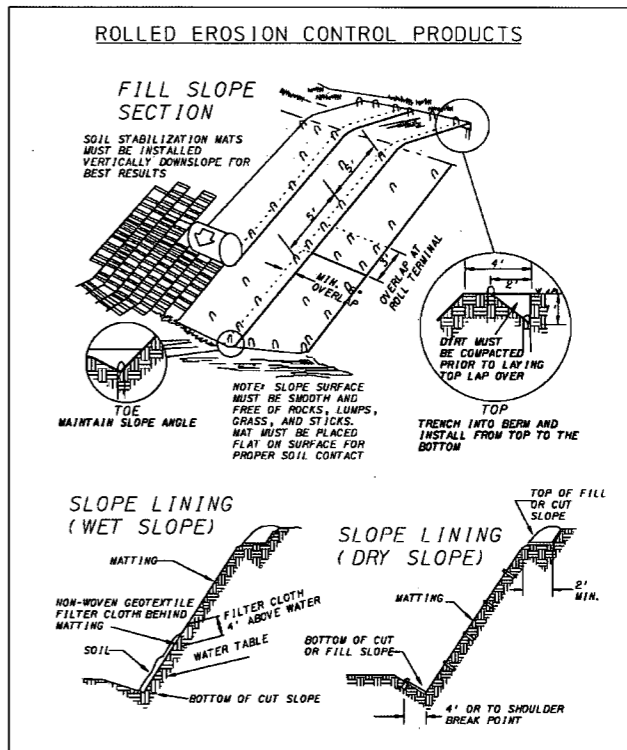
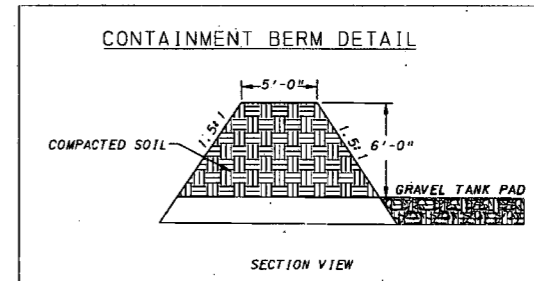
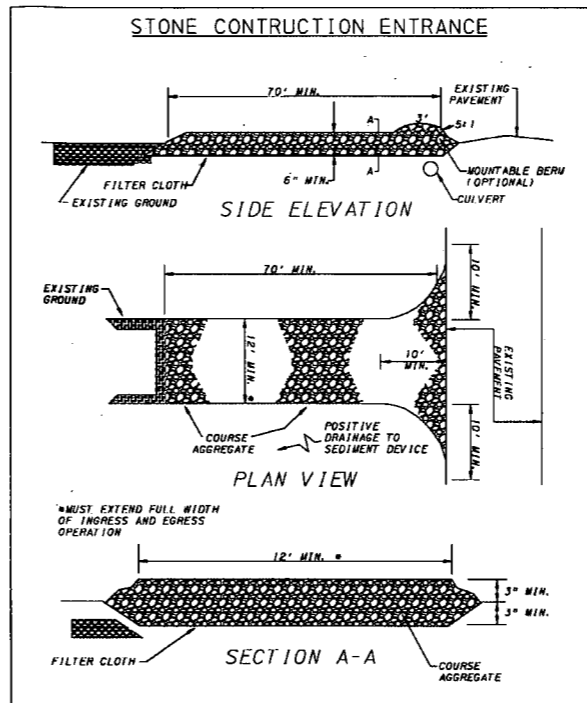
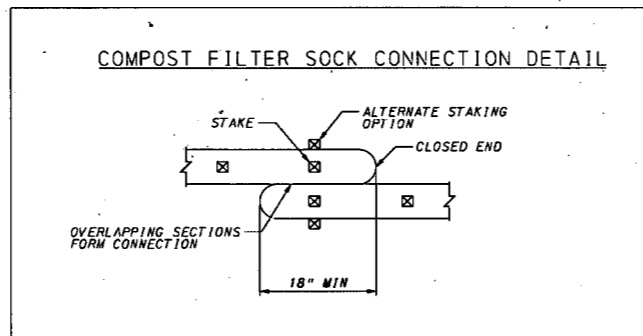
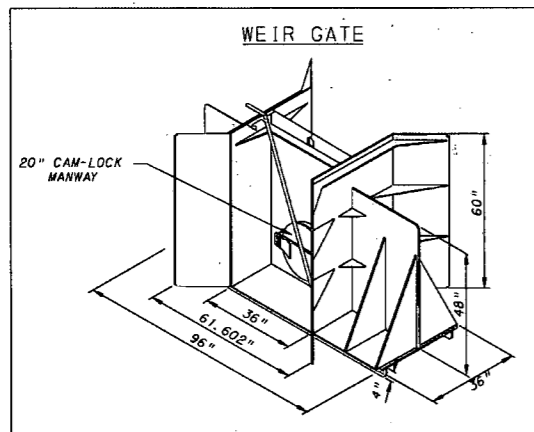


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RICHARD L. GAINES
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**ACCESS ROAD AND TANK PAD
RECLAMATION PLAN
MORRIS TANK PAD #2**
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV

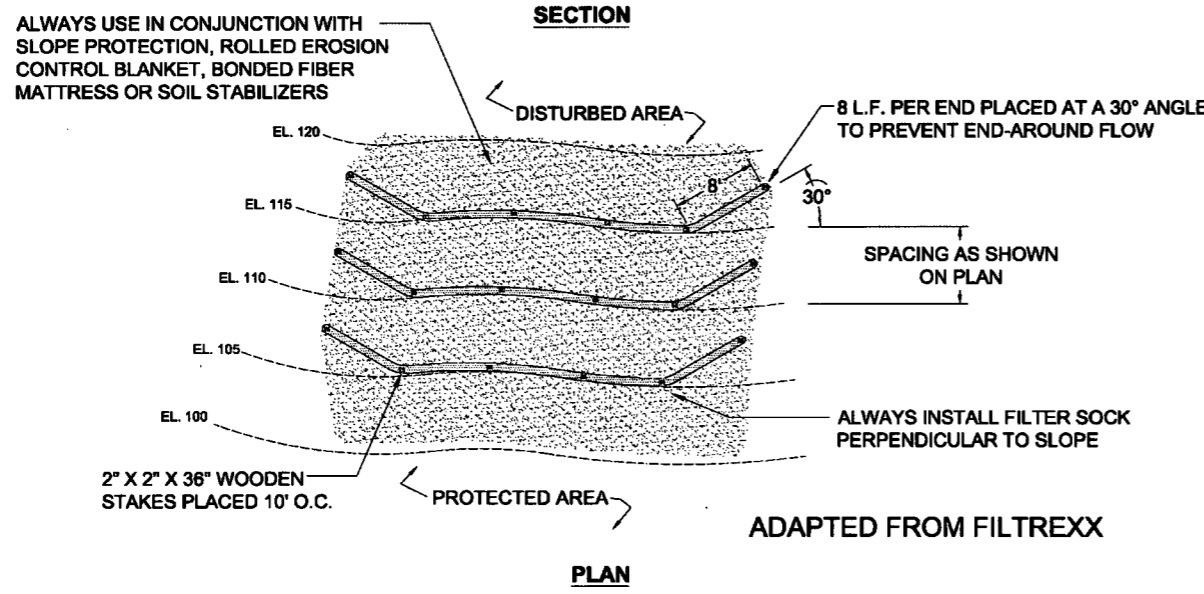
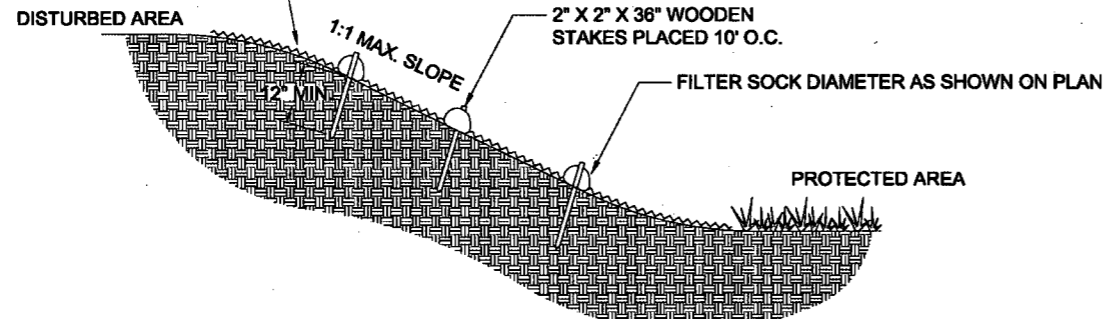
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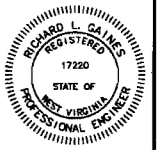
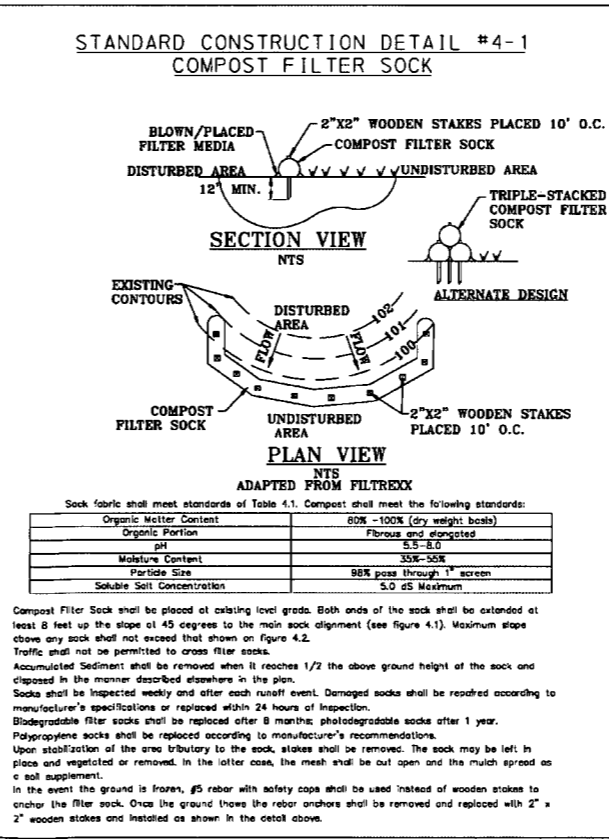


NOTES:
 1. REMOVE SEDIMENT FROM THE UPSLOPE SIDE OF THE FILTER SOCK WHEN ACCUMULATION HAS REACHED 1/2 OF EFFECTIVE HEIGHT OF FILTER SOCK
 2. LOOSE FILTER MEDIA MAY BE BACKFILLED ON THE UPSLOPE SIDE OF THE FILTER SOCK TO ENHANCE PERFORMANCE

ALWAYS USE IN CONJUNCTION WITH SLOPE PROTECTION, ROLLED EROSION CONTROL BLANKET, BONDED FIBER MATTRESS OR SOIL STABILIZERS



COMPOST FILTER SOCK SLOPE INTERRUPTION
 NTS
 (ADAPTED FROM FILTREXX)



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CONSTRUCTION DETAILS
MORRIS TANK PAD #2
 SOUTHWEST DISTRICT
 DODDRIDGE COUNTY, WV

DATE: 05/05/2014
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REVEGETATION

TAKEN FROM THE
 WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL
 WEST VIRGINIA DIVISION OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS
 CHARLESTON, W. VA.
 SECTION IV

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 INDICATED 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. ASSURE 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. SELECTIONS 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.
- 'LATHCA' FLATPEA IS POTENTIALLY POISONOUS TO SOME LIVESTOCK.
- ONLY ENDOPHYTIC FREE VARIETIES OF TALL FESCUE SHOULD BE USED. TALL FESCUE AND CROWNVEITCH 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.

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 CATS 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 & 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 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	5.0 - 7.0
SPRING OATS	95	3/1 - 6/15	WELL - POORLY	5.5 - 7.0
SUNGRASS	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 WILLET	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 50% IF PLANTED APRIL 15 - AUGUST 1 AND OCTOBER 1 - MARCH 1.

TABLE 4B
 WILDLIFE AND FARM FRIENDLY SEED MIXTURES

SPECIES/MIXTURES	SEEDING RATE (LBS/ACRE)	DRAINAGE	PH RANGE
KY BLUEGRASS	20		
REDTOP/LADINO	3	WELL - MOD. WELL	5.5 - 7.5
OR BIRDSFOOT TREFLOIL	2/10		
TIMOTHY	5	WELL - MOD. WELL	6.5 - 8.0
ALFALFA	12		
TIMOTHY	8	WELL - MOD. WELL	5.5 - 7.5
BIRDSFOOT TREFLOIL	5		
ORCHARDGRASS	10		
LADINO CLOVER	2	WELL - MOD. WELL	5.5 - 7.5
REDTOP	3		
ORCHARDGRASS	10	WELL - MOD. WELL	5.5 - 7.5
LADINO CLOVER	2		
ORCHARDGRASS	20		
PERENNIAL RYEGRASS	10	WELL - MOD. WELL	5.5 - 7.5
CREeping RED FESCUE	30		
PERENNIAL RYEGRASS	10	WELL - MOD. WELL	5.5 - 7.5
ORCHARDGRASS OR KY BLUEGRASS	20	WELL - MOD. WELL	6.0 - 7.5
BIRDSFOOT TREFLOIL	10		
REDTOP	5	WELL - MOD. WELL	5.5 - 7.5
ORCHARDGRASS	20		
LATHCO FLATPEA	30	WELL - MOD. WELL	5.5 - 7.5
PERENNIAL RYEGRASS	20		
LATHCO FLATPEA	30	WELL - MOD. WELL	5.5 - 7.5
ORCHARDGRASS	20		

* 'LATHCA' 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 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 4A
 PERMANENT SEEDING MIXTURE

SPECIES/MIXTURES	SEEDING RATE (LBS/ACRE)	DRAINAGE	PH RANGE
CROWNVEITCH/ TALL FESCUE	10 - 15	WELL - MOD. WELL	5.0 - 7.5
CROWNVEITCH/ PERENNIAL RYEGRASS	30	WELL - MOD. WELL	5.0 - 7.5
LADINO CLOVER/ SERECIA LESPEDEZA/ TALL FESCUE	10 - 15	WELL - MOD. WELL	5.0 - 7.5
TALL FESCUE/ LADINO CLOVER/ REDTOP	30	WELL - MOD. WELL	5.0 - 7.5
CROWNVEITCH/ TALL FESCUE	20	WELL - MOD. WELL	5.0 - 7.5
TALL FESCUE/ BIRDSFOOT TREFLOIL/ REDTOP	3	WELL - MOD. WELL	5.0 - 7.5
SERECIA LESPEDEZA/ TALL FESCUE/ REDTOP	40	WELL - MOD. WELL	5.0 - 7.5
TALL FESCUE/ CREEPING RED	25	WELL - MOD. WELL	4.5 - 7.5
TALL FESCUE/ CREEPING RED	30	WELL - MOD. WELL	5.0 - 7.5
TALL FESCUE	50	WELL - POORLY	4.5 - 7.5

* 'LATHCA' 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.
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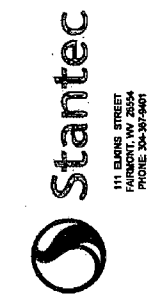
TABLE IV-5
 LIME AND FERTILIZER TABLE

PH OF SOIL	LIME IN TONS PER ACRE	FERTILIZER (LBS./PER ACRE) (10-20-20 OR EQ.)
ABOVE 6.0	2	500
5.0 TO 6.0	3	500
BELOW 5.0	4	500

TABLE IV-6
 MULCH MATERIALS LS RATES AND USED

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 DISTURBED AREAS	FOR HYDROSEEDING
PULP FIBER	1000 TO 1500 LBS		
WOOD - CELLULOSE RECYCULATED PAPER			

TABLES IV 1-4 TAKEN FROM NATURAL RESOURCES CONSERVATION SERVICE MANUAL 'CRITICAL AREA PLANTING'



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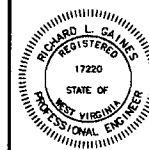
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TOE BENCH MAP

MORRIS TANK PAD #2
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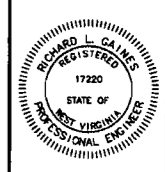
Stantec
 111 CLARKE STREET
 PHONE: 304-361-9401



EXISTING UTILITY LOCATIONS
MORRIS TANK PAD #2
SOUTHWEST DISTRICT
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DOI: 162583

Stantec
111 EMBURE STREET
PHOENIX, AZ 85001

CNX MORRIS TANK PAD #2 SITE MATERIAL QUANTITIES				
TANK PAD				
ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL
1.0 CLEARING AND GRUBBING				
1.a. TREE CLEARING	6.0	AC	\$	\$
1.b. MOWING	0	AC	\$	\$
2.0 COMPOST FILTER SOCK				
2.a. 12" COMPOST FILTER SOCK	798	LF	\$	\$
2.b. 18" COMPOST FILTER SOCK	1,038	LF	\$	\$
2.c. 24" COMPOST FILTER SOCK	1,406	LF	\$	\$
3.0 AGGREGATE SURFACING				
3.a. 12" of AASHTO #1 COMPACTED TO 8"	2,601	TONS	\$	\$
3.b. 4" of 3/4" CRUSHER RUN COMPACTED TO 2"	1,070	TONS	\$	\$
3.c. GEOTEXTILE	5,201	SY	\$	\$
4.0 SLOPE MATTING				
4.a. COCONUT SLOPE MATTING	9,959	SY	\$	\$
5.0 SEED & MULCH				
5.a. SEEDING (INCLUDES AREA OF SLOPE MATTING AND DITCH LINING)	5.4	AC	\$	\$
5.b. MULCH (EXCLUDES AREA OF SLOPE MATTING AND DITCH LINING)	3.3	AC	\$	\$
6.0 DITCH LINING (WHERE FILL SLOPE MEETS EXISTING GROUND)				
6.a. ROCK LINED (D50 = 4" MIN)	39	TONS	\$	\$
6.b. GEOTEXTILE	106	SY	\$	\$
7.0 EXCAVATION				
7.a. TANK PAD (CUT W/ 10% SWELL)	25,707	CY	\$	\$
7.b. TOPSOIL (ESTIMATED 6")	2,805	CY	\$	\$
8.0 KEYWAY EXCAVATION (TOE LENGTH x 18' AVG WIDTH x 4' AVG DEPTH)				
	3,195	CY	\$	\$
9.0 DITCH LENGTH				
	325	LF	\$	\$
10.0 TANK PAD LINER SYSTEM				
10.a. PRIMARY LINER (60 MIL)	6,732	SY	\$	\$
			\$	\$
11.0 MISCELLANEOUS				
11.a. WEIR GATE	1	EA	\$	\$
11.b. SUMP	1	EA	\$	\$

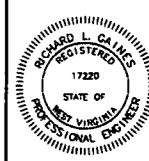
CNX MORRIS TANK PAD #2 SITE MATERIAL QUANTITIES				
ACCESS ROAD				
ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL
1.0 CLEARING AND GRUBBING				
1.a. TREE CLEARING	2.2	AC	\$	\$
1.b. MOWING	0	AC	\$	\$
2.0 COMPOST FILTER SOCK				
2.a. 12" COMPOST FILTER SOCK	1027	LF	\$	\$
2.b. 18" COMPOST FILTER SOCK	63	LF	\$	\$
2.c. 24" COMPOST FILTER SOCK	285	LF	\$	\$
3.0 AGGREGATE SURFACING				
3.a. 12" of AASHTO #1 COMPACTED TO 8"	1,708	TONS	\$	\$
3.b. 4" of 3/4" CRUSHER RUN COMPACTED TO 2"	701	TONS	\$	\$
3.c. GEOTEXTILE	3,415	SY	\$	\$
4.0 SLOPE MATTING				
4.a. COCONUT SLOPE MATTING	7,361	SY	\$	\$
5.0 SEED & MULCH				
5.a. SEEDING (INCLUDES AREA OF SLOPE MATTING AND DITCH LINING)	4.4	AC	\$	\$
5.b. MULCH (EXCLUDES AREA OF SLOPE MATTING AND DITCH LINING)	2.8	AC	\$	\$
6.0 DITCH LINING (ROADSIDE CHANNELS)				
6.a. ROCK LINED (D50 = 4" MIN)	737	TONS	\$	\$
6.b. GEOTEXTILE	1,914	SY	\$	\$
6.1 DITCH LINING (TOP OF CUT DIMENSION CHANNELS)				
6.1.a. EROSION CONTROL BLANKET (MIN SHEAR 1.55 LBS/SF)	649	SY	\$	\$
6.1.b. EROSION CONTROL BLANKET (MIN SHEAR 1.75 LBS/SF)	102	SY	\$	\$
6.1.c. TURF REINFORCEMENT MAT (MIN SHEAR 8.0 LBS/SF)	27	SY	\$	\$
6.1.d. TURF REINFORCEMENT MAT (MIN SHEAR 14.0 LBS/SF)	288	SY	\$	\$
7.0 CMP CULVERT				
7.a. 15"	366	LF	\$	\$
7.b. 18"	38	LF	\$	\$
8.0 EXCAVATION				
8.a. ACCESS ROAD (CUT W/ 10% SWELL)	7,335	CY	\$	\$
8.b. TOPSOIL (ESTIMATED 6")	2,090	CY	\$	\$
9.0 DITCH LENGTH				
	2,557	LF	\$	\$
10.0 RIP RAP APRONS (D50 = 6" MIN)				
10.a. OUTLET PROTECTION	67	TONS	\$	\$
10.b. SLOPE PROTECTION	155	TONS	\$	\$
10.c. GEOTEXTILE	339	SY	\$	\$
11.0 KEYWAY EXCAVATION (TOE LENGTH x 18' AVG WIDTH x 4' AVG DEPTH)				
	2,256	CY	\$	\$

NOTES:

1. GEOTEXTILE FABRIC, ROLLED EROSION CONTROL PRODUCT AND LINER SYSTEM QUANTITIES DO NOT ACCOUNT FOR OVERLAP.
2. THE TOE KEY EXCAVATION QUANTITY IS BASED UPON PROVIDING A TOE KEY AT THE BASE OF ALL FILL SLOPES. ACTUAL LOCATIONS OF TOE KEY MAY VARY DEPENDING ON SITE CONDITIONS AND APPLICATION OF THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT DATE APRIL 30, 2014 PREPARED BY TERRACON. NO OTHER QUANTITIES ARE PROVIDED IN CONJUNCTION WITH THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT.



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THIS DOCUMENT WAS
PREPARED BY:
STANTEC
FOR:
CHX GAS COMPANY, LLC.

CONSTRUCTION QUANTITIES
MORRIS TANK PAD #2
SOUTHWEST DISTRICT
DODDRIDGE COUNTY, WV

DATE: 05/05/2014
SCALE: AS SHOWN
DESIGNED BY: JMR/JRH
FILE NO.: SLS-8081
SHEET 19 OF 19
REV: