



Floodplain Development Permit

Doddridge County, WV Floodplain Management

This permit gives approval for the development/ project listed 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: #20-568

Date Approved: April 27, 2020 Expires: April 27, 2021

Issued to: Trans-Allegheny Interstate Line Company POC: Les Johns

Company Address: 800 Cabin Hill Road Greensburg, PA 15601

Project Address: Big Flint Road West Union, WV 26456

Firm: 54017C0130C

Lat/Long: 39.351226N, -80.702274W

Purpose of Development: Laydown Yard

Issued by: George C. Eidel, CFM, OEM Director/Doddridge County FPM (or designee)

Date: April 27, 2020

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



gai consultants, inc.
transforming ideas into reality

618 E. South Street, Suite 700
Orlando, FL 32801

Citizens Bank®

3-7615/360

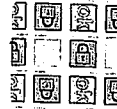
CHECK DATE

March 17, 2020

PAY Five Hundred and 00/100 Dollars

TO Doddridge County Floodplain Office
118 E. Court St
West Union, WV 25456

AMOUNT 500.00



K. R. [Signature]

AUTHORIZED SIGNATURE

Security features. Details on back.

⑈0405762⑈ ⑆036076150⑆ 6101715535⑈

GAI CONSULTANTS, INC.

COPY 405762

Check Date: 3/17/2020

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
c180795.00	3/17/2020	0503465	500.00			500.00
Doddridge County Floodplain Office						
TOTAL			500.00			500.00
GAI Citizens Checking - Use 3 this one		201401V000000000 1153				500.00

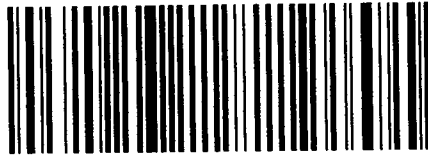
FP# 20-568

COPY

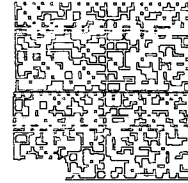
360 20 1 39PM

CERTIFIED MAIL

Doddridge County Office of Emergency Management
George Eidel, Floodplain Manager
101 Church Street, Suite 102
West Union, WV 26456



7018 3090 0001 0402 5840



HASLER

\$006.70⁰⁰

03/26/2020 ZIP 26456
012E14643162

US POSTAGE

Gerald Brunner
136 Cable Road
Weirton, WV 26062

HN

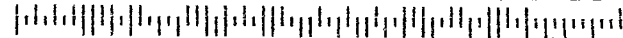
NIXIE 152 DE 1 0004/03/20

RETURN TO SENDER
NO SUCH NUMBER
UNABLE TO FORWARD

NSN

BC: 26456119427 *2271-09133-26-43

2606264561194




PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

**Gerald Brunner
136 Cable Road
Weirton, WV 26062**



9590 9402 4783 8344 2629 57

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee

X

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type
- | | |
|--|---|
| <input type="checkbox"/> Adult Signature | <input type="checkbox"/> Priority Mail Express® |
| <input type="checkbox"/> Adult Signature Restricted Delivery | <input type="checkbox"/> Registered Mail™ |
| <input type="checkbox"/> Certified Mail® | <input type="checkbox"/> Registered Mail Restricted Delivery |
| <input type="checkbox"/> Certified Mail Restricted Delivery | <input type="checkbox"/> Return Receipt for Merchandise |
| <input type="checkbox"/> Collect on Delivery | <input type="checkbox"/> Signature Confirmation™ |
| <input type="checkbox"/> Collect on Delivery Restricted Delivery | <input type="checkbox"/> Signature Confirmation Restricted Delivery |
| <input type="checkbox"/> Insured Mail | |
| <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500) | |

Doddridge County Office of
Emergency Management/Floodplain Management
105 Court Street, Suite 3
304-873-1343
doddridgecountyfpm@gmail.com



Dear Sir or Ma'am,

March 26, 2020

You are receiving this letter because you have been identified as a land surface and/or mineral rights owner for property or adjacent property related to the proposed development/project identified by the following page.

No action is required of you. This letter is simply to inform you of the proposed development.

If you would like to comment on this proposed project, or would like additional information, you may contact the Doddridge County Floodplain Manager at the above address.

Respectfully yours,

A handwritten signature in cursive script, appearing to read 'George Eidel'.

George Eidel, CFM, OEM Director/Floodplain Manager

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

John A. McMillan
4131 Wadsworth Road
Norton, OH 44203



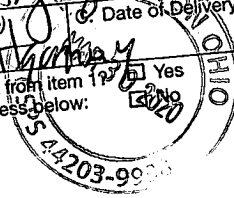
9590 9402 4783 8344 2629 64

2. Article Number (Transfer from service label)

PS Form 3811, July 2015 PSN 7530-02-000-9053.

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee
 B. Received by (Printed Name) Rebecca Montgomery C. Date of Delivery 7/20/20
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: 44203-9900



3. Service Type
- Adult Signature
 - Adult Signature Restricted Delivery
 - Certified Mail®
 - Certified Mail Restricted Delivery
 - Collect on Delivery
 - Collect on Delivery Restricted Delivery
 - Insured Mail
 - Insured Mail Restricted Delivery (over \$500)
 - Priority Mail Express®
 - Registered Mail™
 - Registered Mail Restricted Delivery
 - Return Receipt for Merchandise
 - Signature Confirmation™
 - Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Barbara McMillan
454 North Fork Road
Weirton, WV 26062



9590 9402 4783 8344 2629 40

2. Article Number (Transfer from service label)

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature Agent
 Addressee
 B. Received by (Printed Name) _____ C. Date of Delivery _____
 D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
- Adult Signature
 - Adult Signature Restricted Delivery
 - Certified Mail®
 - Certified Mail Restricted Delivery
 - Collect on Delivery
 - Collect on Delivery Restricted Delivery
 - Insured Mail
 - Insured Mail Restricted Delivery (over \$500)
 - Priority Mail Express®
 - Registered Mail™
 - Registered Mail Restricted Delivery
 - Return Receipt for Merchandise
 - Signature Confirmation™
 - Signature Confirmation Restricted Delivery

Domestic Return Receipt



Doddridge County Floodplain Permits

(Week of March 23, 2020)

Please take notice that on the (17th) of (March), 2020, (First Energy) filed an application for a Floodplain Permit (#20-568) to develop land located at or about (6984 Big Flint Rd); Coordinates: 39.351226, - 80.702274. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (April 27, 2020) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is for a lay down yard to support the construction of a new power substation

GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager

7505 2040 0402 0402 0000 0900 9108

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

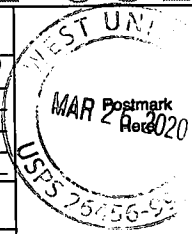
For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee	\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.15
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70

Sent To John A. McMillan
 Street and Apt. No., or PO Box No. 4131 Wadsworth Rd.
 City, State, ZIP+4® Norton, OH 44203 20-568

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



0485 2040 0402 0000 0900 9108

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

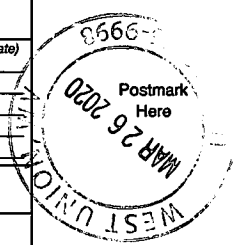
For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee	\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.15
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70

Sent To Gerald Brunner
 Street and Apt. No., or PO Box No. 136 Cable Rd.
 City, State, ZIP+4® Weirton, WV 26062 20-568

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



7505 2040 0402 0000 0900 9108

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

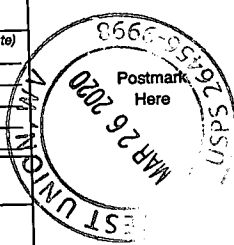
For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee	\$ 3.45
Extra Services & Fees (check box, add fee as appropriate)	
<input checked="" type="checkbox"/> Return Receipt (hardcopy)	\$ 2.15
<input type="checkbox"/> Return Receipt (electronic)	\$
<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$.50
Total Postage and Fees	\$ 6.70

Sent To Barbara McMillan
 Street and Apt. No., or PO Box No. 454 North Fork Rd.
 City, State, ZIP+4® Weirton, WV 26062 20-568

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



FLOODPLAIN PERMIT #20-568

First Energy, Big Flint Road Laydown Yard 39.351226, -80.702274

TASK	COMPLETE (DATE)	NOTES
CHECK RECEIVED	3/18/2020	
US ARMY CORP. ENGINEERS (USACE)		
US FISH & WILDLIFE SERVICES (USFWS)		
WV DEPT. NATURAL RESOURCES (WVDNR)		
WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)	3/18/2020	
STATE HISTORIC & PRESERVATION OFFICE (SHPO)		
OFFICE of LAND & STREAM (OLS)		
DATE OF COMMISSION READING	4/7/2020	
DATE AVAILABLE TO BE GRANTED	4/27/2020	
PERMIT GRANTED		
COMPLETE		

state Rd 3/18/2020

7018 3090 0001 0402 5833

7018 3090 0001 0402 5857

7018 3090 0001 0402 5840



Doddridge County Floodplain Permits

(Week of March 23, 2020)

Please take notice that on the (17th) of (March), 2020, (First Energy) filed an application for a Floodplain Permit (#20-568) to develop land located at or about (6984 Big Flint Rd); Coordinates: 39.351226, -80.702274. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 29B Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (April 27, 2020) (20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting) delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is for a lay down yard to support the construction of a new power substation

GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager



Permit# 20-568
Project Name: Big Flint Laydown Yard
Permittees Name: First Energy

APR 22 11:56 AM

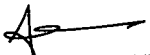
Doddridge County, WV

Floodplain Development Permit Application

This document is to be used for projects that impact/potentially impact 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.

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. The permit will expire if no work is commenced within six months of issuance.
5. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal requirements.
6. Applicant hereby gives consent to the Floodplain Administrator/Manager or his/her representative to make inspections to verify compliance.
7. 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 03/16/2020

**Doddridge County Commercial/Industrial
Floodplain Development Permit Application**

Applicant Information:

Please provide all pertinent data.

Applicant Information		
Responsible Company Name: Trans-Allegheny Interstate Line Company (A FirstEnergy Company)		
Corporate Mailing Address: 800 Cabin Hill Drive		
City: Greensburg	State: PA	Zip: 15601
Corporate Point of Contact (POC): Amanda Habershaw		
Corporate POC Title: Supervisor, Energy Delivery Permitting		
Corporate POC Primary Phone: 724-830-7657		
Corporate POC Primary Email: ahabers@firstenergycorp.com		
Corporate FEIN: 20-5764484	Corporate DUNS: 82-827-9070	
Corporate Website: https://www.firstenergycorp.com/fehome.html		
Local Mailing Address: 4818 Big Battle Run		
City: Salem	State: WV	Zip: 26426
Local Project Manager (PM): Les Johns		
Local PM Primary Phone: 304.723.6273		
Local PM Secondary Phone: 304.266.6716		
Local PM Primary Email: ljohns@firstenergycorp.com		
Person Filing Application: Duncan M. Nickles, PE		
Applicant Title: Engineering Manager		
Applicant Primary Phone: 412.399.5513		
Applicant Secondary Phone: 724.406.5094		
Applicant Primary Email: d.nickles@gaiconsultants.com		

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Project Narrative:

Describe in detail the proposed development including project name/title, type of development, estimated start and completion timeline, and its potential impact on the floodplain. Use additional copies of this page as needed.

Project Narrative:

TrAILCo is proposing the use of this property for a temporary laydown and storage facility. No permanent features or structures are proposed to be constructed on the property. The site will be used for storage, laydown, parking, and temporary construction office trailers. Minor grading is proposed to level the site; topsoil will be removed and stockpiled and a temporary aggregate surface will be established. After the property is no longer needed, the aggregate will be removed and the topsoil redistributed over the disturbed area and re-seeded. After the vegetation has been established, the WVDEP NPDES Permit will be closed. All material will be removed from the site and it will be restored to a pre-developed condition.

It is our professional opinion that there will be no impacts to the flood elevations due to this proposed temporary use. Minor grading to make the area useful as a laydown area would not typically be captured by a hydraulic evaluation of a stream or river. Minor changes to the overbank Manning's roughness coefficients are anticipated to be negligible; changing from a meadow / lawn condition to an aggregate (considered impervious) surface may actually reduce the roughness and improve flow elevations in this minor area. The aggregate surface that will be provided will be placed at the same elevation as the topsoil that is being temporarily removed. The topsoil stockpile that will be located on the site is not large enough to constitute an impediment to the flood carrying capacity of the floodplain overbank area as it will be placed at the very outer edge of the floodplain area and will be a minor overbank feature rather than a general change to the entire overbank area that would be captured in a hydraulic cross section.

The property is actually comprised of two parcels or portions of two parcels. Parcel 1 is identified as Flint Run Lot 4 and is owned by John McMillan. Parcel 2 is identified as Flint Run Lot 5 and is owned by Gerald Brunner and Barbara McMillan.

Doddridge County Commercial/Industrial
Floodplain Development Permit Application

Proposed Development:

Please check all elements of the proposed project that apply.

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:

- | | | | |
|---|---------------------------------|-----------------------------------|-------------------------------------|
| <input type="checkbox"/> Fill | <input type="checkbox"/> Mining | <input type="checkbox"/> Drilling | <input type="checkbox"/> Pipelining |
| <input type="checkbox"/> Grading | | | |
| <input type="checkbox"/> Excavation (except for STRUCTURAL DEVELOPMENT checked above) | | | |
| <input type="checkbox"/> Watercourse Alteration (including dredging and channel modification) | | | |
| <input type="checkbox"/> Drainage Improvements (including culvert work) | | | |
| <input type="checkbox"/> Road, Street, or Bridge Construction | | | |
| <input type="checkbox"/> Subdivision (including new expansion) | | | |
| <input type="checkbox"/> Individual Water or Sewer System | | | |
| <input checked="" type="checkbox"/> Other (please specify) | | | |

TrAILCo is proposing the use of this parcel for a temporary laydown and storage facility. No permanent features or structures are proposed to be constructed on the property. The site will be used for storage, laydown, parking, and temporary construction office trailers. Minor grading is proposed to level the site; topsoil will be removed and stockpiles and a temporary aggregate surface will be established. After the property is no longer needed, the aggregate will be removed and the topsoil redistributed over the disturbed area and re-seeded. All material will be removed from the site and it will be restored to a pre-developed condition.

Doddridge County Commercial/Industrial Floodplain Development Permit Application

Development Site/Property Information:

Please provide physical description of the site/property, along with pertinent ownership (surface and mineral rights) data as applicable. Attach appropriate maps from the WV Flood Tool showing location of proposed development. Use additional copies of this page if development spans multiple property boundaries. Designate each property by number (i.e. Property 1 of 1, Property 2 of 7, etc.)

Property Designation: ____ of ____

Site/Property Information:

Legal Description: The lots - identified as Flint Run Lot 4 and Flint Run Lot 5 - are located on the west side of County Route 3 / Big Flint Road approximately 1,000 feet south of the intersection of Riggins Run Road.		
Physical Address/911 Address: No property address available.		
Decimal Latitude/Longitude: Lat. 39.35085 N Long. 80.70202 W		
DMS Latitude/Longitude: Lat. 39 deg 21' 3.06" N Long. 80 deg 42' 7.29"W		
District:	Map:	Parcel:
Land Book Description:		
Deed Book Reference: Lot 4: WB 48 PG 391, DB 263 PG 290, DB 254 PG 125 Lot 5: WB 104 PG 146, DB 302 PG 76, DB 298 PG 527		
Tax Map Reference: Lot 4: 09 Lot 5: 06		
Existing Buildings/Use of Property: Both lots are currently unoccupied and open lawn / meadow.		

Floodplain Location Data: (to be completed by Floodplain Manager or designee)

Community Doddridge County, Unincorporated Areas, WV	Number: 54017C	Panel: 0130C	Suffix: C
Location (Lat/Long): Lat. 39.35085 N Long. 80.70202 W	Approximate Elevation: The floodplain is a Zone A area with no BFE identified. Estimated BFE:		
Is the development in the floodway? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is the development in the floodplain? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Zone: = A =		
Notes: A copy of the FEMA FIRM panel, a FIRMette created from the FEMA website, is attached to this application.			

Doddridge County Commercial/Industrial Floodplain Development Permit Application

Property Owner Data:

Please provide data on current site/property landowner(s), both surface and mineral rights (as applicable). Use additional copies of this page as needed. Designate each page in relation to each property listed above.

Property Designation: ____ of ____

Property Owner Data:		
Name of Primary Owner (PO): _____ See attached sheet.		
PO Address: _____		
City: _____	State: _____	Zip: _____
PO Primary Phone: _____		
PO Secondary Phone: _____		
PO Primary Email: _____		

Surface Rights Owner Data:		
Name of Primary Owner (PO): _____ Surface rights will be retained by the individual Property Owners; this is a temporary use only.		
PO Address: _____		
City: _____	State: _____	Zip: _____
PO Primary Phone: _____		
PO Secondary Phone: _____		
PO Primary Email: _____		

Mineral Rights Owner Data: (As Applicable)		
Name of Primary Owner (PO): _____ Not Applicable		
PO Address: _____		
City: _____	State: _____	Zip: _____
PO Primary Phone: _____		
PO Secondary Phone: _____		
PO Primary Email: _____		

Property Owner Information (from p.6)

Flint Run Lot 4

Owner: John A. McMillan
4131 Wadsworth Road
Norton, OH 44203

Deed Book Description: WB 48 PG 391, DB 263 PG 290, DB 254 PG 125

Tax Map Reference: 09

Flint Run Lot 5

Owner #1: Gerald Brunner
136 Cable Road
Weirton, WV 26062

Owner #2 Barbara McMillan
454 North Fork Road
Weirton, WV 26062

Deed Book Description: WB 104 PG 146, DB 302 PG 76, DB 298 PG 527

Tax Map Reference: 06

Doddridge County Commercial/Industrial Floodplain Development Permit Application

Contractor Data:

Please provide all pertinent data for contractors and sub---contractors that may be participating in this project. Use additional copies of this page as needed. Designate each page in relation to each property listed above.

Property Designation: ____ of ____

Contractor/Sub-Contractor (C/SC) Information:			
C/SC Company Name:		Independence Excavating, Inc.	
C/SC WV License Number:		WV041715	
C/SC FEIN: 34-0938274		C/SC DUNS: 00-452-5580	
Local C/SC Point of Contact (POC):		Tom Shimek	
Local C/SC POC Title:		Superintendent	
C/SC Mailing Address:		5720 Schaaf Road	
City: Independence		State: OH	Zip-Code: 44131
Local C/SC Office Phone:			
Local C/SC POC Phone:		216.973.6786	
Local C/SC POC E-Mail:		tshimek@indexc.com	

Engineer Firm Information:			
Engineer Firm Name:		GAI Consultants, Inc.	
Engineer WV License Number:		WV043839	
Engineer Firm FEIN: 25-1260999		Engineer Firm DUNS: 04-721-1677	
Engineer Firm Primary Point of Contact (POC):		Duncan Nickles	
Engineer Firm Primary POC Title:		Engineering Manager	
Engineer Firm Mailing Address:		6000 Town Center Boulevard, Suite 300	
City: Canonsburg		State: PA	Zip-Code: 15317
Engineer Firm Office Phone:		412.399.5513	
Engineer Firm Primary POC Phone:		724.406.5094	
Engineer Firm Primary POC E-Mail:		d.nickles@gaiconsultants.com	

Adjacent and/or Affected Landowners Data

Please provide data for all adjacent and/or affected surface owners (both up and down stream) whose property may be impacted by proposed development as demonstrated by a floodplain study or survey. Use additional copies of this page as needed.

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Adjacent Property Owner Data: Upstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

Adjacent Property Owner Data: Downstream		
Name of Primary Owner (PO):		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

See attached Sheet for Adjacent Property Owner Data

Adjacent Property Owner Information:

Flint Run Lot 4

Upstream- SCOTTY W & MARTHA DIANE RUBLE, BRIAN P MCMILLAN
Downstream- BARBARA MCMILLAN, GARY L & JEFFREY LYNN MCMILLAN

Flint Run Lot 5

Upstream- John McMillan, SCOTTY W & MARTHA DIANE RUBLE
Downstream- GARY L & JEFFREY LYNN MCMILLAN, CHARLES A FETTY

Site Plan

A Site Plan is an accurate and detailed map of the proposed development for this project. It shows the size, shape, location and special features of the project property, and the size and location of any development planned to the property, especially as that development will impact the floodplain and/or floodway. Site plans show what currently exists on the project property, and any changes or improvements you are proposing to make. **A certified and licensed engineering firm should complete site plans.**

A SITE PLAN MUST CONTAIN THE FOLLOWING INFORMATION:

1. Legal description of the parcel, north arrow and scale
2. All property lines and their dimensions
3. Names of adjacent roads, location of driveways
4. Location of sloughs, tributaries, streams, rivers, wetlands, ponds, and lakes, with setbacks indicated, and including FEMA floodplain data based on most updated FIRM.
5. Location, size, shape of all buildings, existing and proposed, with elevation of lowest floor indicated.
6. Location and dimensions of existing or proposed on-site sewage systems.
7. Location of all propane tanks, fuel tanks or other liquid storage tanks whether above ground or below ground level.
8. Location and dimensions of any proposed pipeline placement(s) into floodplain/floodway.
9. Location and dimensions of any roadway development into floodplain/floodway. *(Includes initial development accessroads)*
10. Location and dimensions of any bridge and/or culvert development into floodplain/floodway.
11. Location and dimensions of any storage yard or facility into the floodplain/floodway.
12. Location of any existing utilities and/or proposed utility placement and/or displacement.
13. Location, dimensions and depth of any existing or proposed fill on site.
14. A survey showing the **existing ground elevations** of at least location on the building site. **ELEVATION NOTE:** All vertical datum will reference either NGVD 29 or NAVD 88. Assumed datum will not be acceptable unless the property is located in an area where vertical datum has not been published. For those areas where vertical datum has not been established, a site plan with contours, elevations using assumed datum, high water marks and existing water levels of sloughs, rivers, lakes or streams and proposed lowest floor elevation.

See attached sheet for Site Plan description addressing these requirements.

The Stormwater Pollution Prevention Plans for this project have been included in support of this application.

Big Flint Laydown Yard Site Plan Information

Per the Doddridge County Floodplain Permit Application, a Site Plan is required to be submitted in support of the application for development in identified floodplains. This project is identified to be located in a Zone A floodplain as identified on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Doddridge County and Unincorporated Areas; the area is identified on FIRM panel 54017C0130C dated October 4, 2011.

This project is to be a temporary construction laydown (and storage) yard and will only be used for a temporary period of time. No permanent structures will be constructed. Only minor grading will be performed to flatten the site.

The Floodplain Permit Application requires the following:

1. Legal description of the parcel, north arrow and scale.
A legal description has not been included as this is a temporary use and the property is not being purchased. After completion, it will return to its current use. A north arrow and scale bar have been included on the attached plans.
2. All property lines and their dimensions.
Property lines have been identified on the attached plans. Dimensions have not been included.
3. Names of adjacent roads, location of driveways.
Adjacent roads and driveways have been identified on the attached plans.
4. Location of sloughs, tributaries, streams, rivers, wetlands, ponds, and lakes, with setbacks indicated, and including FEMA floodplain data based on most updated FIRM.
Locations of all environmental features identified adjacent to the site have been identified on the attached plans.
5. Location, size, shape of all buildings, existing and proposed, with elevation of lowest floor indicated.
No buildings are in existence or are proposed on the site.
6. Location and dimensions of existing or proposed on-site sewage systems.
There are no existing on-site sewage systems; no permanent on-site sewerage systems are proposed. Temporary facilities (port-a-johns) may be provided.
7. Location of all propane tanks, fuel tanks or other liquid storage tanks whether above ground or below ground level.
No permanent propane, fuel, or liquid storage tanks are proposed at the site.
8. Location and dimensions of any proposed pipeline placement(s) into floodplain/floodway.
No pipelines are proposed on the site.
9. Location and dimensions of any roadway development into floodplain/floodway (includes initial development access roads).
No roadways are proposed for the site. The entire site will be used as a laydown/storage area.
10. Location and dimension of any bridge and/or culvert development into the floodplain/floodway.
No bridges or culverts are proposed at the site.
11. Location and dimensions of any storage yard or facility into the floodplain/floodway.
The entire project site will be utilized as a storage yard. The entire yard will be located in a Zone A floodplain as identified by FEMA on FIRM panel 54017C0130C dated October 4, 2011.


12. Location of any existing utilities and/or proposed utility placement and/or displacement.
No existing utilities exist within the site. No permanent utilities are proposed for the site.
13. Location, dimensions and depth of any existing or proposed fill on site.
No fill is located on the site and no additional fill is proposed to be brought to the site. The existing topsoil will be removed and stockpiled on site during the temporary use of the site. The aggregate surface that will be brought to the site will be removed from the site after the use of the site has been completed. The topsoil will be replaced and re-seeded after the use of the yard has been completed.
14. A survey showing the existing ground elevations of at least location of the building site.
Elevation Note: All vertical datum will reference either NGVD 29 or NAVD88. Assumed datum will not be acceptable unless the property is located in an area where vertical datum has not been published. For those area where vertical datum has not been established, a site plan with contours, elevations using assumed datum, high water marks and existing water levels of sloughs, rivers, lakes or streams and proposed lowest floor elevation.

Contour elevations have been identified on the attached plans. Elevations are in NAVD88.

Applicant

Please read print name, sign and date below:

- I certify that I am authorized to submit this application for the primary project developer.
- I certify that the information included in this application is to the best of my knowledge true and complete.
- I certify that all required Federal, State, and local permits required by law and/or ordinance for the above described development of this project have will be properly attained, are current and valid, and must be presented prior to a Doddridge County Floodplain Permit being issued.
- I understand that if in the course of the development project additional permits become required that were not needed during the initial proposal, the primary developer must notify the Doddridge County Floodplain Manager within 48 hours of such need, and that a "Stop Work" order may be issued for all project work directly impacting the floodplain or floodway, until such time the required additional permits are acquired.
- I understand that once the floodplain permit is submitted, the application will be entered into official public record at the next regularly scheduled Doddridge County Commission meeting after the date of submittal.
- I understand that from the date of submittal of the fully completed permit application, the Doddridge County Floodplain Manager has ninety (90) days to make a determination to either grant or deny said permit application. During this approval period, the Doddridge County Floodplain Manager may, at his or her discretion, conduct a review and/or additional study of provided documentation by means of an independent engineering firm. All costs associated with said review and/or study must be reimbursed to the County before issuance of approved permit.
- I understand that during the approval period, the Doddridge County Floodplain Manager of designee may at his or her discretion conduct site visits and document conditions of proposed development pursuant to the permit application.
- I understand that once the Floodplain Permit is granted, the permit will be entered into official public record. Appeals to the permit may be made no later than twenty (20) days after said issuance. If a valid appeal is submitted, as determined by the Doddridge County Floodplain Manager, a "Stop Work" order will be issued for all project development directly involving the floodplain or floodway. A public hearing by the Doddridge County Appeals Board will be scheduled no less than ten (10) days after the next regularly scheduled Doddridge County Commission meeting.
- I understand that all decisions of the Doddridge County Appeals Board shall be final.
- **I understand issuance of a Floodplain Permit authorizes me to proceed with construction as proposed.**
- In signing this application, the primary developer hereby grants the Doddridge County Floodplain Manager or designee the right to enter onto the above---described location to inspect the development work proposed, in progress, and/or completed.
- I understand that if I do not follow exactly the site---plan submitted and approved by this permit that a "Stop Work" order may be issued by the Doddridge County Floodplain Manager and that I must stop all construction immediately until discrepancies of actual work vs. proposed work is resolved.

Applicant Signature: _____  Date: 03/16/2020

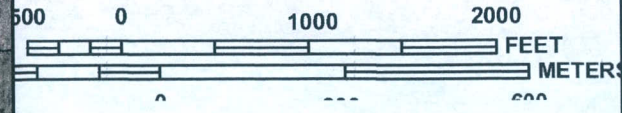
Applicant Printed Name: Amanda B. Habershaw



Approximate location of Big Flint Laydown Yard



MAP SCALE 1" = 1000'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0130C

FIRM

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

PANEL 130 OF 325
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DODDRIDGE COUNTY	540024	0130	C

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



**MAP NUMBER
54017C0130C
MAP REVISED
OCTOBER 4, 2011**

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

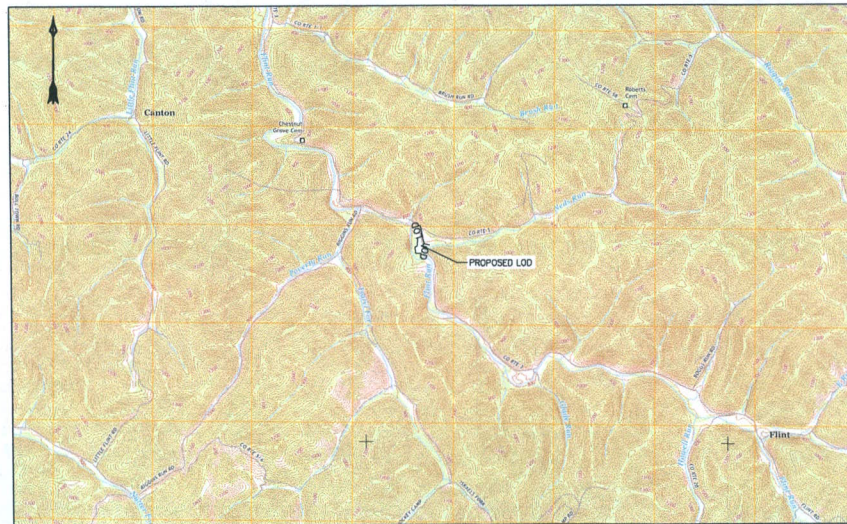
TRANS-ALLEGHENY INTERSTATE LINE COMPANY (TrAILCo) - A FIRSTENERGY COMPANY

FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
DODDRIDGE COUNTY, WEST VIRGINIA

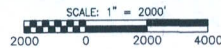
DECEMBER 2019

REVISED JANUARY 2020

INDEX OF DRAWINGS	
DRAWING NUMBER	SHEET TITLE
001	COVER
002	EROSION AND SEDIMENT CONTROL NOTES AND LEGEND
003	OVERALL EXISTING CONDITION PLANS
004	EROSION AND SEDIMENT CONTROLS
005	EROSION AND SEDIMENT CONTROL DETAILS (1 OF 2)
006	EROSION AND SEDIMENT CONTROL DETAILS (2 OF 2)



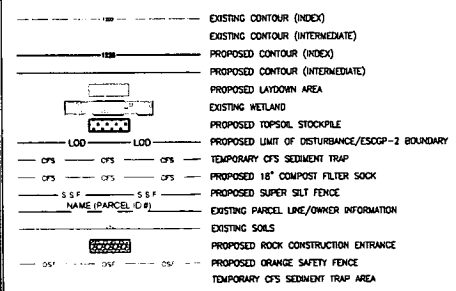
REFERENCE:
 * USGS 7.5 MINUTE QUADRANGLE SMITHBURG, WEST VIRGINIA, DATED 2016
 * USGS 7.5 MINUTE QUADRANGLE SALEM, WEST VIRGINIA, DATED 2016



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DRAWING TITLE		CLIENT		GAI FILE NUMBER:	
COVER		FIRSTENERGY SERVICE COMPANY		001 OF 006	
PROJECT		800 CABIN HILL DRIVE		SHEET NO.:	
FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD		GREENSBURG,		NO. DATE	
DODDRIDGE COUNTY, WEST VIRGINIA		PENNSYLVANIA, 15601		DWN. CHK. APY. NICKLDM	
ISSUING OFFICE: Pittsburgh 380 East Washington Drive, Homestead, PA 15120		REVISION RECORD		DESCRIPTION	
This drawing was produced with computer aided drafting technology and is supported by electronic drawing files. Do not view this drawing on manual drafting methods.		NUMBER ALT. CLIENT DRAWING NUMBER:		1 01/07/2020 BRANTLR NICKLDM	
		GAI CONSULTANTS		C180795-09-000-00-E-001	
DRAWN BY:		CHECKED BY:		APPROVED BY:	
BRANTLR		PANEKJA		NICKLDM	
DWG TYPE:		SCALE:		ISSUE DATE:	
AS BHOWN		01/31/2020			
GAI DRAWING NUMBER:					
C180795-09-000-00-E-001					
© 2019 GAI Consultants					



CONSTRUCTION SCHEDULE

CONSTRUCTION ON THE PROJECT IS SCHEDULED TO START IN FEBRUARY 2020 AND BE COMPLETED IN SEPTEMBER OF 2020. THE FOLLOWING IS A TYPICAL TIMELINE OF CONSTRUCTION ACTIVITIES TO BUILD THE SUBSTATION, TRANSMISSION LINE STRUCTURES, AND ASSOCIATED CONSTRUCTION ACTIVITIES.

INSTALLATION OF EASC BAPS WILL BEGIN IMMEDIATELY UPON ISSUANCE OF THE PERMITS.

INITIAL GRADING TO ELEVATIONS SHOWN ON DRAWINGS, INSTALL GEOTEXTILE FABRIC AND AGGREGATE SURFACING.

TOPSOIL WILL BE STORED IN THE TOPSOIL STOCKPILE AREA.

TEMPORARY SEEDING AND MULCHING WILL BE INSTALLED, WHEN REQUIRED, PER THE EASC AND WVEEP REGULATIONS.

EASC BAPS MAY BE REMOVED AFTER 70 PERCENT VEGETATIVE COVER IS ACHIEVED.

AFTER CONSTRUCTION IS COMPLETE, A NOTICE OF TERMINATION WILL BE FILED WITH THE WDEP.

POTENTIAL EROSION PROBLEM AREAS

THE LAYDOWN YARD WILL HAVE THE MOST POTENTIAL FOR EROSION. EASC BEST MANAGEMENT PRACTICES (BMP) WILL BE USED TO MITIGATE FOR SEDIMENT LAUNCH RISK FROM THE DISTURBED AREAS. THE BAPS INCLUDE SILT FENCE, SUPER SILT FENCE, COMPOST FILTER SOCK, STABILIZED CONSTRUCTION ENTRANCES, VEGETATIVE STABILIZATION, AND TEMPORARY AND PERMANENT SEEDING AS SHOWN ON THE EASC DETAIL SHEETS.

STABILIZE SOILS

TEMPORARY SEEDING WILL BE USED WHERE EXPOSED SOIL SURFACES ARE NOT TO BE FINE-GRADED FOR PERIODS LONGER THAN 14 DAYS. A PERMANENT VEGETATIVE COVER SHALL BE APPLIED TO AREAS THAT WILL BE LEFT UNWORKED FOR A PERIOD OF MORE THAN SIX MONTHS. IT SHALL ALSO BE USED IN DISTURBED AREAS WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL. APPLICABLE PRACTICES INCLUDE TEMPORARY AND PERMANENT SEEDING, MULCHING, SILT FENCE, SUPER SILT FENCE, COMPOST FILTER SOCK.

TEMPORARY AND PERMANENT VEGETATIVE STABILIZATION, EXCEPT AS NOTED BELOW, SHALL BE INITIATED AS SOON AS PRACTICABLE IN ALL PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED.

- WHERE THE INITIATION OF TEMPORARY OR PERMANENT STABILIZATION MEASURES BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS CONDITIONS ALLOW.
- WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED (E.G., THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY HALTED IS LESS THAN 14 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH DAY AFTER CONSTRUCTION ACTIVITIES HAVE TEMPORARILY CEASED.
- AREAS WHERE THE SEED HAS FAILED TO GERMINATE ADEQUATELY (UNIFORM PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT) WITHIN 30 DAYS AFTER SEEDING AND MULCHING MUST BE RESEEDING IMMEDIATELY, OR AS SOON AS REPAIR CONDITIONS ALLOW.

STABILIZATION

THE CONSTRUCTION SITE SHOULD BE STABILIZED AS SOON AS POSSIBLE AFTER COMPLETION OF FINAL COVER MUST BE INITIATED NO LATER THAN SEVEN DAYS AFTER REACHING FINAL GRADE. A NOTICE OF TERMINATION MUST BE FILED WITH THE WDEP WHEN THE SITE REACHES FINAL STABILIZATION. FINAL STABILIZATION MEANS THAT ALL SOIL-DISTURBING ACTIVITIES ARE COMPLETED, AND THAT EITHER A PERMANENT VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OR GREATER HAS BEEN ESTABLISHED OR THAT THE SURFACE HAS BEEN STABILIZED BY HARD COVER SUCH AS PAVEMENT, GRAVEL, OR BUILDINGS. IT SHOULD BE NOTED THAT THE 70 PERCENT REGENERATION REFERS TO THE TOTAL AREA VEGETATED AND NOT JUST A PERCENTAGE OF THE SITE.

PROTECT SLOPES

THE PROJECT LIMIT OF DISTURBANCE INCLUDES A PROPOSED LAYDOWN YARD.

DEPENDENT ON LAND SLIPS, SILT FENCE, SUPER SILT FENCE, OR COMPOST FILTER SOCK WILL BE PLACED DOWNSLOPE OF ALL DISTURBED AREAS. STABILIZATION OF DISTURBED AREAS 3:1 OR GREATER WILL APPLY ROLLED EROSION CONTROL PRODUCTS AND SEED.

THE MAJORITY OF THE SOIL TYPES OF THIS PROJECT HAVE A SLIGHT TO MODERATE EROSION HAZARD. TEMPORARY AND PERMANENT SEEDING WILL BE USED TO MITIGATE RISK OF SLOPES.

MAINTAIN BAPS

TEMPORARY EASC BAPS SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE. SEDIMENT CONTROL BAPS SHALL BE INSPECTED EVERY FOUR CALENDAR DAYS OR AFTER EACH STORM OF 0.25-INCHES OR GREATER OVER FOUR CALENDAR DAYS, OR AFTER A 24-HOUR STORM EVENT OF 0.25-INCHES OR GREATER. REQUIRED REPAIRS WILL BE MADE AS SOON AS PRACTICABLE. TEMPORARY EASC BAPS SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BAPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL RESULTING FROM REMOVAL OF BAPS OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

AT A MINIMUM, THE BAPS ON THE SITE ARE INSPECTED AT LEAST ONCE EVERY FOUR CALENDAR DAYS AND WITHIN 24-HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.25 INCHES OF RAIN PER 24 HOUR PERIOD. REQUIRED REPAIRS WILL BE MADE IMMEDIATELY.

SILT FENCES AND COMPOST FILTER SOCK MAINTENANCE

- SILT FENCES AND COMPOST FILTER SOCKS SHALL BE INSPECTED IMMEDIATELY AFTER EACH INFLOW OF 0.25 INCHES OR GREATER IN A 24-HOUR PERIOD OR ONCE EVERY FOUR CALENDAR DAYS. ANY REQUIRED REPAIRS OR MAINTENANCE SHALL BE MADE AS SOON AS PRACTICABLE.
- CLOSE ATTENTION SHOULD BE PAID TO THE REPAIR OF DAMAGED COMPOST FILTER SOCK OR SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING. IF THE SOCK OR FENCE IS NOT INSTALLED ON THE CONTOUR (PERPENDICULAR TO THE FLOW OF THE WATER) BOTH OF THESE CONDITIONS CAN OCCUR.
- SHOULD THE FABRIC ON A COMPOST FILTER SOCK OR SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED.
- SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
- IF SECTION OF COMPOST FILTER SOCK OR SILT FENCE IS BROKEN DOWN OR UNDERCUT, DURING A STORM EVENT (BECAUSE IT WAS INSTALLED IN AN AREA OF CONCENTRATED FLOW) THEN OTHER MEASURES SUCH AS A SEDIMENT TRAP, WATER DIVERSION, OR A LARGER SIZED COMPOST FILTER SOCK MAY BE INSTALLED.

STABILIZED CONSTRUCTION ENTRANCE MAINTENANCE

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOPING OF SEDIMENT ONTO PUBLIC ROW. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROW MUST BE REMOVED.
- VEHICLES ON ALL VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT FROM TO ENTRANCE ONTO PUBLIC ROW. IF WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO APPROVED SEDIMENT TRAPPING DEVICE. IF THE STREET IS WASHED PRECAUTIONS MUST BE TAKEN TO PREVENT Muddy WATER FROM RUNNING INTO WATERWAYS OR STORM SEWERS.
- VEHICLE MAINTENANCE SHOULD BE PROVIDED DAILY BUT AT A MINIMUM EVERY FOUR CALENDAR DAYS AND AFTER EVERY RAIN OF 0.25 INCHES OR GREATER DURING A 24-HOUR PERIOD.

REFERENCE NOTES:

PARCEL LINES AND OWNER:
PARCEL LINES SHOWN ARE PUBLICLY AVAILABLE FILES.

WETLAND DATA:
WEST VIRGINIA GIS TECHNICAL CENTER (WVGSITC), 2018, ACCESSSED 02/19/20

ELEVATION DATA:
ELEVATIONS ARE BASED ON THE 2011 CONTOUR INFORMATION SHOWN IS PUBLICLY AVAILABLE LEAD DERIVED FROM USGS DIGITAL ELEVATION MODELS, 2018, ACCESSSED 05/20/18.

CONSTRUCTION PHASING SCHEDULE:

THIS CONSTRUCTION SEQUENCE IS INTENDED TO PROVIDE A GENERAL COURSE OF ACTION DURING PROJECT CONSTRUCTION TO CONFORM TO APPLICABLE REGULATORY AGENCY REQUIREMENTS FOR TEMPORARY SOIL EROSION AND SEDIMENT CONTROL BAPS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH WDEP AND ANY APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS. ANY NECESSARY PARTS FOR PROPER AND COMPLETE EXECUTION OF WORK PERTAINING TO THIS PLAN, WHETHER SPECIFICALLY MENTIONED OR NOT, ARE TO BE PERFORMED BY THE CONTRACTOR. IT IS NOT INTENDED THAT THE DRAWINGS AND THIS REPORT SHOW EVERY DETAILED FIELD OF MATERIALS OR EQUIPMENT. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS LISTED IN THIS SECTION. THE CONTRACTOR MAY BE REQUIRED TO ALTER CONTROLS BASED ON EFFECTIVENESS OF CONTROLS OR DIFFERING SITE CONDITIONS UNOCCURRED.

STABILIZED CONSTRUCTION ENTRANCE MAINTENANCE:

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOPING OF SEDIMENT ONTO PUBLIC ROW. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

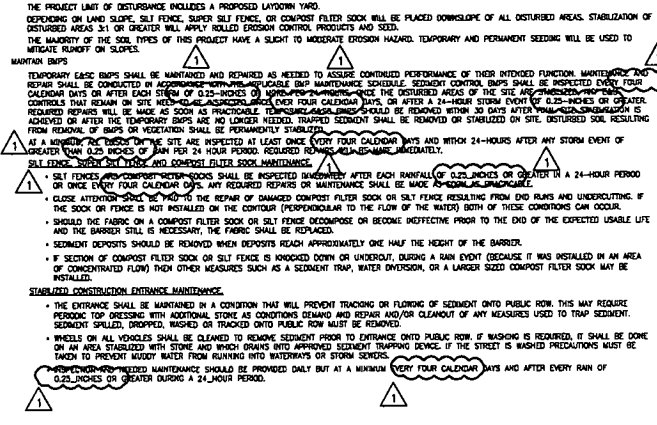
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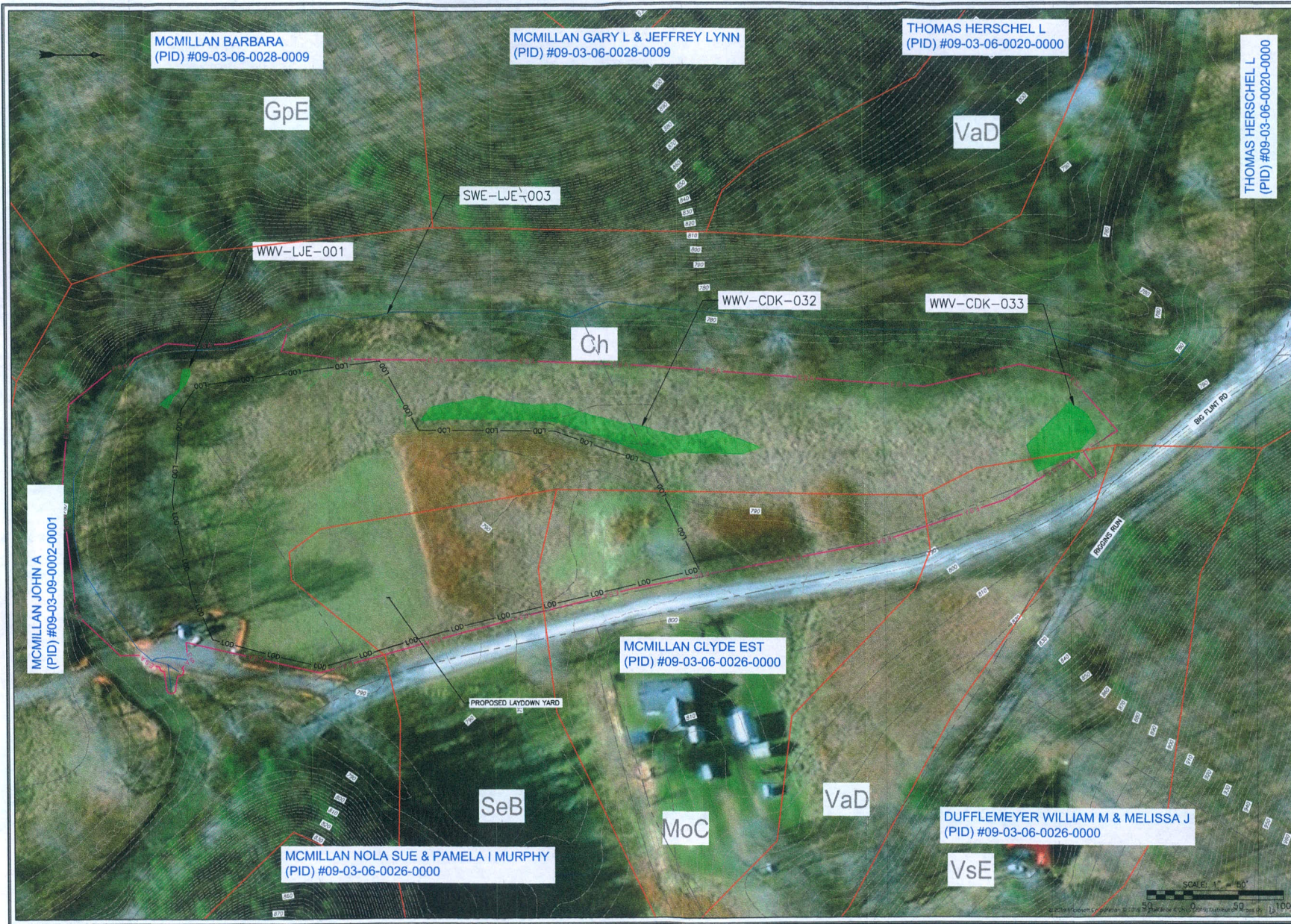
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 - VEHICLE MAINTENANCE SHOULD BE PROVIDED DAILY BUT AT A MINIMUM EVERY FOUR CALENDAR DAYS AND AFTER EVERY RAIN OF 0.25 INCHES OR GREATER DURING A 24-HOUR PERIOD.

- LAYDOWN YARD:**
- INSTALL ORANGE SAFETY FENCE AS IDENTIFIED ON PLANS.
 - MARK THE LIMITS OF DISTURBANCE (LOD).
 - INSTALL STABILIZED CONSTRUCTION ENTRANCES AND REDUCER EROSION AND SEDIMENTATION (EAS) CONTROL BEST MANAGEMENT PRACTICES (BMPs), IDENTIFIED ON THE EROSION AND SEDIMENTATION CONTROL PLAN.
 - COMPLETE GRADING TO ELEVATIONS SHOWN ON DRAWINGS. INSTALL GEOTEXTILE FABRIC AND AGGREGATE SURFACING.
 - SEED ANY AREAS OF DISTURBANCE THAT HAVE NOT BEEN STABILIZED WITH AGGREGATE SURFACING.
 - AT THE DIRECTION OF THE OWNER, REMOVE AGGREGATE SURFACE AND GEOTEXTILE FABRIC. REMOVAL AND DISPOSAL OF AGGREGATE AND GEOTEXTILE FABRIC WILL BE AT THE CONTRACTOR'S EXPENSE. DISPOSAL WILL TAKE PLACE IN AN APPROVED DISPOSAL LOCATION.
 - TILL SUBGRADE MATERIAL TO A DEPTH OF 6 INCHES TO LOOSEN SOIL.
 - REPLACE ANY REMOVED TOPSOIL AND RETURN AREA TO ORIGINAL CONDITIONS.
 - REMOVE ALL GARBAGE, DEBRIS, OR UNWASHED MATERIAL FROM THE SITE.

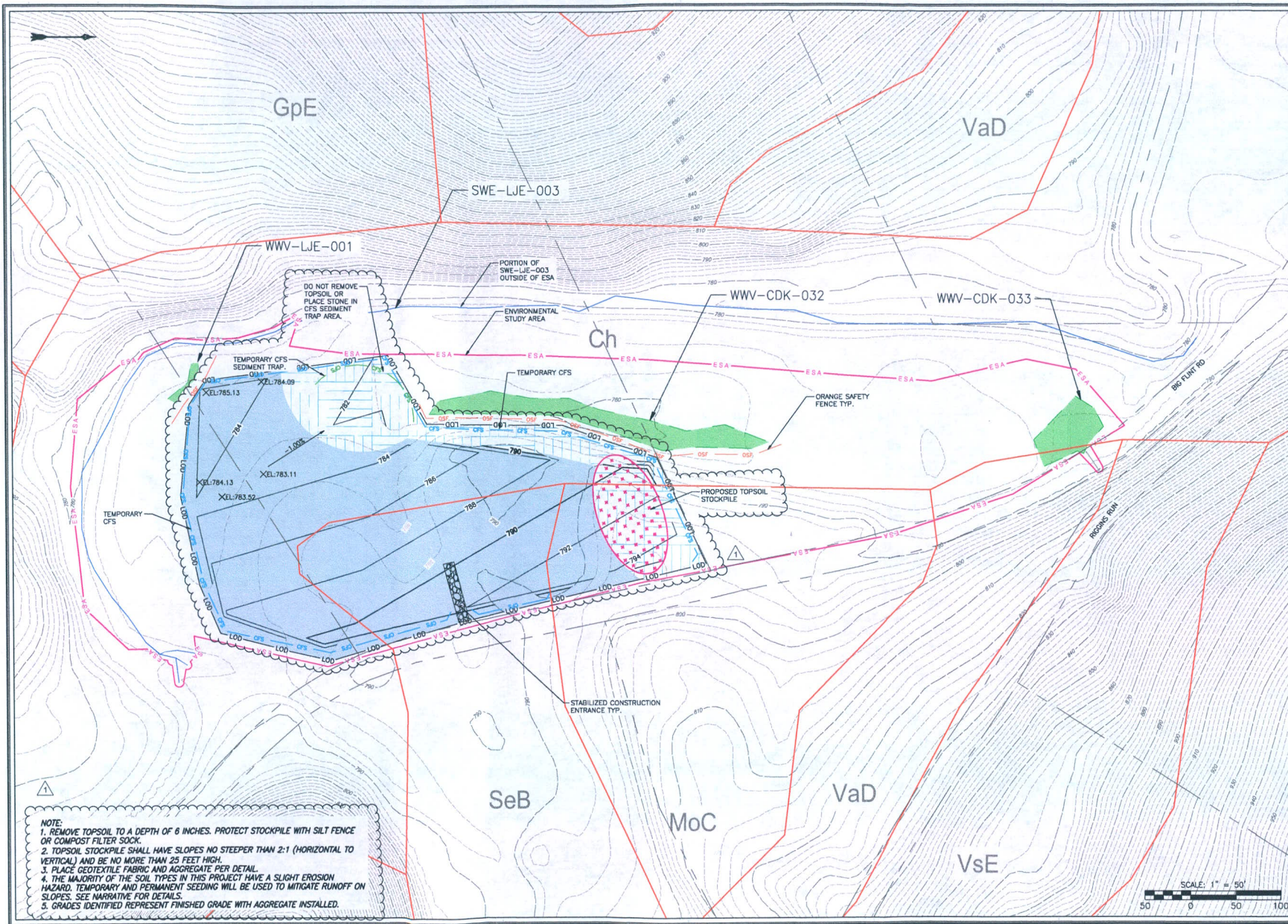


DRAWING TITLE		CLIENT		SHEET NO.		GAI FILE NUMBER	
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PROJECT		800 CABIN HILL DRIVE		NO.		002 OF 008	
FLINT RUN PROJECT; BIG		GREENSBURG,		REVISED		AL CLIENT DRAWING NUMBER	
FLINT ROAD LAYDOWN YARD		PENNSYLVANIA, 15201		DATE		DATE	
DODDRIEGE COUNTY,		WEST VIRGINIA		DRAWN		CHECK	
WEST VIRGINIA		GAI CONSULTANTS		DATE		DATE	
ISSUANCE OFFICE: Pittsburgh, 1305 East Washington Drive, Harrisburg, PA 17120		GAI CONSULTANTS		DATE		DATE	
THIS DRAWING IS THE PROPERTY OF GAI CONSULTANTS. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF GAI CONSULTANTS.		GAI CONSULTANTS		DATE		DATE	
DRAWN BY		CHECKED BY		APPROVED BY		DATE	
BRANTLER		PAKELKA		HICKLDM		01/21/2020	
DWG TYPE		SCALE		ISSUE DATE		DATE	
AS SHOWN		AS SHOWN		01/21/2020		DATE	
GAI DRAWING NUMBER		C180798-09-00-02-E-002		DATE		DATE	
© 2019 GAI Consultants		DATE		DATE		DATE	



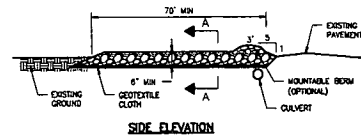
DRAWING TITLE		CLIENT	
OVERALL EXISTING CONDITIONS PLAN		FIRSTENERGY SERVICE COMPANY	
PROJECT		800 CABIN HILL DRIVE	
FLINT RUN PROJECT, BIG		GREENSBURG,	
FLINT ROAD LAYDOWN YARD		PENNSYLVANIA, 15601	
DODDORGE COUNTY,		GAI CONSULTANTS	
WEST VIRGINIA		ISSUING OFFICE: Pittsburgh 365 East Washington Drive, Homestead, PA 15120	
DRAWN BY: BRANTLR		CHECKED BY: PANEKJA	
DWG TYPE: AS SHOWN		SCALE: AS SHOWN	
DATE: 01/31/2020		ISSUE DATE: 01/31/2020	
GAI DRAWING NUMBER: C180795-09-000-02-E-003		GAI FILE NUMBER: C180795-09-000-02-E-003	
DRAWN BY: BRANTLR		CHECKED BY: PANEKJA	
DWG TYPE: AS SHOWN		SCALE: AS SHOWN	
DATE: 01/31/2020		ISSUE DATE: 01/31/2020	
GAI DRAWING NUMBER: C180795-09-000-02-E-003		GAI FILE NUMBER: C180795-09-000-02-E-003	

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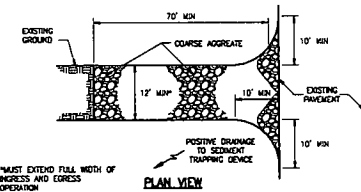


DRAWING TITLE EROSION AND SEDIMENT CONTROLS		CLIENT FIRSTENERGY SERVICE COMPANY
PROJECT FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD		ADDRESSING WIPED COMMENTS 1 01/07/2020 BRANTLR NICKLDM
DODDRIDGE COUNTY, WEST VIRGINIA		DESCRIPTION APV: NICKLDM CHK: NICKLDM DWN: NICKLDM DATE: 01/31/2020
GAI DRAWING NUMBER C180795-08-000-02-E-004		REVISION RECORD SHEET NO: 004 OF 006 DATE: 01/31/2020
		GAI CLIENT DRAWING NUMBER: C180795-08-000-02-E-004 SHEET NO: 004 OF 006 DATE: 01/31/2020 DRAWN BY: BRANTLR CHECKED BY: PANEKJA APPROVED BY: NICKLDM SCALE: AS SHOWN ISSUE DATE: 01/31/2020 SCALE: 1" = 50' 50 0 50 100

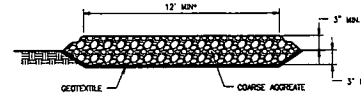
180795-08-000-02-E-004
 01/31/2020 11:25:35 AM PLOTTED BY: Laura Brantlauer
 13/1/2020 11:25:35 AM PLOTTED BY: Laura Brantlauer
 13/1/2020 11:25:35 AM PLOTTED BY: Laura Brantlauer



SIDE ELEVATION



PLAN VIEW



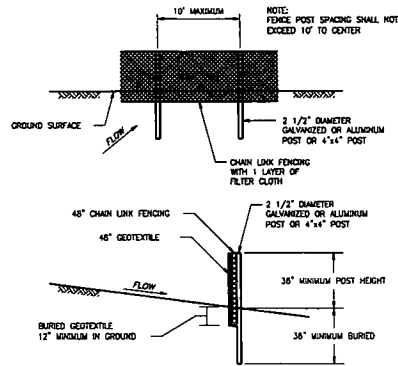
SECTION A-A

STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.

STABILIZED CONSTRUCTION ENTRANCE:

- USE 2-4 INCH STONE FOR LOW VOLUME ENTRANCES, LARGER STONE (4-6 INCH) FOR HEAVY USE OR MATERIAL DELIVERY ENTRANCES.
- LENGTH IS AS REQUIRED, BUT NOT LESS THAN 10 FEET (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
- THICKNESS SHOULD NOT BE LESS THAN 6 INCHES.
- THE WIDTH SHALL BE A MINIMUM OF 12 FEET, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACING OF STONE.
- ALL SURFACE WATER FLOWING OR DROPPED TOWARD CONSTRUCTION ENTRANCES SHALL BE SPIED ACROSS THE ENTRANCE. IF A CULVERT IS IMPRACTICAL, A MOUNTABLE BERM WITH 3:1 SLOPES SHALL BE USED.

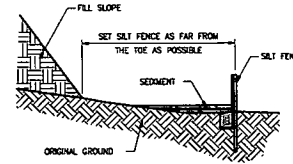


SUPER SILT FENCE

SCALE: N.T.S.

SUPER SILT FENCE

- SLOPE LENGTH ABOVE THE FENCE SHOULD NOT EXCEED 400 FT IN STEEP TERRAIN.
- SUPER SILT FENCE SHALL BE PLACED AS CLOSE TO CONTOUR AS POSSIBLE. NO SECTION OF SILT FENCE SHALL EXCEED GRADE OF 5% FOR MORE THAN A DISTANCE OF 20 FEET.
- GEOTEXTILE FABRIC SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCING WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION.
- GEOTEXTILE FABRIC SHALL BE EMBEDDED A MINIMUM OF 12 INCHES INTO THE GROUND.
- WHEN TWO SECTIONS OF GEOTEXTILE FABRIC MEET EACH OTHER, THEY SHALL BE OVERLAPPED BY A MINIMUM OF 6 INCHES AND FOLDED.
- METAL POSTS CAN BE REPLACED BY PRESSURE TREATED 4" x 4" POSTS.



PLACEMENT OF SILT FENCE

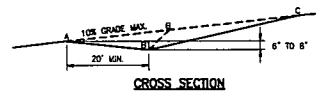
SCALE: N.T.S.

SILT FENCE:

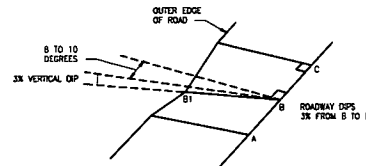
- SILT FENCE SHALL BE INSTALLED PRIOR TO MAJOR SOIL DISTURBANCE.
- SILT FENCE SHALL BE PLACED ACROSS THE BOTTOM OF A SLOPE ALONG A LINE OF UNIFORM ELEVATION (ALWAYS PERPENDICULAR TO THE DIRECTION OF FLOW).
- THE HEIGHT OF SILT FENCE SHALL BE A MINIMUM OF 18 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34 INCHES ABOVE GROUND ELEVATION.
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ON THE UPSLOPE SIDE OF THE PROPOSED LOCATION OF THE FENCE.
- THE FILTER FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING ONE INCH LONG (MINIMUM) HEAVY-DUTY WIRE STAPLES OR THE WIRES AND DIGHT HOLES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH.
- SILT FENCE SHALL BE INSTALLED WHERE THE SIZE OF THE DRAINAGE AREA IS NO MORE THAN 1/4 ACRE PER 100' OF SILT FENCE LENGTH. THE MAXIMUM GRADE/DITCH ABOVE THE SILT FENCE SHOULD BE LESS THAN 2:1.

SILT FENCE

SCALE: N.T.S.



CROSS SECTION



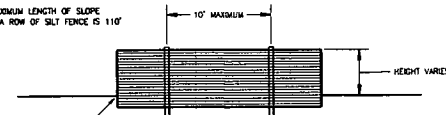
PERSPECTIVE VIEW

- NOTES:
- INSTALL BROAD-BASED DPS ON ACCESS ROAD LOCATIONS WITH LESS THAN 10% GRADE.
 - DISCHARGE TO STABLE, WELL VEGETATED AREA, ROCK CHECK DAM OR TO SILT FENCE IN AREAS WITH POOR VEGETATION.
 - SPACING = 400/R GRADE + 75'
 - DO NOT SPACE BROAD-BASED DPS MORE THAN 300 FEET APART.

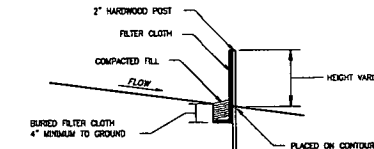
ACCESS ROAD BROAD-BASED DIP DETAIL

SCALE: N.T.S.

NOTE:
THE MAXIMUM LENGTH OF SLOPE ABOVE A ROW OF SILT FENCE IS 110'



FRONT ELEVATION



SIDE ELEVATION



TOP VIEW

DRAWING TITLE EROSION AND SEDIMENT CONTROL DETAILS (1 OF 2)		CLIENT FIRSTENERGY SERVICE COMPANY 800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15601	
PROJECT FLINT ROAD LAYDOWN YARD DODDERIDGE COUNTY, WEST VIRGINIA		GAI CONSULTANTS 1300 East Westmont Drive, Homestead, PA 15120	
DRAWING NUMBER C180795-09-000-00-E-005		SHEET NO. 005 OF 006	
DATE 01/31/2020		REVISION RECORD	
SCALE AS SHOWN		DESCRIPTION	
ISSUING OFFICE: Pittsburgh		GAI FILE NUMBER: C180795-09-000-00-E-005	
DESIGNED BY: PAMEKJA		CHECKED BY: NICK KILDM	
DRAWN BY: BRANTLER		APPROVED BY:	
DATE: 01/31/2020		SCALE: AS SHOWN	
PROJECT: FLINT ROAD LAYDOWN YARD		CLIENT: FIRSTENERGY SERVICE COMPANY	
LOCATION: DODDERIDGE COUNTY, WEST VIRGINIA		GAI CONSULTANTS	
SCALE: AS SHOWN		SHEET NO.: 005 OF 006	
DRAWING NUMBER: C180795-09-000-00-E-005		GAI FILE NUMBER: C180795-09-000-00-E-005	
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TEMPORARY SEED CHART			
Plant Names	Scientific	Planting Dates	Application Rate Pounds/Acre
Common Annual Ryegrass	<i>Lolium multiflorum</i>	2/18 - 5/15 8/1 - 11/1	40
Field Bromegrass	<i>Bromus ciliaris</i>	3/1 - 6/15 8/1 - 9/15	40
Spring Oats	<i>Avena sativa</i>	3/1 - 6/15	100
Winter Rye	<i>Secale cereale</i>	8/15 - 2/28	170
Winter Wheat	<i>Triticum aestivum</i>	8/15 - 2/28	180
Japanese Millet	<i>Echinochloa crusgali</i>	5/15 - 6/15	20
Redtop	<i>Agrostis alba</i>	3/1 - 6/15	10
Annual Ryegrass and Spring Oats	<i>Lolium multiflorum</i> <i>Avena sativa</i>	3/1 - 6/15	30
German/Foxgill Millet	<i>Setaria italica</i>	5/1 - 6/1	20
Heavy Vetch*	<i>Vicia villosa</i>	4/15 - 4/1	60

* INOCULATION IS REQUIRED IF A HYDROSEEDER IS UTILIZED. THE APPLICATION RATE IS FIVE TIMES THE RECOMMENDED RATE.

TEMPORARY SEEDING MIX

Plant Name	Scientific	Application Rate Pounds/Acre
Annual Ryegrass	<i>Lolium multiflorum</i>	40
Field Bromegrass	<i>Bromus ciliaris</i>	40
Spring Oats	<i>Avena sativa</i>	100
Winter Rye	<i>Secale cereale</i>	170
Winter Wheat	<i>Triticum aestivum</i>	180

* INOCULATION IS REQUIRED IF A HYDROSEEDER IS UTILIZED. THE APPLICATION RATE IS FIVE TIMES THE RECOMMENDED RATE.

PERMANENT SEEDING MIX

NURSE CROPS			
Plant Names	Scientific	Planting Dates	Application Rate Pounds/Acre
Common Annual Ryegrass	<i>Lolium multiflorum</i>	2/18 - 5/15 8/1 - 11/1	25
Field Bromegrass	<i>Bromus ciliaris</i>	3/1 - 6/15 8/1 - 9/15	20
Spring Oats	<i>Avena sativa</i>	3/1 - 6/15	50
Winter Rye	<i>Secale cereale</i>	8/15 - 2/28	85
Winter Wheat	<i>Triticum aestivum</i>	8/15 - 2/28	90
Japanese Millet	<i>Echinochloa crusgali</i>	5/15 - 6/15	15
Redtop	<i>Agrostis alba</i>	3/1 - 6/15	10
Annual Ryegrass and Spring Oats	<i>Lolium multiflorum</i> <i>Avena sativa</i>	3/1 - 6/15	30
German/Foxgill Millet	<i>Setaria italica</i>	5/1 - 6/1	25
Heavy Vetch*	<i>Vicia villosa</i>	8/15 - 4/1	30

* INOCULATION IS REQUIRED IF A HYDROSEEDER IS UTILIZED. THE APPLICATION RATE IS FIVE TIMES THE RECOMMENDED RATE.

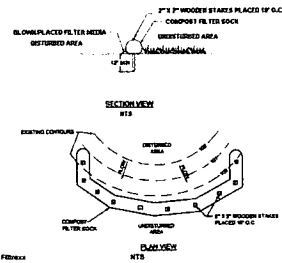
NURSE CROP SEEDING MIX

Table 6.6.1 Maximum Slope Length Above Fiber Sock and Recommended Diameter	Slope	Rate (lb/ft)	8"	12"	18"	24"
0% - 2%	1%	25	125	250	300	320
2% - 10%	5%	100	150	225	300	350
10% - 20%	10%	150	175	225	275	325
20% - 30%	15%	150	175	225	275	325
>30%	>15%	150	175	225	275	325

Note: For large storage areas, use storage to temporary detentions, sediment traps and sediment basins.

CFS SIZING TABLE

COMPOST FILTER SOCK



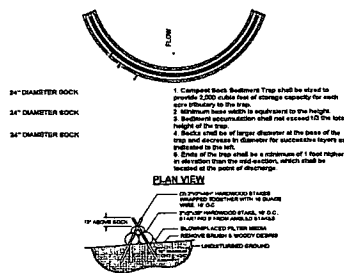
Soak fabric shall meet standards of Table 4.1. Compost shall meet the standards of Table 4.2. Compost filter sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 6 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). Maximum slope length above any sock shall not exceed that shown on Figure 4.2. Stakes may be installed immediately downslope of the sock if so specified by the manufacturer. Traffic shall not be permitted to cross filter socks. Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described elsewhere in the plan. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be replaced according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable fiber socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations. Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

COMPOST FILTER SOCK TYPICAL DETAIL

SCALE: N.T.S.

Compost Sock Sediment Trap



Adapted from Fibrex

Compost sock sediment traps shall be stacked in pyramidal form as shown above. Minimum trap height is one 24" diameter sock. Additional storage may be provided by means of an excavated sump 12" deep extending 1 to 3 feet upslope of the sock along the lower side of the trap.

Compost sock sediment traps shall be inspected weekly and after each runoff event. Sediment shall be removed when it reaches 1/3 the height of the socks.

COMPOST SOCK SEDIMENT TRAP TYPICAL DETAIL

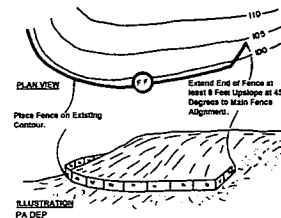
SCALE: N.T.S.

Compost Standards	
Organic Matter Content	80% - 100% (dry weight basis)
Organic Carbon	Fibrous and stabilized
pH	5.5 - 8.0
Moisture Content	35% - 55%
Particle Size	95% pass through 1" screen
Soluble Salt Concentration	5.0 GDM (maximum)

Fibrex

COMPOST FILTER SOCK SPECIFICATIONS

Sediment Barrier Alignment



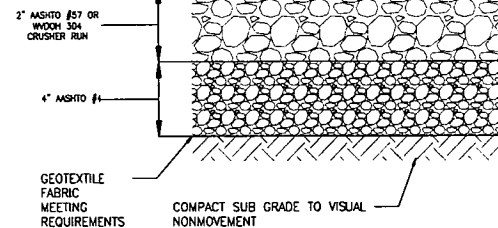
SEDIMENT BARRIER ALIGNMENT TYPICAL DETAIL

SCALE: N.T.S.

Compost Sock Fabric Minimum Specifications

Material Type	3 mil HDPE		5 mil HDPE		Multi-Filament Polypropylene (MFPFP)		Heavy Duty Multi-Filament Polypropylene (HDMFPFP)	
	Photo-degradable	Photo-degradable	Photo-degradable	Photo-degradable	Photo-degradable	Photo-degradable	Photo-degradable	Photo-degradable
Material Characteristics								
Sock Diameter	12"	18"	12"	18"	12"	18"	12"	18"
Sock Length	18'	24'	18'	24'	18'	24'	18'	24'
Mesh Opening	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi			
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.	100% at 1000 hr.	100% at 1000 hr.				
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years			
Two-ply systems								
Inner Containment Netting								
Outer Filtration Mesh								

HDPE biaxial net continuously wound. Fusion-welded junctures. 3/4" x 3/4" Max. aperture size. Composite Polypropylene Fabric (Woven fiber and non-woven fleeces mechanically fused via needle punch). 3/16" Max. aperture size. Sock fabrics composed of burlap may be used on projects lasting 6 months or less. Fibrex & JMD



GEOTEXTILE FABRIC MEETING REQUIREMENTS OF AASHTO M288, SECTION 7, CLASS 2

COMPACT SUB GRADE TO VISUAL NONMOVEMENT

LAYDOWN YARD PAD

N.T.S.

PROJECT	CLIENT	REVISION RECORD	DATE	BY	CHK	APP	DESCRIPTION
EROSION AND SEDIMENT CONTROL DETAILS (2 OF 2)	ERSTENERGY SERVICE COMPANY 800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15601	NO.					
PROJECT	CLIENT	REVISION RECORD	DATE	BY	CHK	APP	DESCRIPTION
FLUME RUN PROJECT: BIG FLUME ROAD LAYDOWN YARD	ERSTENERGY SERVICE COMPANY 800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15601	NO.					
DRAWN BY	CHECKED BY	APPROVED BY					
BRANTLER	PAWELKJA	NICKLDM					
DWG TYPE	SCALE	ISSUE DATE					
		01/31/2020					
GAI DRAWING NUMBER							
C160785-09-000-00-E-006							
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WV Flood Map



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

H I G H R I S K		1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	Flood Info Location <i>Map created on 3/17/2020</i>
		Regulatory Floodway in AE Zone	
		1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)	
		1-Percent-Annual-Chance High Risk Advisory	
Download the Full Legend for all flood tool symbols https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf			
Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (https://www.mapwv.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.			
		User Notes	
		Flood Hazard Area	Location is WITHIN the FEMA 100-year floodplain.
		Flood Zone	A
		Stream	Flint Run
		Watershed (HUC8)	Little Musringum-Middle Island (5030201)
		Flood Height	
		Water Depth	About 1.0 ft (Source: HAZUS)
		Elevation	About 791 ft (Source: SAMS 2003)
		Community & ID	Doddridge County (ID: 540024)
		FEMA Map & Date	54017C0130C; Effective Date: 10/4/2011
		Location (lat, long)	(39.351226, -80.702274)
		Parcel ID	09-03-0006-0026-0009
		E-911 Address	6984 BIG FLINT RD, WEST UNION, WV, 26456



west virginia department of environmental protection

Division of Waster and Water Management
601 57th Street SE
Charleston West Virginia 25304-2345
Phone: 304-926-0495
Fax: 304-926-0496

Austin Caperton, Cabinet Secretary
dep.wv.gov

3/13/20 10:00 AM

March 3, 2020

MONONGAHELA POWER COMPANY
RICHARD V. MILLER, ENVIRONMENTAL GROUP
800 CABIN HILL DRIVE
GREENSBURG, PA 15601-1689

Re: General Permit Registration No.
WVR110561, Doddridge Co.
Flint Run - Big Flint Run Laydown Yard
Acres (3.10)

Dear Permittee:

You are now authorized to operate under General Permit No. WV0115924 to discharge stormwater associated with construction activities. This registration form should be kept with your copy of the General Permit. You should carefully read the contents of the permit and become familiar with all requirements needed to remain in compliance.

Although you should be aware of all the terms and conditions of this permit, we wish to advise you of the following important requirements:

1. In accordance with Section II.H. of the General Permit, you have developed a complete Storm Water Pollution Prevention Plan. This plan is to be retained on site and be available for review by the Director or the Director's authorized representative as of the date of your coverage by the General Permit, which is the date of this letter.

2. The erosion control measures approved by this Agency for this project shall be maintained in proper condition to individually and collectively perform the functions for which they were designed. In order to ensure the efficiency and proper maintenance of these measures, the permittee shall make sufficiently frequent, periodic inspections to detect any impairment of the designed stability, capacity or environmental requirements of the approved measures. The permittee shall take immediate steps to correct any such impairment found to exist.

3. If this Stormwater Pollution Prevention Plan (SWPPP) proves to be ineffective in controlling erosion and the sediment in storm water discharges associated with industrial/construction activities, or site conditions change, the Permittee shall amend the

Promoting a healthy environment.

SWPPP and install appropriate sediment and/or control devices in accordance with Section II.H. of this permit and the application instructions.

4. Final stabilization means disturbed areas shall be covered by the appropriate permanent protection. Final stabilization includes: pavement; compacted gravel; permeable pavement/pavers; buildings; stable waterways (riprap, concrete, grass or pipe); a healthy, vigorous stand of perennial grass that uniformly covers at least 70 percent of the ground; stable outlet channels with velocity dissipation which directs site runoff to a natural watercourse; and any other approved structure or material.

You will be invoiced for your annual permit fees one month prior to the anniversary date of today's date. Failure to submit the annual fee within 90 days of the due date will render your permit void upon the date you are mailed a certified written notice to that effect.

This Project has not been to Public Notice and this Site Registration will expire on March 03, 2021. If the project has not been completed by that time, a Re-issuance is required, and this project will be sent out for Public Notice.

Issuance of this registration does not authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state or local law or rules.

The validity of this General Permit Registration is contingent upon payment of the applicable annual permit fee, as required by Chapter 22, Article 11, Section 10 of the Code of West Virginia.

Your efforts toward preventing the degradation of our natural resources are greatly appreciated. If you have any questions, please contact **Justin M. Painter** at **(304) 926-0499 ext. 43852** or by email at Justin.M.Painter@wv.gov

Katheryn Emery, P.E.
Acting Director
WV DEP-Division of Water & Waste Mgt.
601 57th St SE
Charleston, WV 25304-2345
Phone: (304) 926-0495
Fax: (304) 926-0463

FP # 20-568



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

Office of the District Engineer/Manager
District Four

Byrd E. White, III
Secretary of Transportation

PO Box 4220 (EXIT 121, I-79) * Clarksburg, WV 26302 * 304-842-1550
January 23, 2020

TRANS-ALLEGHENY INTERSTATE LINE
COMPANY
76 SOUTH MAIN STREET
AKRON, OH 44308

Dear Applicant:

Your approved copy of Permit Number 04-2019-1082 for a T - Temporary

permit type is enclosed. A description of the work is on the permit.

Please contact the District Four office:

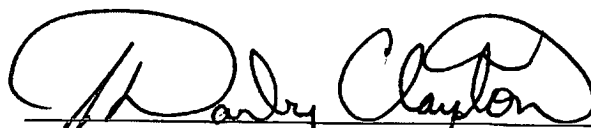
304-842-1517

at least 48 hours in advance of the date you plan to begin work so arrangements can be made to inspect the work authorized by the permit.

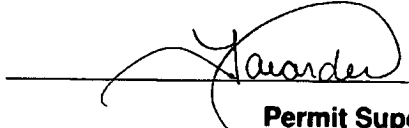
Failure to comply will result in cancellation of your permit.

A copy of this permit is to be available on the job at all times while the work is in progress for inspection by the West Virginia Division of Highways' personnel.

Sincerely,



District Engineer/District Manager



Permit Supervisor

Initials: JDC:MC:tc
Attachments: Yes
Enclosure: No
cc:OM 0409 file

PERMIT TO ENTER UPON, UNDER, OVER OR ACROSS THE STATE ROADS OF THE STATE OF WEST VIRGINIA, AS PROVIDED FOR IN SECTION 6, ARTICLE 16, CHAPTER 17; SECTION 9, ARTICLE 16, CHAPTER 17; SECTION 8, ARTICLE 4, CHAPTER 17, WEST VIRGINIA CODE, 1931, AS AMENDED.

THIS PERMIT, Made this 25 day of October 20 19, between the WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, a statutory corporation hereinafter called DIVISION and Trans-Allegheny Interstate Line Company (TrAILCo), a FirstEnergy Company Address: 76 South Main Street, A-GO-3, Akron, Ohio 44308 Phone No: _____ hereinafter called APPLICANT.

WITNESSETH

In consideration of the hereinafter set out covenants and in accordance with Section 6, Article 16, Chapter 17; or Section 9, Article 16, Chapter 17; or Section 8, Article 4, Chapter 17, of the Official Code of West Virginia, 1931, as amended, and the rules and regulations promulgated thereunder, APPLICANT does hereby apply to enter

Route Type & No. CR-3 (Big Flint Road) DOH Project No. _____ (if applicable); at 0.10 miles north of junction CR-5 Mile Post 4.231 in Doddridge County, for the purposes hereinafter set forth and in accordance with the plans and specifications which are attached hereto and made a part hereof: Install a temporary approach on the west side of County Road 3 for purposes of installing a temporary laydown yard in order to store construction equipment. All work performed shall be in accordance with WVDOH standards and specifications. (Utilize temporary traffic control case Ale.

APPLICANT further agrees to accept the conditions hereinafter set forth:

1. APPLICANT shall deposit with DIVISION the sum of \$ _____ in the form of an official, certified or cashier's check, or executed bond with surety satisfactory to DIVISION to cover any damage and inspection costs DIVISION may sustain by reason of the granting of this permit, including any expense incurred in restoring said highway to its original condition or the proper repair of any and all damages that may result within one (1) year from the date of the completion of said work.
2. APPLICANT agrees to reimburse DIVISION for inspection costs as follows:
 - A. For any inspection costs incurred under this permit.
 - B. At \$ _____ per linear foot for _____ feet of water line installed under this permit
 - C. At \$ _____ per linear foot for _____ feet of sewer line installed under this permit
3. APPLICANT shall notify DIVISION at least 48 hours in advance of the date the work will begin. Failure to comply will be cause for cancellation of this permit.
4. APPLICANT agrees to protect its employees, equipment and users of the highway at all times in accordance with the current Division of Highways manual "~~Traffic Control For Street and Highway Construction and Maintenance Operations~~". "Temporary Traffic Control for Streets and Highways."
5. APPLICANT agrees to comply with all applicable state and federal laws in the performance of work under this permit.
6. Supplementary conditions cited on the reverse side of this permit are understood and agreed to be a part hereof.
7. The work authorized under this permit shall be completed on or before (Date): 11/26/2020
07/30/2020

Applicant's signature on this permit affirms that all text herein is a verbatim reproduction of The West Virginia Division of Highways Encroachment Permit Form MM-109, revision date May 19, 2005. All attachments are inclusive to this permit.

RECOMMENDED:

[Signature]
Title PERMIT SUPERVISOR
District Four

[Signature]
LESIE J. JOHNS - PM
Signature and Title of Applicant

BOND REQUIREMENT:

BOND NO. _____ DATE _____

Attached On File

INSPECTION: Owner/Consultant

Full Time Part Time

Periodic Reimbursable No Cost

APPROVED: [Signature]
Assistant District
Title ENGINEER MAINTENANCE
West Virginia Division of Highways

AUTHORIZATION NO: _____

PERMIT NO: 0420191082

CHAPTER 17 WEST VIRGINIA CODE, 1931

§17-4-8. Use of roadbed by railroad, telephone company, etc.

No railroad or electric or other railway shall be constructed upon the roadbed of any state road, except to cross the same, nor shall any person, firm or corporation enter upon or construct any works in or upon such road, or lay or maintain thereon or thereunder any drainage, sewer or water pipes, gas pipes, electric conduits or other pipes, nor shall any telephone, telegraph or electric line or power pole, or any other structure whatsoever, be erected upon, in or over any portion of a state road, except under such restrictions, conditions and regulations as may be prescribed by the state road commissioner. Whenever any railroad or electric or other railway, heretofore or hereafter constructed, shall cross any state road, it shall be required to keep its own roadbed, and the bed of the road or highway at such crossing, in proper repair, or else to construct and maintain an overhead or undergrade crossing, subject to the approval of the state road commissioner; and the tracks of such railroad or railway at grade crossings shall be so constructed as to give a safe and easy approach to and across the same, and when the construction of such approaches is made necessary by a change in the railroad grade at the grade crossing, the cost shall be upon the railway company.

§17-16-6. Permit by commission or county court for openings in or structures on public roads; franchises and easements of oil, etc., transportation companies.

No opening shall be made in any state or county-district road or highway, nor shall any structure be placed therein or thereover, nor shall any structure, which has been so placed, be changed or removed, except in accordance with a permit from the state road commission or county court, as the case may be. No road or highway shall be dug up for laying or placing pipes, sewers, poles or wires, or for other purposes, and no trees shall be planted or removed or obstructions placed thereon, without the written permit of the commission or county court, or its duly authorized agent, and then only in accordance with the regulations of the commission or court. The work shall be done under the supervision and to the satisfaction of the commission or court; and the entire expense of replacing the highway in as good condition as before shall be paid by the persons to whom the permit was given, or by whom the work was done: **Provided, however,** That nothing herein contained shall be so construed as to prevent any oil or gas company or person having a proper permit or franchise from transporting oil or gasoline along any of the public highways of this State, nor to give such company a franchise without paying to the landowners through whose lands such road passes the usual and customary compensation paid or to be paid to the landowners for such right of way. Any grant or franchise when made shall be construed to give to such company or person only the right to use the easement in such public road.

A violation of any provision of this section shall be a misdemeanor, and the person or corporation violating the same shall, upon conviction thereof, be fined not less than twenty-five nor more than one hundred dollars for each offense.

§17-16-9. Private driveways or approaches to roads; obstruction of ditches.

The owner or tenant of land fronting on any state road shall construct and keep in repair all approaches or driveways to and from the same, under the direction of the state road commission, and, likewise, the owner or tenant of land fronting on any county-district road shall construct and keep in repair approaches or driveways to and from the same, under the direction of the county road engineer, and it shall be unlawful for such owner or tenant to fill up any ditch, or place any material of any kind or character in any ditch, so as in any manner to obstruct or interfere with the purposes for which it was made.

SUPPLEMENTARY CONDITIONS

1. The person, firm or corporation to whom a permit is issued agrees to hold the State of West Virginia and DIVISION harmless on account of any damages to persons or property which may arise during the process of the work authorized by this permit or by reason thereof.
2. Applications for permission to perform work within highway rights of way shall be made on DIVISION'S standard permit form and shall be signed by the authorized representative of the person, firm or corporation applying.
3. The APPLICANT shall give detailed information concerning the work to be performed and the application must include a sketch sufficient to show the nature of the work performed.
4. APPLICANT, his agents, successor, heirs or assigns, contractors or any other person, firm or corporation working under APPLICANT'S real or apparent authority, shall perform the work in a manner satisfactory to DIVISION. Damage to the road resulting at any time from work authorized under this permit shall be repaired by APPLICANT. Unsatisfactory repairs may be corrected by DIVISION or its authorized agent and the cost thereof paid by APPLICANT.
5. DIVISION assumes no liability for damage to the proposed work by reason of construction or maintenance work on the road.
6. This permit is granted subject to removal of the authorized installation by APPLICANT at no cost to DIVISION when required for improvement of the road, and subject to all regulations now or hereafter adopted by DIVISION.
7. Utility installation shall be in accordance with the current manual, "Accommodation of Utilities on Highway Right of Way".
8. Driveways shall be in accordance with the current manual, "Rules and Regulations for Constructing Driveways on State Highway Rights-of-Way."
9. DIVISION reserves the right to cancel this permit at any time, should APPLICANT fail to comply with the terms and conditions under which it is granted.
10. This permit is granted only insofar as the DIVISION has a right to do so.

042019-1082

Flint Run Substation Project

Driveway Permit Laydown CR-3
Along CR-3 Big Flint Road

Laydown_CR-3

Big Flint Rd





View West Along Laydown Yard



View East from Laydown Yard

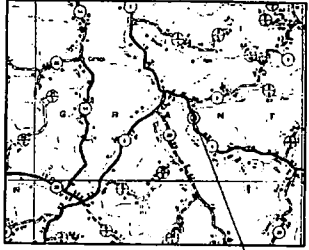


View South Along CR-3



View North Along CR-3

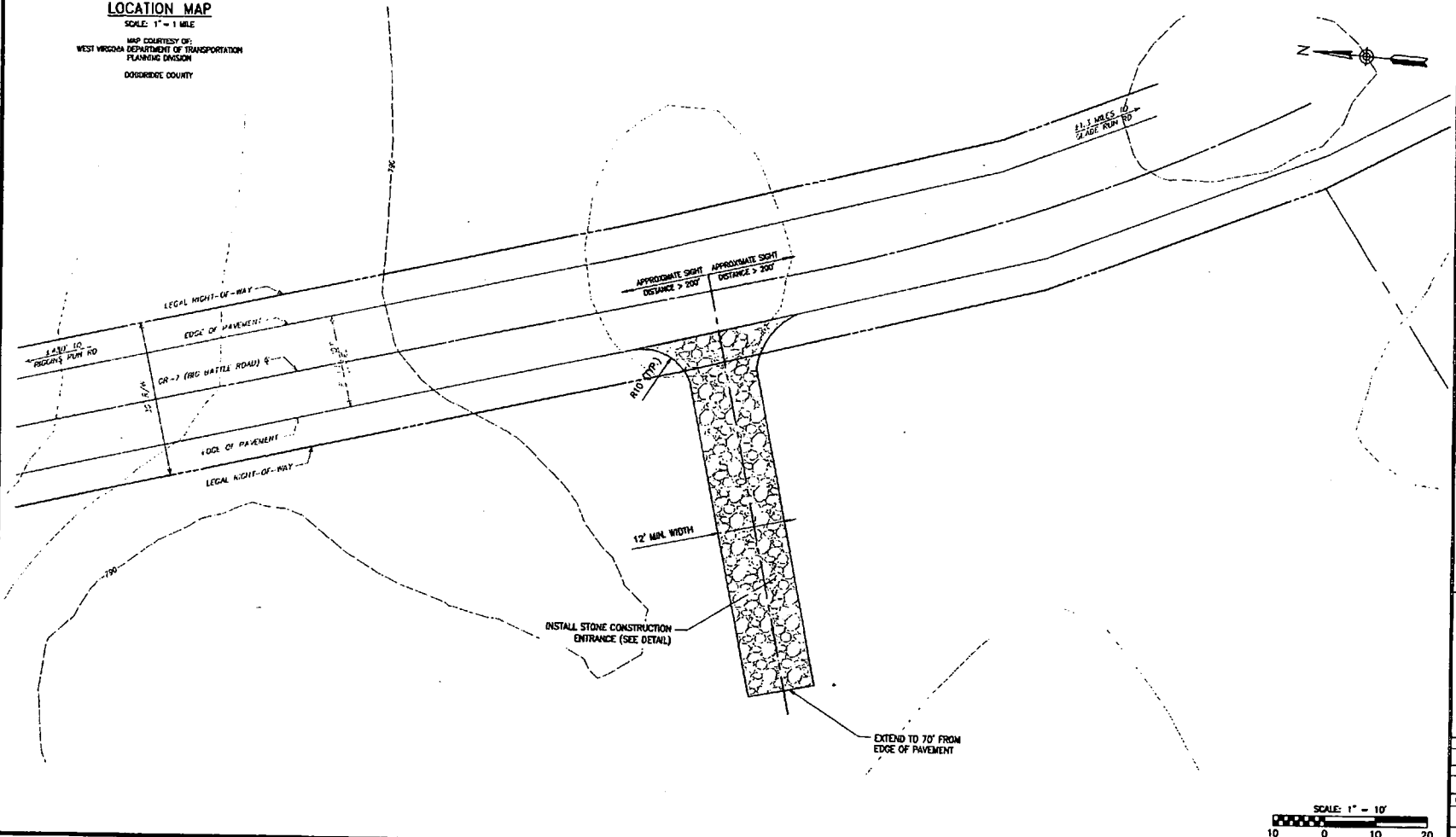
0420191082



LOCATION MAP

SCALE: 1" = 1 MILE

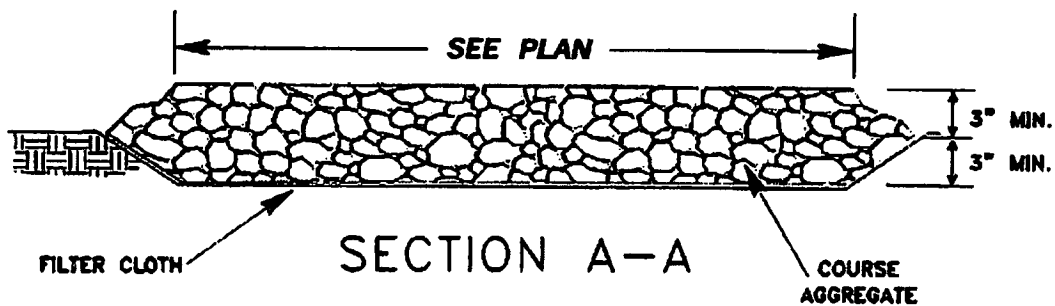
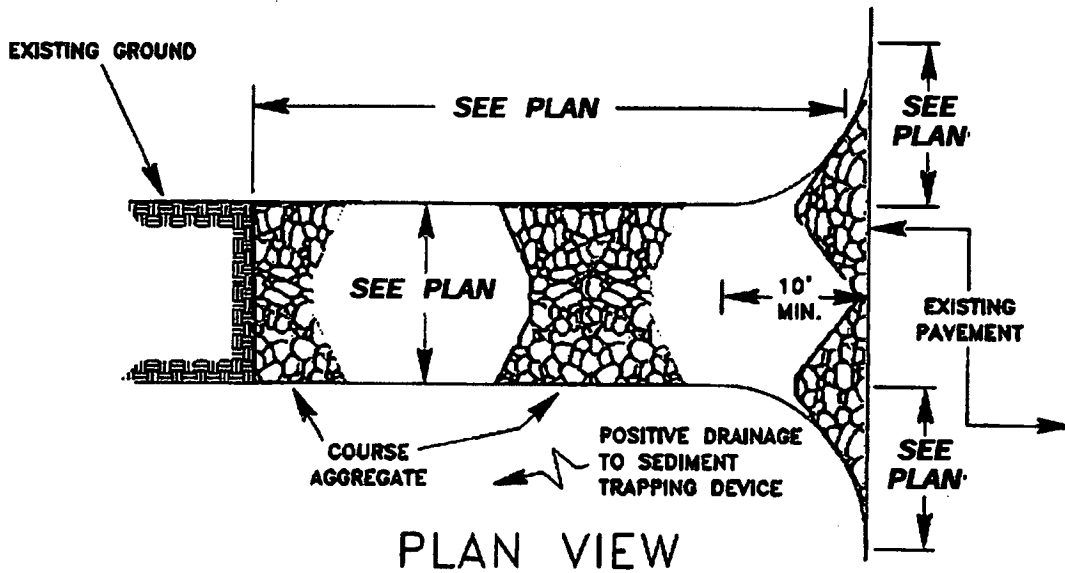
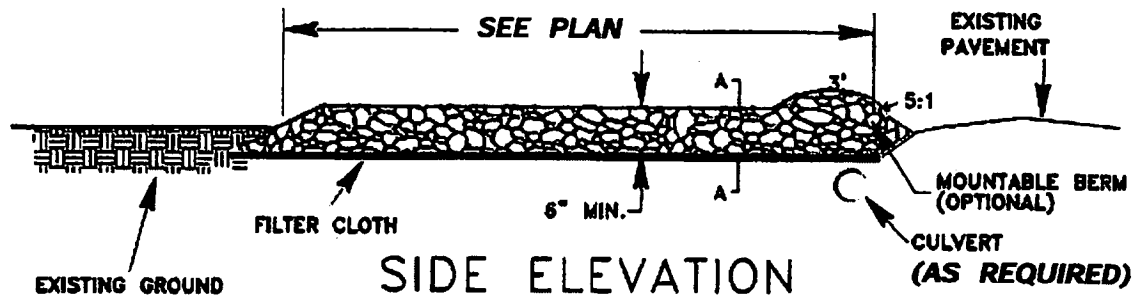
MAP COURTESY OF:
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
PLANNING DIVISION
DODDRIDGE COUNTY



DRAWING TITLE		PROJECT		CLIENT	
LAYDOWN YARD ALONG CR-3 (BIG FLINT RUN) PLAN		FLINT RUN		HAULCO, A PAPERSTREY COMPANY	
SUBSTATION PROJECT		DODDRIDGE COUNTY, WEST VIRGINIA		78 SOUTH MAIN STREET, A-403-3 AKRON, OHIO 44308	
ISLAND CORP. 2000 W. 135th St. Westfield, IN 46084		GAI Consultants		REASON RECORD SHEET NO. 1	
PROJECT NO. 15170		DATE 10/07/2019		SHEET NO. 1	
DRAWN BY: JMD		CHECKED BY: JMD		APPROVED BY:	
SCALE: AS SHOWN		SCALE: AS SHOWN		SCALE: AS SHOWN	
DATE: 10/07/2019		DATE: 10/07/2019		DATE: 10/07/2019	
GAI DRAWING NUMBER: C180785-00-000-00-E-204		GAI FILE NUMBER: C180785-00-000-00-E-204		GAI FILE NUMBER: C180785-00-000-00-E-204	
© 2019 GAI Consultants					

FIGURE 3.02.1 MODIFIED

STONE CONSTRUCTION ENTRANCE

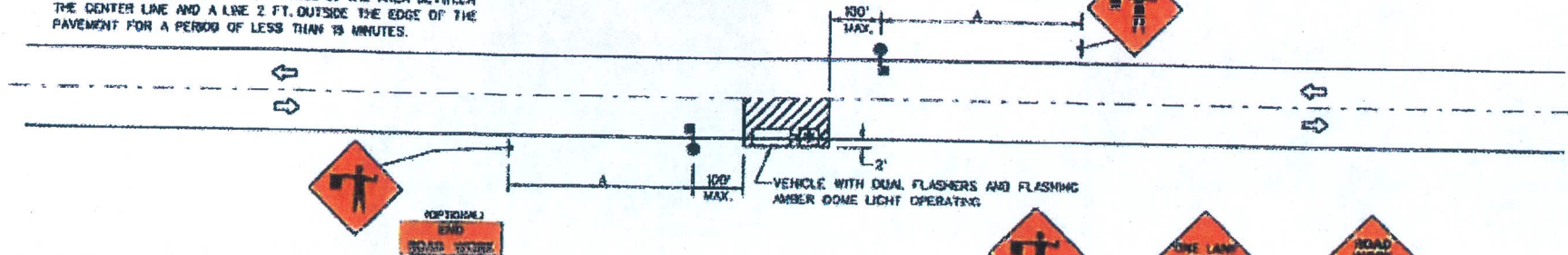


SOURCE: ADAPTED from 1983 Maryland Standards for Soil Erosion and Sediment Control and Va. DSWC

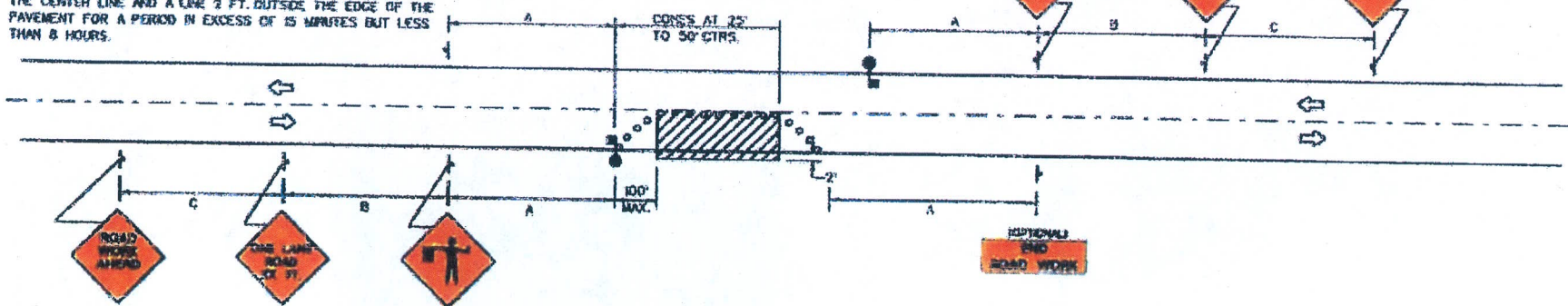
3.02-2

042019108 2

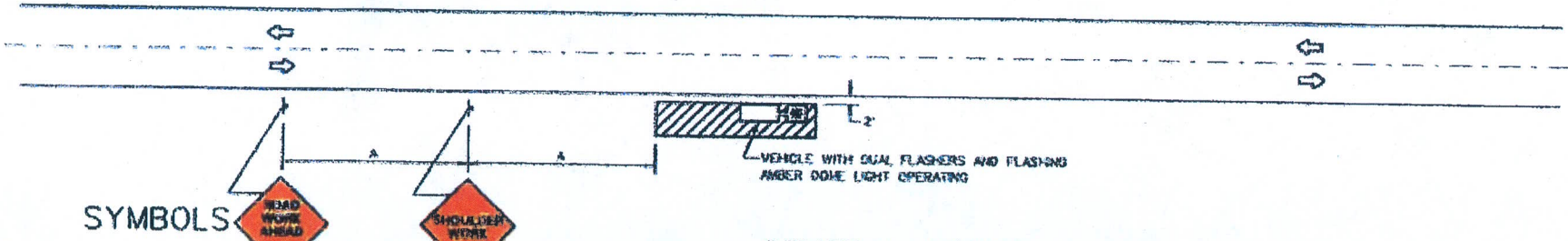
A. FOR ANY OPERATION THAT ENCRDACHES IN THE AREA BETWEEN THE CENTER LINE AND A LINE 2 FT. OUTSIDE THE EDGE OF THE PAVEMENT FOR A PERIOD OF LESS THAN 15 MINUTES.



B. FOR ANY OPERATION THAT ENCRDACHES IN THE AREA BETWEEN THE CENTER LINE AND A LINE 2 FT. OUTSIDE THE EDGE OF THE PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES BUT LESS THAN 8 HOURS.



C. FOR ANY OPERATION THAT IS MORE THAN 2 FT. OUTSIDE THE EDGE OF THE PAVEMENT FOR A PERIOD OF LESS THAN 80 MINUTES.



SYMBOLS

- WORK AREA.
- SIGN
- SIGN ON PORTABLE OR PERMANENT SUPPORT.
- FLAGGER WITH PADDLE.
- CONES

TYPICAL APPLICATIONS

- PATCHING PAVEMENT.
- FIELD SURVEY.
- CLEANING UP DEBRIS ON PAVEMENT.
- CROSSWALK PAINTING.

GENERAL NOTES

1. CONSTRUCTION OPERATIONS SHALL BE CONFINED TO ONE TRAFFIC LANE, LEAVING THE OPPOSITE LANE OPEN TO TRAFFIC. AT LEAST 300 FT. OF BOTH TRAFFIC LANES SHALL BE AVAILABLE FOR TRAFFIC MOVEMENT AT INTERVALS NOT GREATER THAN 1,000 FT. A COMPLETE TRAFFIC CONTROL PLAN MUST BE APPROVED FOR ANY PROJECT EXPECTING TO EXCEED 1,000 FT. IN LENGTH INCLUDING BOTH TAPER AND WORK AREAS.
2. FOR LOW-VOLUME SITUATIONS WITH SHORT WORK ZONES ON STRAIGHT ROADWAYS WHERE THE FLAGGER IS VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, A SINGLE FLAGGER, POSITIONED TO BE VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, MAY BE USED.
3. FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS.
4. THE FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES.
5. ALL SIGNS ARE TO BE REMOVED AT COMPLETION OF THE DAY'S OPERATIONS.
6. FOR MULTILANE DIVIDED ROADWAYS THE ADVANCE WARNING SIGNS FOR TRAFFIC APPROACHING FROM THE OPPOSITE DIRECTION MAY BE OMITTED IF APPROVED BY THE ENGINEER.

SUGGESTED ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS (IN FT)		
	A	B	C
URBAN (LOW SPEED)*	100	150	100
URBAN (MID SPEED)*	350	350	350
RURAL	500	800	500
EXPRESSWAY/FREEWAY	1,000	1,500	2,540

CASE A6

TWO-LANE, TWO-WAY TRAFFIC
SHORT-TERM OPERATIONS
DAYTIME ONLY

*SPEED CATEGORY TO BE DETERMINED BY WV DDH



George Eidel <doddridgecountyfpm@gmail.com>

Work Stop Order

1 message

George Eidel <doddridgecountyfpm@gmail.com>

Mon, Mar 9, 2020 at 5:34 PM

To: Ronnie Travis <ronleetravis@gmail.com>, Shawn Glaspell <shawnglaspell@aol.com>, Clinton Means <N.means@zoominternet.net>, Clinton Means <fmeans@zoominternet.net>

Good Evening,

Just to let you all know what's going on. Our office received a complaint of work being done on Big Flint Rd just south of Riggins Run Rd. There were no permits issued in this area. Went out to the site and found that the property was being prepped for a lay down yard. This will be utilized for equipment and an office trailer for a new power sub station for First Energy. The sub station is being built on Stagecoach. I have issued a STOP WORK ORDER and am working with the power company and their engineering people. If you have any questions please let me know.

Thank,

George



George Eidel <doddridgecountyfpm@gmail.com>

Doddridge County

3 messages

George Eidel <doddridgecountyfpm@gmail.com>

Tue, Mar 10, 2020 at 8:01 AM

To: Kevin Sneed <Kevin.L.Sneed@wv.gov>, Benjamin Love <Benjamin.D.Love@wv.gov>, "Melanie K. Thomas" <Melanie.K.Thomas@wv.gov>

Good Morning,

Just wanted to give you all a heads up on an issue we had here. Got a complaint by a citizen that work was being done in the floodplain. They stated that land was being prepped for First Energy. I went out to the site and found a company placing silt socks along the property and a bulldozer was on site. The company said that the site was being prepped for a lay down yard for First Energy to store equipment and supplies along with an office trailer for a new power substation being constructed a few miles away. No permit was applied for at this site and a stop work order was issued. Talked to GAI Consultants, the engineering firm hired to do the permits for the sub station, they are now working on getting us an application. See attached maps for locations. If you have any questions please let me know.

Thanks and Have a Great Day!!!

--

George C. Eidel, CFM, OEM Director/Floodplain Manager

Doddridge County Office of Emergency Management

101 Church Street Suite 102

West Union, WV 26456-2095

Work Phone: 1-304-873-1343

Mobile Phone: 1-304-281-7407

Fax: 1-304-873-1840

doddridgecountyfpm@gmail.com

--

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2 attachments**Lay Down Yard.pdf**

327K

**Both Sites.pdf**

492K

Sneed, Kevin L <Kevin.L.Sneed@wv.gov>
To: George Eidel <doddridgecountyfpm@gmail.com>

Tue, Mar 10, 2020 at 8:58 AM

Wow, GAI Not getting permits? That's a first I have heard.

Sent from my iPhone

On Mar 10, 2020, at 8:01 AM, George Eidel <doddridgecountyfpm@gmail.com> wrote:

CAUTION: External email. Do not click links or open attachments unless you verify sender.

[Quoted text hidden]
<Lay Down Yard.pdf>
<Both Sites.pdf>

George Eidel <doddridgecountyfpm@gmail.com>
To: "Sneed, Kevin L" <Kevin.L.Sneed@wv.gov>

Tue, Mar 10, 2020 at 9:26 AM


That's what I thought too. The drawings the contractor had for the site showed wetlands, I would have thought they would check the flood tool to see if it was in the floodplain. They are working to get our permit application done. Just to let you know, this site is right across the street from my friend and yours Mirijana.

[Quoted text hidden]

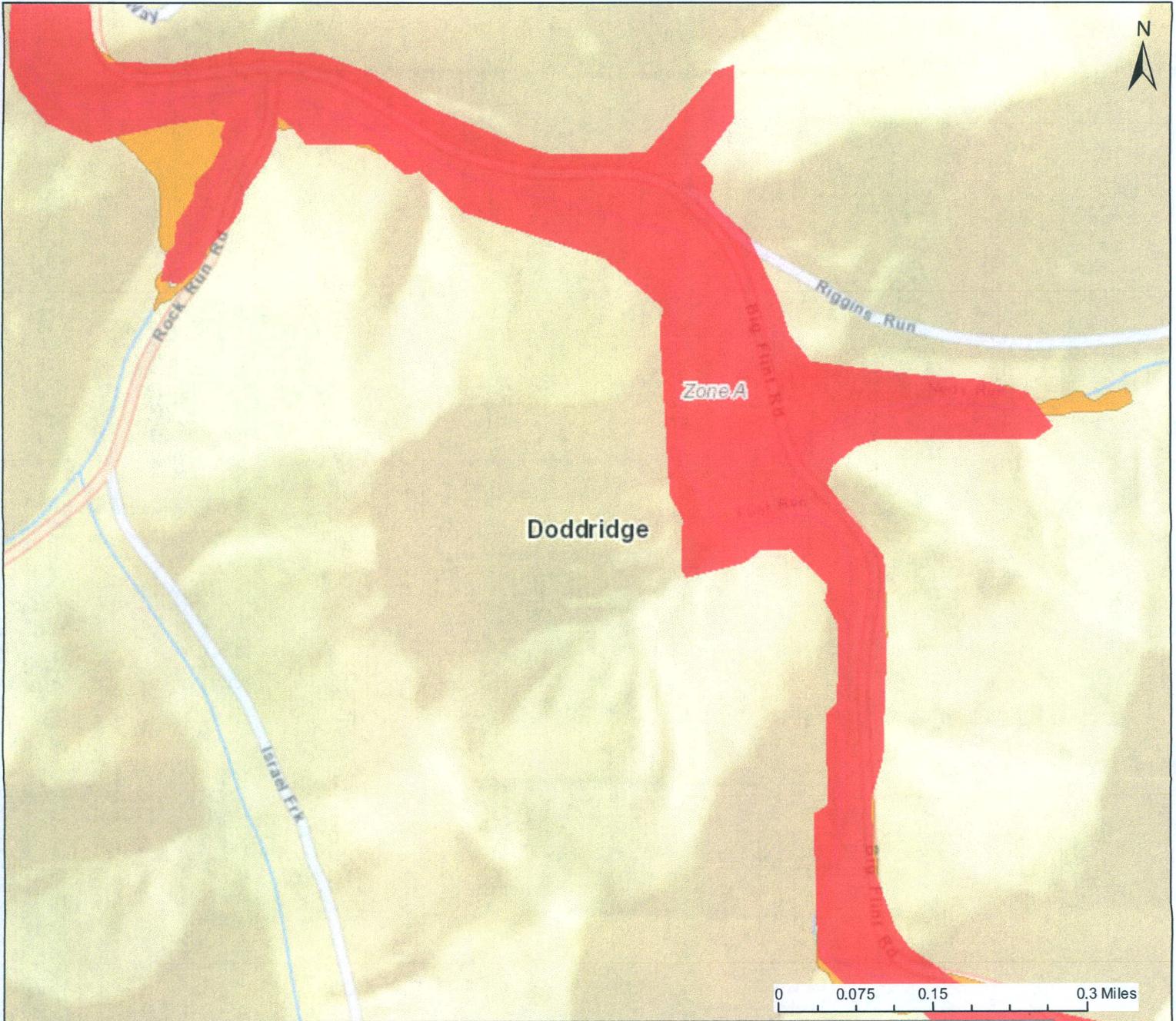
WV Flood Map



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

H I G H R I S K		Regulatory Floodway	Flood Info Location Map created on 3/9/2020
	Zone AE	1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	
	Zone A	1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)	Flood Hazard Area: Location is WITHIN the FEMA 100-year floodplain. Flood Zone: A Stream: Flint Run Watershed (HUC8): Little Musringum-Middle Island (5030201)
	Advisory	1-Percent-Annual-Chance Future Conditions (High Risk Advisory Flood Zones)	Flood Height: About 1.0 ft (Source: HAZUS) Water Depth: About 790 ft (Source: SAMS 2003) Elevation: Doddridge County (ID: 540024) Community & ID: 54017C0130C; Effective Date: 10/4/2011 Location (lat, long): (39.351401, -80.702333) Parcel ID: 09-03-0006-0026-0009 E-911 Address: 6984 BIG FLINT RD, WEST UNION, WV, 26456
Download the Full Legend for all flood tool symbols https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf			
Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (https://www.MapWV.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.			

WV Flood Map



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

H I G H R I S K	Regulatory Floodway	Flood Info Location Map created on 3/9/2020		
	Zone AE	1-Percent-Annual-Chance Flood Hazard Area With Base Flood Elevation (BFE)	User Notes	
	Zone A	1-Percent-Annual-Chance Flood Hazard Area Without BFE (may have Advisory Flood Heights)	Flood Hazard Area	Location is WITHIN the FEMA 100-year floodplain.
	Advisory	1-Percent-Annual-Chance Future Conditions (High Risk Advisory Flood Zones)	Flood Zone	A
Download the Full Legend for all flood tool symbols https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf		Stream	Left Fork Freemans Creek	
Disclaimer: The online map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. Refer to the official Flood Insurance Study (FIS) for detailed flood elevation data in flood profiles and data tables. WV Flood Tool (https://www.MapWV.gov/flood) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.		Watershed (HUC8)	West Fork (5020002)	
		Flood Height	About 1230 ft (Source: SAMS 2003)	
		Water Depth	About 1230 ft (Source: SAMS 2003)	
		Elevation	About 1230 ft (Source: SAMS 2003)	
		Community & ID	Lewis County (ID: 540085)	
		FEMA Map & Date	54041C0125E; Effective Date: 4/19/2010	
		Location (lat, long)	(39.096167, -80.552120)	
		Parcel ID	21-03-005D-0015-0000	
		E-911 Address	(Empty)	



George Eidel <doddridgecountyfpm@gmail.com>

TrAILCo / FirstEnergy Big Flint Run Laydown Yard Floodplain Permit Application

11 messages

Duncan Nickles <D.Nickles@gaiconsultants.com>

Tue, Mar 17, 2020 at 8:29 AM

To: "doddridgecountyfpm@gmail.com" <doddridgecountyfpm@gmail.com>

Cc: "Johns, Leslie J" <LJOHNS@firstenergycorp.com>, "Betler, Michael L" <mbetler@firstenergycorp.com>, "Miller, Richard V" <rvmiller@firstenergycorp.com>, John Klamut <J.Klamut@gaiconsultants.com>, Laura Branthoover <L.Branthoover@gaiconsultants.com>

Mr. Eidel, please follow the link in this email below to download the TrAILCo. / FirstEnergy Floodplain Permit Application for the Big Flint Run Laydown Yard that we discussed with you last week.

Download all associated files

(Please download these files now as this link will expire on March 31, 2020.)

We understand that a fee is associated with this application, but were unsure what the fee would be based on the descriptions on the Doddridge County Floodplain Application Permit Fees document. If you can let us know what the fee should be, where to submit it, and if a reference or permit number should be included, we will get this submitted immediately.

If you have any questions, please do not hesitate to reach out to me – my contact information is located in the signature below, but I am most readily available on my cell phone at 724.406.5094.

Thank you.

Duncan

Duncan M. Nickles, PE
Engineering Manager

GAI Consultants, 6000 Town Center Blvd., Suite 300, Canonsburg, PA 15317

T 724.873.3545 D 412.399.5513 M 724.406.5094 d.nickles@gaiconsultants.com

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**GAI Consultants****ENGINEERING, PLANNING, AND ENVIRONMENTAL CONSULTING SINCE 1958**

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Tue, Mar 17, 2020 at 8:31 AM

George Eidel <doddridgecountyfpm@gmail.com>

To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Cc: "Johns, Leslie J" <LJOHNS@firstenergycorp.com>, "Betler, Michael L" <mbetler@firstenergycorp.com>, "Miller, Richard V" <rvmiller@firstenergycorp.com>, John Klamut <J.Klamut@gaiconsultants.com>, Laura Branthoover <L.Branthoover@gaiconsultants.com>

Got it. Thank you, will you be sending a hard copy?

[Quoted text hidden]

--

George C. Eidel, CFM, OEM Director/Floodplain Manager

Doddridge County Office of Emergency Management

101 Church Street Suite 102

West Union, WV 26456-2095

Work Phone: 1-304-873-1343

Mobile Phone: 1-304-281-7407

Fax: 1-304-873-1840

doddridgecountyfpm@gmail.com

--

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Duncan Nickles <D.Nickles@gaiconsultants.com>

Tue, Mar 17, 2020 at 8:32 AM

To: George Eidel <doddridgecountyfpm@gmail.com>

Cc: "Johns, Leslie J" <LJOHNS@firstenergycorp.com>, "Betler, Michael L" <mbetler@firstenergycorp.com>, "Miller, Richard V" <rvmiller@firstenergycorp.com>, John Klamut <J.Klamut@gaiconsultants.com>, Laura Branthoover <L.Branthoover@gaiconsultants.com>

I would be happy to do so. Is one copy sufficient?

Would you like full size drawings or are 11x17 plans sufficient?

Can you provide an address?

Thank you.

Duncan

Duncan M. Nickles, PE

D 412.399.5513 M 724.406.5094 d.nickles@gaiconsultants.com



GAI Consultants

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From: George Eidel <doddridgecountyfpm@gmail.com>
Sent: Tuesday, March 17, 2020 8:32 AM
To: Duncan Nickles <D.Nickles@gaiconsultants.com>
Cc: Johns, Leslie J <LJOHNS@FirstEnergyCorp.com>; Betler, Michael L <mbetler@firstenergycorp.com>; Miller, Richard V <rvmiller@firstenergycorp.com>; John Klamut <J.Klamut@gaiconsultants.com>; Laura Branthoover <L.Branthoover@gaiconsultants.com>
Subject: Re: TrAILCo / FirstEnergy Big Flint Run Laydown Yard Floodplain Permit Application

EXTERNAL E-MAIL MESSAGE

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Tue, Mar 17, 2020 at 8:35 AM

One copy would be great, yes full size drawings. Thanks

[Quoted text hidden]

Duncan Nickles <D.Nickles@gaiconsultants.com>
To: George Eidel <doddridgecountyfpm@gmail.com>
Cc: John Klamut <J.Klamut@gaiconsultants.com>, Laura Branthoover <L.Branthoover@gaiconsultants.com>, "Johns, Leslie J" <LJOHNS@firstenergycorp.com>, "Miller, Richard V" <rvmiller@firstenergycorp.com>, "Betler, Michael L" <mbetler@firstenergycorp.com>

Tue, Mar 17, 2020 at 9:48 AM

Thank you.

We will get this into the mail today and you should get it in the morning.

When you get a chance to evaluate what the fee should be, just let me know so we can get that in the mail to you as well.

Again, thank you for the quick response.

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Tue, Mar 17, 2020 at 9:50 AM

Look at your cost and do an estimate, email me and I will let you know if it is good or not. Include you numbers so I know where you came up with your cost.

Thanks

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Tue, Mar 17, 2020 at 10:23 AM

Also, send our office copies of all other permits. Thanks

[Quoted text hidden]

Duncan Nickles <D.Nickles@gaiconsultants.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Tue, Mar 17, 2020 at 10:26 AM

Do you need hard copies or will electronic copies be sufficient?

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Tue, Mar 17, 2020 at 10:38 AM

Send them with the hard copy, thanks

[Quoted text hidden]

Duncan Nickles <D.Nickles@gaiconsultants.com>
To: George Eidel <doddridgecountyfpm@gmail.com>
Cc: "Johns, Leslie J" <LJOHNS@firstenergycorp.com>, "Miller, Richard V" <rvmiller@firstenergycorp.com>, John Klamut <J.Klamut@gaiconsultants.com>, Laura Branthoover <L.Branthoover@gaiconsultants.com>

Tue, Mar 17, 2020 at 11:47 AM

I believe that this project would fall under the heading of a New Industrial Structures or Additional and/or Substantial Improvement to Existing Industrial Structures, Changes in Land Use and Land Altering Activities for Industrial Purposes with a fee of \$500 if the total cost is less than \$100,000 and \$1,000 + \$5 per every \$1,000 over \$100,000.

FirstEnergy bid this project as part of a larger development package so that we do not have a Contractor's estimate that isolates the development cost for this yard by itself. FirstEnergy assumes that the total cost for development of this temporary laydown yard is less than \$100,000 so the fee for this permit application would be \$500.

Does that seem appropriate to you?

Duncan

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Duncan Nickles <D.Nickles@gaiconsultants.com>
Cc: "Johns, Leslie J" <LJOHNS@firstenergycorp.com>, "Miller, Richard V" <rvmiller@firstenergycorp.com>, John Klamut <J.Klamut@gaiconsultants.com>, Laura Branthoover <L.Branthoover@gaiconsultants.com>

Tue, Mar 17, 2020 at 11:50 AM

Sounds good to me. That will be okay.

Thanks

[Quoted text hidden]



George Eidel <doddridgecountyfpm@gmail.com>

TrAILCo / FirstEnergy Big Flint Laydown Yard Floodplain Permit

6 messages

Duncan Nickles <D.Nickles@gaiconsultants.com>

Thu, Mar 19, 2020 at 1:11 PM

To: George Eidel <doddridgecountyfpm@gmail.com>

Cc: "Johns, Leslie J" <LJOHNS@firstenergycorp.com>, "Miller, Richard V" <rvmiller@firstenergycorp.com>, "Betler, Michael L" <mbetler@firstenergycorp.com>, John Klamut <J.Klamut@gaiconsultants.com>, Lisa Keck <l.keck@gaiconsultants.com>, Lawrence Peterson <L.Peterson@gaiconsultants.com>

George, per our conversation earlier today, FirstEnergy has requested that you speak with the Commissioners at your earliest convenience concerning the Floodplain Permit Application for the Big Flint Laydown Yard Project. FirstEnergy would like to start work at the site as quickly as possible and would appreciate anything that you and the Commissioners can do to help facilitate a timely start.

If you are able to speak with them (read the permit, as you stated it) during tomorrow's Emergency Meeting and they are willing to allow FirstEnergy to begin work, please let us know. If this has to wait for the April 7th Meeting, please let me know that as well just so I can keep FirstEnergy informed regarding the status of the permit and project.

Thank you for your cooperation and assistance.

Duncan

Duncan M. Nickles, PE
Engineering Manager**GAI Consultants**, 6000 Town Center Blvd., Suite 300, Canonsburg, PA 15317T 724.873.3545 D 412.399.5513 M 724.406.5094 d.nickles@gaiconsultants.com

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George Eidel <doddridgecountyfpm@gmail.com>

Thu, Mar 19, 2020 at 1:19 PM

To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Duncan,

I have it on the agenda for the 7th of April. I will check and see if they are okay with me approving you to start then, after the reading. We are bound by our ordinance, our office does have some leeway with approval from the commission. Will see what I can do, no guarantees.

George

[Quoted text hidden]

--

George C. Eidel, CFM, OEM Director/Floodplain Manager

Doddridge County Office of Emergency Management

101 Church Street Suite 102

West Union, WV 26456-2095

Work Phone: 1-304-873-1343

Mobile Phone: 1-304-281-7407

Fax: 1-304-873-1840

doddridgecountyfpm@gmail.com

--

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Duncan Nickles <D.Nickles@gaiconsultants.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Thu, Mar 19, 2020 at 1:21 PM

Thank you very much! I appreciate the help.

Duncan

Duncan M. Nickles, PE

D 412.399.5513 M 724.406.5094 d.nickles@gaiconsultants.com



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From: George Eidel <doddridgecountyfpm@gmail.com>

Sent: Thursday, March 19, 2020 1:20 PM

To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Subject: Re: TrAILCo / FirstEnergy Big Flint Laydown Yard Floodplain Permit

EXTERNAL E-MAIL MESSAGE

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Wed, Mar 25, 2020 at 9:38 AM

Duncan,

Sorry I have not gotten back with you, been busy on my emergency management side of my job with the current issues. If all goes well we will have a commission meeting April 7, 2020. After the reading I will issue a permit to you. While this is not how it is usually done, I want to make sure we keep people working. If you have any questions please let me know.

On Thu, Mar 19, 2020 at 1:11 PM Duncan Nickles <D.Nickles@gaiconsultants.com> wrote:

[Quoted text hidden]

[Quoted text hidden]

Duncan Nickles <D.Nickles@gaiconsultants.com>
To: George Eidel <doddridgecountyfpm@gmail.com>

Wed, Mar 25, 2020 at 9:46 AM

Thank you George; we appreciate the update.

Duncan

Duncan M. Nickles, PE

D 412.399.5513 M 724.406.5094 d.nickles@gaiconsultants.com



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From: George Eidel <doddridgecountyfpm@gmail.com>
Sent: Wednesday, March 25, 2020 9:39 AM
To: Duncan Nickles <D.Nickles@gaiconsultants.com>
Subject: Re: TrAILCo / FirstEnergy Big Flint Laydown Yard Floodplain Permit

EXTERNAL E-MAIL MESSAGE

Duncan,

[Quoted text hidden]

[Quoted text hidden]

[Quoted text hidden]

George Eidel <doddridgecountyfpm@gmail.com>
To: Duncan Nickles <D.Nickles@gaiconsultants.com>

Fri, Apr 3, 2020 at 7:41 AM

Duncan,

Good morning, due to the recent developments with the Coronavirus (COVID-19) our county commission meetings have been cancelled for the foreseeable future. I am going to approve your permit and get it out to you, where do you want me to mail it to and to who's attention?

George

[Quoted text hidden]

GAI Consultants, Inc.

Murrysville Office
 4200 Triangle Lane
 Export, PA 15632-1358
 T 724.387.2170 | F 724.387.2265
www.gaiconsultants.com

Letter of Transmittal

TRANSMITTAL NO.	T006
DATE:	3/17/2020
PROJECT NO.	C180795.00 Task 21

3/18/20 12:58 PM

Doddridge County Office of Emergency Management
 101 Church Street
 Suite 102
 West Union, WV 26456-2095
 Attention: George C. Eidel 304-873-1343
 Director/Floodplain Manager

PROJECT TITLE:
 TRAIL Co / First Energy Big Flint Run Laydown Yard

SUBJECT:
 Floodplain Permit Application

WE ARE SENDING YOU: Paper Documents
VIA: Next Day Delivery
PURPOSE: For Permit

COMMENTS:

ATTACHMENTS:

Qty	Document No.	Rev	Document Date	Document Description/Title	Status*
1	Drawing Package				
1	Permit Application				
1	WVDEP Approval Letter				
1	SWPPP Package				
1	Driveway Permit				

*Status Codes for Submittal Package Reviews: NE=No Exceptions; EN=Exceptions Noted; RR=Revise & Resubmit; RJ=Rejected

DISTRIBUTION:

Name	Company	Transmittal (Y/N)	Attachments (Y/N)

Sincerely,

Laura Branthoover

Laura Branthoover
 Senior Project Engineer

FP # 20-568

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:

Please take notice that on the (17th) of (March), 2020, (First Energy) filed an application for a Floodplain Permit (#20-568) to develop land located at or about (6984 Big Flint Rd); Coordinates: 39.351226, -80.702274. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 298 Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (April 27, 2020) {20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting} delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This

was published in The Doddridge Independent
2 times commencing on Friday, August 8, 2014 and
Ending on Friday, August 15, 2014 at the request of:

**George Eidel, Doddridge County Floodplain
Manager & Doddridge County Commission**

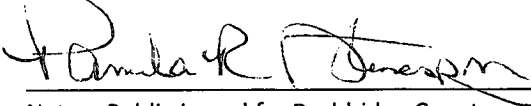
Given under my hand this Friday, August 15, 2014

The publisher's fee for said publication is:
\$ 31.05 1st Run/\$ 23.29 Subsequent Runs
This Legal Ad Total: \$ 54.34



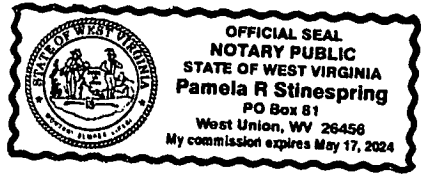
Michael D. Zorn
Publisher of The Doddridge Independent

Subscribed to and sworn to before me on
this date: 3/31/20



Notary Public in and for Doddridge County

My Commission expires on
The 17th day of MAY 20 24



Floodplain Public Notice • Legal Notice
Please take notice that on the (17th) of (March), 2020, (First Energy) filed an application for a Floodplain Permit (#20-568) to develop land located at or about (6984 Big Flint Rd); Coordinates: 39.351226, -80.702274. The Application is on file with the Floodplain Manager of the County and may be inspected or copied during regular business hours in accordance to WV Code Chapter 298 Freedom of Information, Article 1 Public Records and county policy and procedures. Any interested persons who desire to comment shall present the same in writing by (April 27, 2020) {20 calendar days after the announcement at the regularly scheduled Doddridge County Commission Meeting} delivered to the Floodplain Manager of the County at 105 Court Street, Suite #3, West Union, WV 26456. This project is for a lay down yard to support the construction of a new power substation C2 03/20-03/27

**In a time of domestic crisis, men of
able to unite regardless of par**



Stormwater Pollution Prevention Plan

Trans-Allegheny Interstate Line Company (A FirstEnergy Company)
Flint Run Project: Big Flint Road Laydown Yard
Salem, Doddridge County, West Virginia

GAI Project Number: C180795.00, Task 009
December 2019

Revised January 2020



Prepared by: GAI Consultants, Inc.
Southpointe Office
6000 Town Center Boulevard, Suite 300
Canonsburg, Pennsylvania 15317-5841

Prepared for: Trans-Allegheny Interstate Line
Company (A FirstEnergy Company)
76 South Main Street, A-GO-3
Akron, Ohio 44308

Stormwater Pollution Prevention Plan

Trans-Allegheny Interstate Line Company (A FirstEnergy Company)
Flint Run Project: Big Flint Road Laydown Yard
Doddridge County, West Virginia

APR 18 20 12:56 PM

GAI Project Number: C180795.00, Task 009

FP# 20-568

December 2019

Revised January 2020

Prepared for:
Trans-Allegheny Interstate Line Company (A FirstEnergy Company)
76 South Main Street, A-GO-3
Akron, Ohio 44308

Prepared by:
GAI Consultants, Inc.
Southpointe Office
6000 Town Center Boulevard, Suite 300
Canonsburg, Pennsylvania 15317-5841

Report Authors:

Digitally signed by Laura R. Branthoover
DN:
E=L.Branthoover@gaiconsultants.com,
CN=Laura R. Branthoover
Date: 2020.02.07 12:30:19-05'00'

Laura R. Branthoover, PE
Senior Project Engineer

Digitally signed by Duncan M. Nickles
DN:
E=D.Nickles@gaiconsultants.com,
CN=Duncan M. Nickles
Date: 2020.02.07 12:58:41-05'00'

Duncan M. Nickles, PE
Engineering Manager

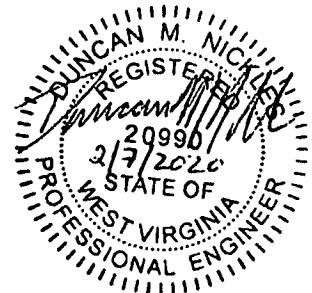


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Appendix A	Soils Report
Appendix B	Pre-Construction and Post-Construction Stormwater Calculations and Erosion and Sediment Control Calculations
Appendix C	Generic Groundwater Protection Plan
Appendix D	Public Notice Sign
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1.0 Sediment Control Plan

1.1 Project Description

Trans-Allegheny Interstate Line Company (TrAILCo), A FirstEnergy Company, is proposing the Flint Run Project: Big Flint Road Laydown Yard (Project) in Doddridge County, West Virginia (WV). The Project involves the construction of a laydown yard area. The laydown yard will act as a temporary staging area, parking area and storage yard for construction projects within Doddridge County.

A total of approximately 3.1 acres will be disturbed during construction of the laydown yard.

1.2 Existing Site Conditions

The site's existing site ground cover consists primarily of meadows. The topography of the Project is considered hilly and mountainous and is located in the Middle Ohio River North Watershed.

1.3 Adjacent Areas

Adjacent areas to the Project primarily include forested and mountainous areas. Riggins Run Road and Big Flint Road are adjacent to the Project Limits. Streams and wetlands were delineated adjacent to the laydown yard area. Nearby streams and wetlands shall be avoided by construction activities.

1.5 Existing Soils Data

The Project is located in Doddridge County, WV. The soil associations are identified through the United States Department of Agriculture (USDA) Natural Resources Conservation Service web soil survey for Doddridge County. Soil series are shown on the Plan Drawings and the Resource Report and Soils Map.

There are several soil types within the Project disturbance area, most of the site is Gilpin-Peabody Silt Loams or Gilpin-Peabody Complex. More information on these soils is provided in Appendix A.

1.6 Potential Erosional Areas

The earth disturbance at the proposed laydown yard area will have the most potential for erosion. Erosion and Sediment Control (E&SC) Best Management Practices (BMPs) will be used to mitigate for sediment laden runoff from the disturbed areas. The BMPs include silt fence, super silt fence, compost filter sock, stabilized construction entrances, vegetative stabilization, and temporary and permanent seeding as shown on the E&SC Detail Sheets.

1.7 Twelve Elements

1.7.1 Element #1: Mark Clearing Limits

Proposed Laydown Yard will be utilized for construction parking, staging and storage and will require clearing and/or grading as shown on the plan view drawings. Wetlands will be clearly marked in the field with orange construction safety fence to reduce impacts. The limits of clearing and LOD will be clearly marked in the field prior to earth disturbance on the Project.

1.7.2 Element #2: Establish Construction Access

A stabilized construction entrance will be installed as shown on the E&SC Plan drawings. The stabilized construction entrance will be built according to the detail in the WV E&SC BMP Manual and as shown on the E&SC detail drawings. Regular maintenance will be performed so that the entrance will prevent sediment from tracking onto paved roads by vehicles or equipment. Sediment which is spilled, dropped, washed or tracked on to public right-of-ways (ROWs) will be removed.

1.7.3 Element #3: Install Sediment Controls

E&SCs will be installed prior to vegetation management and clearing/grubbing. These controls include a stabilized construction entrance and perimeter controls (compost filter sock, silt fence, super silt fence).

Stripped topsoil will be stockpiled so that it can be used for reclamation at the end of the Project. Soil stockpile areas will be utilized for the Project and will be in areas identified as proposed topsoil stockpile. Silt fence, super silt fence, or compost filter sock will be used to mitigate runoff from the stockpiles. Stockpiles will be seeded if left undisturbed for more than 14 days.

E&SCs for this Project include silt fence, super silt fence, compost filter sock, a stabilized construction entrance, and vegetative stabilization.

Compost filter sock (CFS) will be used for limited drainage areas, requiring sediment control where runoff is in the form of sheet flow or in areas that silt fence is normally considered acceptable. CFS is to be designed per the requirements specified on Sheet 006. Super silt fence shall be utilized where conditions exceed CFS limitations.

Silt fence and/or super silt fence can be used in lieu of CFS. Silt fence and super silt fence is to be designed per slope requirements specified on Sheet 005 of the E&SC Detail Sheets.

1.7.4 Element #4: Stabilize Soils

Temporary seeding will be used where exposed soil surfaces are not to be fine-graded for periods longer than 14 days. A permanent vegetative cover shall be applied to areas that will be left unworked for a period of more than six months. It shall also be used in disturbed areas where permanent, long-lived vegetative cover is needed to stabilize the soil. Applicable practices include temporary and permanent seeding, mulching, silt fence, super silt fence and compost filter sock.

Temporary and Permanent Vegetative Stabilization: Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven days after the construction activity in that portion of the site has permanently ceased.

- + Where the initiation of temporary or permanent stabilization measures by the fourth day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as conditions allow.
- + Where construction activity will resume on a portion of the site within 14 days from when activities ceased, (e.g., the total time period that construction activity is temporarily halted is less than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the fourth day after construction activities have temporarily ceased.
- + Areas where the seed has failed to germinate adequately (uniform perennial vegetative cover with a density of 70 percent) within 30 days after seeding and mulching must be reseeded immediately, or as soon as weather conditions allow.

1.7.4.1 Temporary Seeding

Introduction. Temporary erosion control measures consist of seeding and mulching, or matting used to produce a quick ground cover to reduce erosion on exposed soils that may be redisturbed or permanently stabilized at a later date.

Conditions Where Practice Applies. This method will be used where exposed soil surfaces are not to be fine-graded for periods longer than 14 days. Such areas include denuded areas, soil stockpiles, dikes, dams, sides of sediment basins, temporary road banks, etc. A permanent vegetative cover shall be applied to areas that will be left unworked for a period of more than six months.

Planning Considerations. Sheet erosion, caused by the impact of rain on bare soil, is the source of most fine particles in sediment. To reduce this sediment load in runoff, the soil surface itself should be protected. The most efficient and economical means of controlling sheet and rill erosion is to establish vegetative cover. Annual plants that sprout rapidly and survive for only one growing season are suitable for establishing temporary vegetative cover. Temporary seeding is encouraged whenever possible to aid in controlling erosion on construction sites. A Temporary Seeding Chart is provided in Table 1.

Table 1
Temporary Seeding Chart

Plant Names		Planting Dates	Application Rate Pounds/Acre
Common	Scientific		
Annual Ryegrass	<i>Lolium multiflorum</i>	2/16 - 5/15 and 8/1 - 11/1	80
Field Bromegrass	<i>Bromus ciliatus</i>	3/1 - 6/15 and 8/1 - 9/15	80
Spring Oats	<i>Avena sativa</i>	3/1 - 6/15	200
Winter Rye	<i>Secale cereale</i>	8/15 - 2/28	340
Winter Wheat	<i>Triticum aestivum</i>	8/15 - 2/28	360
Japanese Millet	<i>Echinochloa crusgalli</i>	5/15 - 8/15	60
Redtop	<i>Agrostis alba</i>	3/1 - 6/15	20
Annual Ryegrass and Spring Oats	<i>Lolium multiflorum</i> <i>Avena sativa</i>	3/1 - 6/15	60 140
German/Foxtail Millet	<i>Setaria italica</i>	5/1 - 8/1	80
Hairy Vetch ¹	<i>Vicia villosa</i>	8/15 - 4/1	120

Note:

- ¹ Inoculation is required. If a hydro seeder is utilized, the application rate is five times the recommended rate.

Construction Specifications. Prior to seeding, install necessary erosion control practices such as silt fence, compost filter sock, and level spreaders.

Plant Selection. Select plants appropriate to the season and site conditions.

Seedbed Preparation. To control erosion on bare soil surfaces, plants must be able to germinate and grow. Seedbed preparation is essential. If the area has been recently loosened or disturbed, no further roughening is required. When the area is compacted, crusted, or hardened, the soil surface must be loosened by disking, raking, harrowing, or other acceptable means.

Seeding. Seed shall be evenly applied with a broadcast seeder, drill, multipacket seeder or hydro seeder. Small grains shall be planted no more than 1.5 inches deep. Small seeds, such as annual rye, shall be planted no more than one-quarter-inch deep. Other grasses and legumes shall be planted no more than one-half-inch deep.

Mulching. Temporary seeding conducted in fall for winter cover and during hot and dry summer months shall be mulched with straw or hay according to the standard for mulching. Hydro mulches (fiber mulch) may not provide adequate temperature and moisture control.

Maintenance. Areas that fail to establish a vegetative cover adequate to prevent rill erosion should be reseeded as soon as such areas are identified.

1.7.4.2 Permanent Seeding

Introduction. Permanent seeding is the establishment of perennial vegetative cover on disturbed areas by planting seed. Permanent seeding is implemented to reduce erosion and decrease sediment yield from disturbed areas, and to permanently stabilize disturbed areas in a manner that is economical, adaptable to site conditions and allows selection of the most appropriate plant materials.

Conditions Where Practice Applies. This method will be used on disturbed areas where permanent, long-lived vegetative cover is needed to stabilize the soil and on rough-graded areas that will not be brought to final grade for six months or more.

Planning Considerations. Vegetation controls erosion by reducing the velocity and the volume (by increasing infiltration) of overland flows, protecting the bare soil surface from raindrop impact and binding the soil particles together by the roots and rhizomes.

Selecting Plants. The factors affecting plant growth are climate, soils and topography. In WV, there are three major physiographic regions that reflect changes in soil and topography. In selecting appropriate plant materials, one should consider the characteristics of the physiographic region in which the Project is located. The Project is located in the Western Plateau region. A brief description of each region is listed below.

Seed Mixtures. The establishment of high-quality turf frequently involves planting one single species. However, in seedings for erosion control purposes, the inclusion of more than one species should always be considered. The addition of a nurse crop (quick-growing annuals added to permanent mixtures) is a sound practice for soil stabilization, particularly on difficult sites - those with steep slopes, poor, rocky, erosive soils, those seeded outside of the optimum seeding periods or in any situation where the permanent cover development is likely to be slow. A Permanent Seeding Chart is provided in Table 2 and accompanying nurse crops in Table 3.

Table 2
Permanent Seeding Chart

Seed Mix	Plant Names		Application Rate Pounds/Acre
	Common	Scientific	
B	Switchgrass	<i>Panicum virgatum</i>	60
	Perennial Ryegrass	<i>Lolium perenne</i>	80
	Redtop	<i>Agrostis alba</i>	20
	Birdsfoot Trefoil	<i>Lotus corniculatus</i>	60

Notes:

- Seed Mix B appropriate for soils with a pH range of 5.0-7.5; should additional pH ranges be encountered; this mix will need to be adjusted or soil supplements will be required to achieve the pH range necessary. Installation of Mix B between 6/16 and 8/14 or between 9/16 and 2/28 require the addition of a Nurse Crop.

Maintenance. When it is clear that plants have not germinated on an area or have died, these areas must be prepared and reseeded immediately to prevent erosion damage. It is important to determine why germination did not take place and make any necessary corrective actions. Some highly acidic soils (especially around various coal seams in the coalfields) will resist the best efforts to revegetate them. In these cases, top soiling will be the only way to establish vegetation.

Table 3
Nurse Crops

Plant Names		Planting Dates	Application Rate Pounds/Acre
Common	Scientific		
Annual Ryegrass	<i>Lolium multiflorum</i>	2/16 - 5/15 and 8/1 - 11/1	100
Field Bromegrass	<i>Bromus ciliatus</i>	3/1 - 6/15 and 8/1 - 9/15	80
Spring Oats	<i>Avena sativa</i>	3/1 - 6/15	200
Winter Rye	<i>Secale cereale</i>	8/15 - 2/28	340
Winter Wheat	<i>Triticum aestivum</i>	8/15 - 2/28	360
Japanese Millet	<i>Echinochloa crusgalli</i>	5/15 - 8/15	60
Redtop	<i>Agrostis alba</i>	3/1 - 6/15	40
Annual Ryegrass and Spring Oats	<i>Lolium multiflorum</i> <i>Avena sativa</i>	3/1 - 6/15	60 140
German/Foxtail Millet	<i>Setaria italica</i>	5/1 - 8/1	100
Hairy Vetch ¹	<i>Vicia villosa</i>	8/15 - 4/1	120

Note:

- Inoculation is required. If a hydro seeder is utilized, the application rate is five times the recommended rate.

Seedbed Requirements. Vegetation should not be established on slopes that are unsuitable due to inappropriate soil texture, poor internal structure or internal drainage, volume of overland flow, or excessive steepness until measures have been taken to correct these problems.

To maintain a good stand of vegetation, the soil should meet certain minimum requirements such as a growth medium.

The soil should have the following characteristics:

1. Enough fine-grained material to maintain adequate moisture and nutrient supply.
2. Sufficient pore space to permit root penetration. A fine granular or crumb-like structure is favorable.
3. Sufficient depth of soil to provide an adequate root zone. The depth to rock or impermeable layers such as hardpans should be 12 inches or more, except on slopes steeper than 2:1 where the addition of soil is not feasible.
4. A favorable pH range for plant growth.
5. Freedom from toxic amounts of materials harmful to plant growth.
6. Freedom from excessive quantities of roots, branches, large stones, large clods of earth or trash of any kind.

Appropriate structural erosion control practices, needed to control overland flow to protect the seedbed, should be installed prior to seeding.

Surfaces will be roughened in accordance with surface roughening section contained within WV E&SC BMP Manual.

Soil Conditioners. In order to modify the texture, structure, or drainage characteristics of a soil, the following materials may be added to the soil:

1. Peat is a very costly conditioner but works well. If added, it shall be sphagnum moss peat, hypnum moss peat, reed-sedge peat or peat humus, from freshwater sources.
2. Sand shall be clean and free of toxic materials. If this practice is considered, consult a professional authority to ensure that it is done properly.
3. Vermiculite shall be horticultural grade and free of toxic substances.
4. Manure, including poultry litter, in its composted form, is a viable soil conditioner. The use of manure should be based on site-specific recommendations offered by a professional in this field such as an agriculture extension agent or USDA employee.
5. Thoroughly rotted sawdust shall have six pounds of nitrogen added to each cubic yard and shall be free of stones, sticks, and toxic substances.
6. When composted, treated sewage sludge offers an alternative soil amendment. This practice should be thoroughly evaluated by a professional and used in accordance with any local, state, and federal regulations.

Lime and Fertilizer. Lime and fertilizer needs should be determined by soil tests. Soil tests may be performed by the WV University (WVU) Extension Service soil testing laboratory or by a reputable commercial laboratory. Information concerning the WVU soil testing laboratory is available from county extension agents.

Under unusual conditions where it is not possible to obtain a soil test, the following soil amendments will be applied:

Lime. Two tons per acre (90 lbs. per 1,000 square feet) pulverized agricultural grade limestone shall be applied.

Note: An agricultural grade of limestone should always be used except in inaccessible areas; lime may have to be applied separately in pelletized or liquid form.

Fertilizer. Mixed grasses and legumes: 1,000 lbs. per acre nutrients (23 lbs. per 1,000 square feet) 10-20-10 or equivalent shall be applied.

Legume stands only: 1,000 lbs. per acre (23 lbs. per 1,000 square feet) 5-20-10 is preferred; however, 1,000 lbs. per acre of 10-20-10 or equivalent may be used.

Grass stands only: 1,000 lbs. per acre (23 lbs. per 1,000 square feet) 10-20-10 or equivalent nutrients shall be applied.

Other fertilizer formulations, including slow-release sources of nitrogen (preferred from a water quality standpoint), may be used provided they can supply the same amounts and proportions of plant nutrients.

Lime and fertilizer shall be incorporated into the top four to six inches of the soil by disking or other means whenever possible. When applying lime and fertilizer with a hydro seeder, apply to a rough, loose surface.

Seeding. Appropriately labeled seed will be used for permanent seeding whenever possible. Labeled seed is inspected by the WV Department of Agriculture. The seed must be appropriately labeled or tagged as defined in the WV Seed Law, Chapter 19 Article 16.

1. Legume seed should be inoculated appropriate to the species. Seed of the lespedezas, the clovers and crown vetch should be scarified to promote uniform germination.
2. Apply seed uniformly with a broadcast seeder, drill, culti-packer seeder or hydro seeder. See Seedbed Requirement above for seedbed preparation. Seeding depth should be one-quarter-inch to one-half-inch.
3. To avoid poor germination rates as a result of seed damage during hydroseeding, it is recommended that if a machinery breakdown of 30 minutes to two hours occurs, 50 percent more seed be added to the tank, based on the proportion of the slurry remaining in the tank. Beyond two hours, a full rate of new seed may be necessary.
4. Surface roughening is particularly important when hydroseeding, as a roughened slope will provide some natural coverage for lime, fertilizer and seed.

Legume inoculants should be applied at five times the recommended rate when the inoculant is included in the hydro seeder slurry.

Mulching. Permanent seeding must be mulched immediately upon completion of seed application. Refer to the mulching section contained within this manual.

Irrigation. The newly seeded area should be supplied with adequate moisture. Supply water as needed, especially late in the season, in abnormally hot or dry weather, or on adverse sites. Water application rates should be controlled to prevent excessive runoff. Inadequate amounts of water may be more harmful than no water by causing the seedlings roots to curve towards the surface of the ground looking for moisture.

Reseeding. Inspect seeded areas for failure (less than 70 percent coverage) and make necessary repairs and reseeding within the same growing season, if possible.

1. If vegetative cover is inadequate to prevent rill erosion, over seed and fertilize in accordance with soil test results. If rills are large enough it may be necessary to regrade the rills out and reestablish a seedbed.
2. If a stand has less than 70 percent coverage, reevaluate choice of plant materials and quantities of lime and fertilizer. The soil must be tested to determine if acidity or nutrient imbalances are responsible. Reestablish the stand following seedbed preparation and seeding recommendations.

Fertilization. Cool season grasses should be fertilized 90 days after planting to ensure proper stand and density. Warm season grasses should be fertilized 30 days after planting.

Apply maintenance levels of fertilizer as determined by soil test. In the absence of a soil test, fertilization should be as follows:

Cool Season Grasses. Apply four lbs. nitrogen, one-lb. phosphorus, two lbs. potassium per 1,000 square feet per year. Seventy-five percent of the total requirements should be applied between September 1 and December 31. The balance should be applied prior to May 1 the following year. More than one lb. of soluble nitrogen per 1,000 square feet should not be applied at any one time.

Warm Season Grasses. Apply four to five lbs. nitrogen between May 1 and August 15 per 1,000 square feet per year. Phosphorus and Potassium should only be applied according to soil test.

Note: The use of slow-release fertilizer formulations for maintenance of turf is encouraged to reduce the number of applications and the impact on groundwater.

Note: The permanent seeding section is not meant to be an all-inclusive list of possible seeding mixtures. There may be other purposes such as wildlife habitat or natural beauty that would require alternative mixtures. The WV Department of Environmental Protection (WVDEP) encourages the submission of enhanced vegetation plans for other purposes with your National Pollutant Discharge Elimination System permit application.

1.7.5 Element #5: Protect Slopes

The Project LOD includes proposed laydown yard area and material stockpiles.

Depending on land slope, silt fence, super silt fence, or compost filter sock will be placed downslope of all disturbed areas. Stabilization of disturbed areas with slopes of 3:1 or greater will apply rolled erosion control products and seed.

The majority of the soil types of this Project have a slight erosion hazard. Temporary and Permanent seeding will be used to mitigate runoff on slopes.

1.7.6 Element #6: Protect Drain Inlets

There are no existing drains within the Project area and no drains are proposed as part of the Project.

1.7.7 Element #7: Convey Stormwater in a Non-Erosive Manner

It is anticipated that there will be no increase in the change in peak rate from pre-construction to post-construction conditions. The proposed grading at the laydown yard area will aid in conveying stormwater in a non-erosive manner.

1.7.8 Element #8: Control Other Pollutants

Pollutants, including waste materials and demolition debris shall be managed and disposed of in a manner that does not cause contamination of surface water. Woody debris may be chipped and spread on site.

Fuels used and stored onsite shall have proper containment and spill prevention measures in place. Spill prevention measures will be provided in the groundwater protection plan. Chemicals, liquid products, petroleum products and non-inert wastes shall be stored properly, labeled correctly, and security measures are in place.

Maintenance and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into surface water runoff must be conducted using spill prevention measures, such as drip pans. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident. Emergency repairs may be performed on-site using temporary plastic placed beneath and, if raining, over the vehicle.

1.7.9 Element #9: Control Dewatering

Dewatering may occur during excavation construction activities, and pumped water will be filtered through a dewatering bag to treat sediment laden water. Bags will be placed on an aggregate or hay bale bed on a very slight slope so incoming pumped water flows through the bag as shown on the plan detail drawings. Discharge from the dewatering bag will flow to a stabilized area as shown on the plan detail drawings. The Contractor shall follow the manufacturer's recommendations for flow rates when pumping to the dewatering bag.

1.7.9 Element #10: Maintain BMPs

Temporary E&SC BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. Maintenance and repair shall be conducted in accordance with the applicable BMP maintenance schedule. Sediment control BMPs shall be inspected every **four** calendar days and after each storm of **0.25-inches** or more per 24 hours. Once the disturbed areas of the site are stabilized, any E&S controls that remain on site need to be inspected once every **four** calendar days, or after a 24-hour storm event of **0.25-inches** or greater. Required repairs will be made as soon as practicable. Temporary E&SC BMPs should be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil resulting from removal of BMPs or vegetation shall be permanently stabilized.

Silt Fence, Super Silt Fence and Compost Filter Sock Maintenance.

- + Silt fences and compost filter socks shall be inspected immediately after each rainfall of **0.25-inches** or greater in a 24-hour period or once every **four** calendar days. Any required repairs or maintenance shall be made as soon as practicable.
- + Close attention shall be paid to the repair of damaged compost filter sock or silt fence resulting from end runs and undercutting. If the sock or fence is not installed on the contour (perpendicular to the flow of the water) both of these conditions can occur.
- + Should the fabric on a compost filter sock or silt fence decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced.
- + Sediment deposits should be removed when deposits reach approximately one half the height of the barrier.
- + If section of compost filter sock or silt fence is knocked down or undercut, during a rain event (because it was installed in an area of concentrated flow) then other measures such as a sediment trap, water diversion, or a larger sized compost filter sock may be installed.

Stabilized Construction Entrance Maintenance.

- + The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public ROW. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap

sediment. Sediment spilled, dropped, washed or tracked onto public ROW must be removed.

- + Wheels on all vehicles shall be cleaned to remove sediment prior to entrance onto public ROW. If washing is required, it shall be done on an area stabilized with stone and which drains into approved sediment trapping device. If the street is washed precautions must be taken to prevent muddy water from running into waterways or storm sewers.
- + Inspection and needed maintenance should be provided daily but at a minimum every **four** calendar days and after every rain of **0.25-inches** or greater during a 24-hour period.

1.7.10 Element #11: Manage the Project

Exposed areas and disturbed areas will be revegetated as the Project progresses.

Inspection and Monitoring. BMPs shall be inspected, maintained, and repaired as needed to assure continued performance of their intended function. Whenever inspection and/or monitoring reveals that the BMPs identified in the E&SC Plan (E&SCP) are inadequate, they shall be modified, as appropriate, in a timely manner.

- + Reporting - Report spillage or discharge of pollutants within 24 hours.
- + Equipment Maintenance - Maintenance and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into surface water runoff must be conducted using spill prevention measures, such as drip pans. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident. Contaminated soil must be disposed of properly. Emergency repairs may be performed on-site using temporary plastic placed beneath and, if raining, over the vehicle.
- + Maintenance of the E&SCP - The E&SCP shall be retained on-site. The E&SCP shall be modified whenever there is a significant change in the design, construction, operation, or maintenance of any BMP. The WVDEP must be notified of any changes to the Construction Stormwater Pollution Prevention Plan (SWPPP). Depending on the significance of the revision, a permit modification may need to be submitted to the WVDEP.

1.7.11 Element #12: Stabilization

The construction site should be stabilized as soon as possible after completion. Establishment of final cover must be initiated no later than four days after reaching final grade. A Notice of Termination must be filed with the WVDEP when the site reaches final stabilization. Final stabilization means that all soil-disturbing activities are completed, and that either a permanent vegetative cover with a density of 70 percent or greater has been established or that the surface has been stabilized by hard cover such as pavement, gravel, or buildings. It should be noted that the 70 percent requirement refers to the total area vegetated and not just a percentage of the site.

1.8 Construction Phasing

1.8.1 General

This construction sequence is intended to provide a general course of action during Project construction to conform to applicable regulatory agency requirements for temporary and permanent soil E&SC BMPs. It shall be the responsibility of the Contractor to comply with WVDEP and any applicable local, state, and federal regulations including but not limited to, the manner, direction, location, and condition of the waste disposal site chosen by the Contractor. Necessary parts for proper and complete execution of work pertaining to this plan, whether specifically mentioned or not, are to be performed by the Contractor. It is not intended that the drawings and this report show every detailed piece of material or equipment. The Contractor shall comply with the requirements listed in this section. The Contractor may be required to alter controls based on effectiveness of controls or differing site conditions encountered.

1.8.2 Construction Sequence

Laydown Yard:

1. Install Orange Safety Fence as identified on plans.
2. Mark the LOD.
3. Install Stabilized Construction Entrances and Perimeter Erosion and Sedimentation (E&S) Control Best Management Practices (BMPs), identified on the Erosion and Sedimentation Control Plan.
4. Complete excavation and fill placement. Initiate grading to elevations shown on drawings. Install geotextile fabric and aggregate surfacing.
5. Seed any areas of disturbance that have not been stabilized with aggregate surfacing.
6. Replace any removed topsoil and return area to original conditions.
7. Remove all garbage, debris, or unused material from the site.

1.9 Construction Schedule

Construction on the Project is scheduled to start in February 2020 and be completed in September 2020. The following is a typical timeline of construction activities to construct a laydown yard area:

Item No.	Activity	Estimated Start Date
1	Initiate Construction	February 2020
4	Strip and Stockpile Topsoil	February 2020
5	Begin Grading Activities at Laydown Yard	February 2020
6	Temporary Stabilization of Disturbed Areas (as appropriate)	February 2020– August 2020
7	Removal of Temporary E&SC BMPs	T.B.D.
8	Restoration of Disturbed Areas	T.B.D.
9	Demobilization of Equipment	September 2020

1.10 Engineering Calculations

Peak discharge rate and Sediment Trap calculations are located in Appendix B. It is anticipated that the post-construction peak runoff volume will remain the same as the existing condition due to restoration of the disturbed areas.

2.0 Groundwater Protection Plan

The Generic Groundwater Protection Plan for construction sites is provided in Appendix C and will be completed by TrAILCo and kept on-site during construction activities.

3.0 Stormwater Management Plan

Temporary on-site stormwater management controls are required during construction. All disturbed areas will be seeded and mulched immediately after construction. Stormwater best management practices will mitigate and store the runoff volume increase. The proposed grading at the laydown yard will aid in conveying stormwater in a non-erosive manner.

4.0 Plan to Control Other Pollutants

4.1 Preparedness, Prevention, and Contingency Plan for Construction Activities

4.1.1 Spill Prevention Methods

Efforts will be made to prevent spills of any amount of these products. The scope of this plan is intended to address activities related to construction of above and below ground facilities, associated overhead transmission lines, and appurtenances. The following guidelines will be followed to help avoid spills and minimize the impact of spills that accidentally occur:

- + Bulk quantities of both diesel fuel and gasoline may be stored off-site in aboveground tanks, which will be diked or be of double-wall secondary containment design, or smaller containers. No underground tanks will be used. A Material Safety Data Sheet for each hazardous material will be on site.
- + Fuel will be stored on-site within secondary containment and as much as practical all equipment will be refueled there. Equipment that must be refueled in the field will be fueled from delivery trucks that are stocked with appropriate spill kits.
- + Lesser quantities of fuel and solvents and lubricants (i.e., motor oils, hydraulic fluid) will be stored off-site to service equipment provided that this storage does not conflict with other parts of this plan. Secondary containment will be provided for these storage areas.
- + Fuel storage areas will be located at least 200 feet from active private water wells, and at least 400 feet from municipal water wells. Equipment servicing, lubricating, and refueling will also be in accordance with these requirements whenever possible.
- + Use of hazardous materials for vehicle maintenance will follow the same requirements mentioned above for equipment refueling. Impervious or sorbent materials will be placed under the work area before the work begins. Additional sorbent materials will also be readily available. Waste materials created during maintenance (i.e., used oil) will be collected for proper disposal. The work site and the vehicle will be inspected after the maintenance work is complete to ensure that all hazardous materials are properly contained. Waste material, including partially used or empty containers, discarded parts, dirty rags, and used sorbent material, as well as discarded hazardous materials containers (i.e., oil cans, grease tubes) will be collected and placed in open-top drums for proper disposal.
- + Motor fuel, lube oil, chemicals, and other polluting substances will be tightly sealed and clearly labeled during transportation and storage.

- + The Contractor Coordinator will maintain sufficient on-site spill kits containing absorbent materials approved for petroleum products.
- + Runoff resulting from construction equipment washing operations will not be permitted to directly enter any waterbody or wetland area.
- + Construction equipment, vehicles, materials, hazardous materials, chemicals, fuels, lubricating oils, and petroleum products will be parked, stored, or serviced 100 feet from all waterbodies and wetlands when not in use and when possible.
- + Any materials, equipment, hazardous materials, chemicals, fuels, lubricating oils, and petroleum products that must be used within 100 feet of a waterbody or wetland to support the work will only be used within the secondary containment protection and will be stored within temporary secondary containment during work hours. No materials, hazardous materials, chemicals, fuels, lubricating oils, or petroleum products that are not contained within equipment will be stored within 100 feet of a waterbody or wetland.
- + Other sections of this plan will be followed for spill prevention and mitigation and cleanup methods.

4.1.2 Mitigation and Cleanup Methods

In the event of a spill into or in the vicinity of waterbodies or wetlands, the following will occur:

- + The source will be immediately stopped.
- + The spill will be contained by placing sorbent booms or constructing dikes.
- + The spill will be collected with sorbent materials, skimmed off water surfaces with booms, and/or the contaminated soil will be excavated.
The waste materials will be properly disposed.

The affected areas will be restored as closely as possible to their previous condition. All spills must be reported immediately to the following TrAILCo personnel:

Ms. Amanda B. Habershaw 1-800-589-2837

TrAILCo will contact state and/or federal environmental agencies (if applicable) for notification requirements.

4.1.3 State and Federal Agency Contact Information

West Virginia

- + All spills or accidental discharges are required to be reported immediately to the emergency response spill alert system toll free telephone number 1-800-642-3074. Calls from out of state should be made to 304-328-8899.

Federal

- + National Response Center: 800-424-8802

DRAWINGS

TRANS-ALLEGHENY INTERSTATE LINE COMPANY (TrAILCo) - A FIRSTENERGY COMPANY

FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD
STORMWATER POLLUTION PREVENTION PLAN (SWPPP)
DODDRIDGE COUNTY, WEST VIRGINIA

DECEMBER 2019

REVISED JANUARY 2020

INDEX OF DRAWINGS	
DRAWING NUMBER	SHEET TITLE
001	COVER
002	EROSION AND SEDIMENT CONTROL NOTES AND LEGEND
003	OVERALL EXISTING CONDITION PLANS
004	EROSION AND SEDIMENT CONTROLS
005	EROSION AND SEDIMENT CONTROL DETAILS (1 OF 2)
006	EROSION AND SEDIMENT CONTROL DETAILS (2 OF 2)

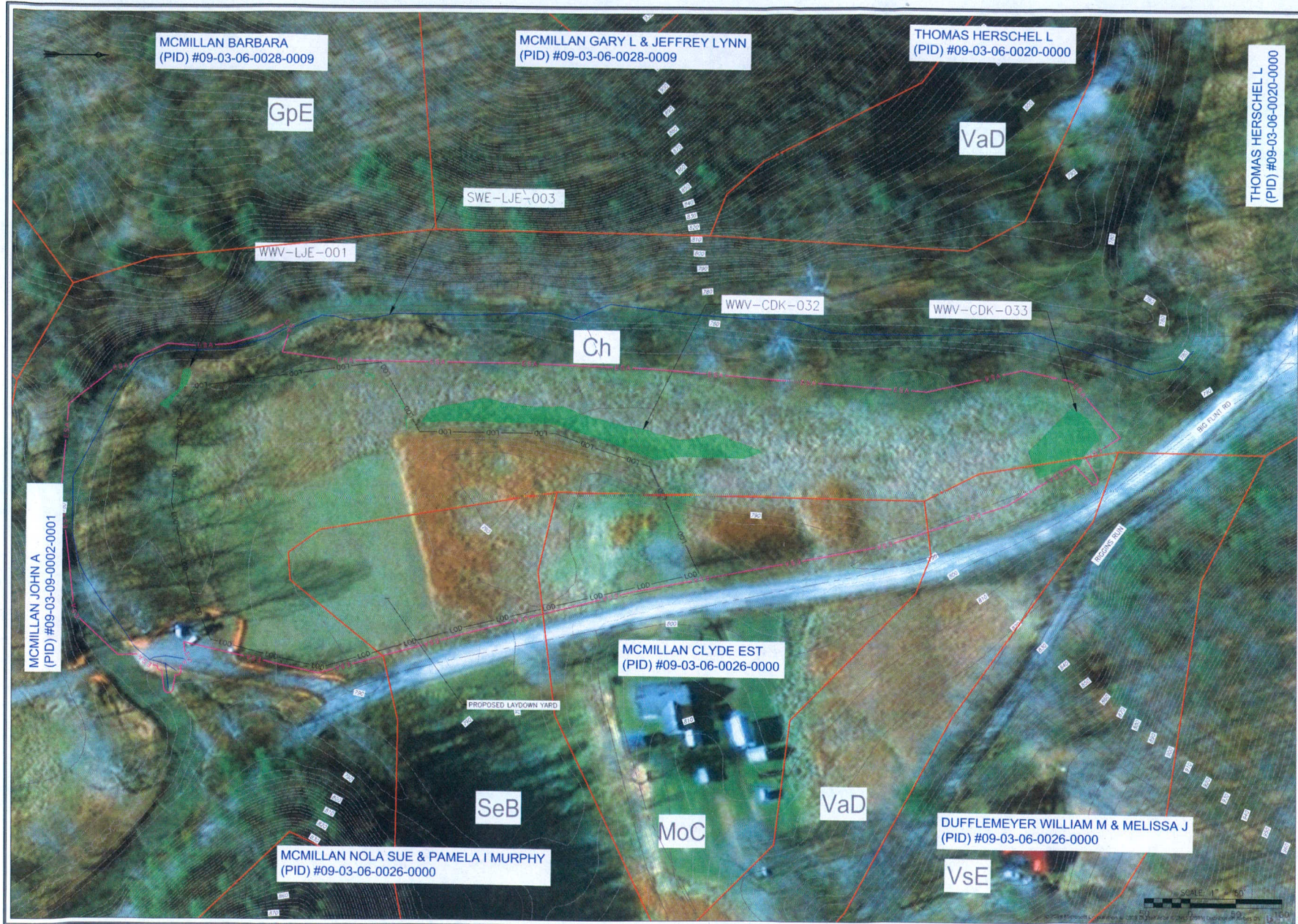


REFERENCE:
 • USGS 7.5 MINUTE QUADRANGLE SMITHBURG, WEST VIRGINIA, DATED 2016
 • USGS 7.5 MINUTE QUADRANGLE SALEM, WEST VIRGINIA, DATED 2016

SCALE: 1" = 2000'

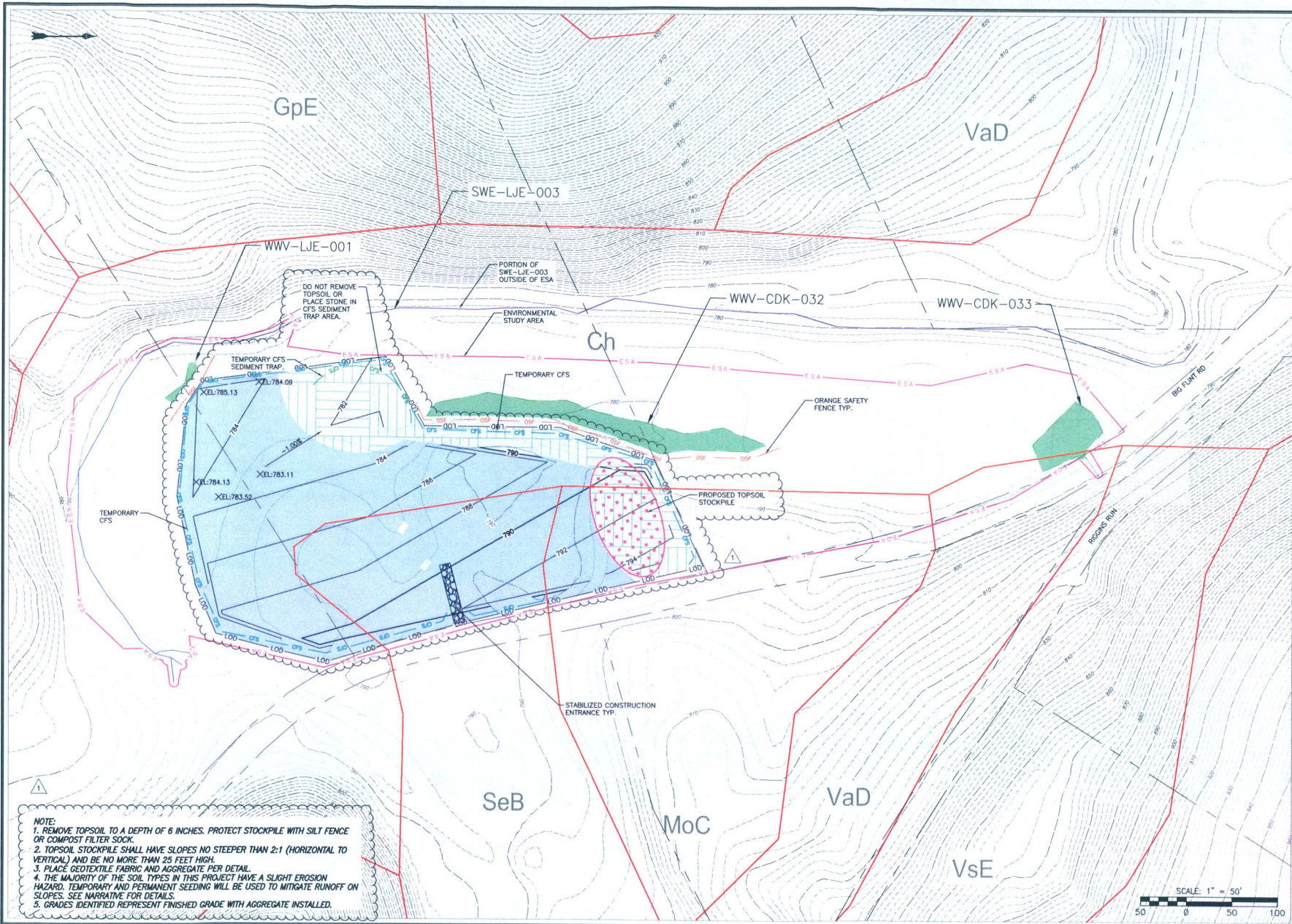
WEST VIRGINIA 811
 CALL BEFORE YOU DIG!
 Dial 811 or 800.245.4848
 www.WV811.com

DRAWING TITLE		CLIENT	
COVER		FIRSTENERGY SERVICE COMPANY 800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15601	
PROJECT		gai consultants	
FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD DODDRIDGE COUNTY, WEST VIRGINIA		ISSUING OFFICE: Pittsburgh 385 East Waterfront Drive, Homestead, PA 15120 This drawing was prepared using electronic means and is subject to electronic storage file. Do not reuse this drawing as a stand-alone drawing.	
DRAWN BY:	CHECKED BY:	APPROVED BY:	
BRANTLR	PANEKJA	NICKLDM	
DWG TYPE:	SCALE:	ISSUE DATE:	
AS SHOWN		01/31/2020	
GAI DRAWING NUMBER:			
C180795-09-000-00-E-001			
© 2019 GAI Consultants			



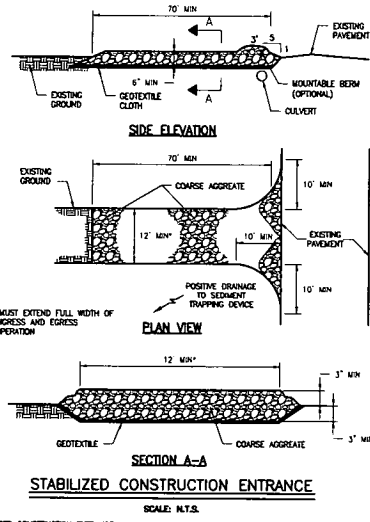
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PROJECT		CLIENT	
FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD DODDRIDGE COUNTY, WEST VIRGINIA		gai consultants 1385 East Waterfront Drive, Homestead, PA 15120	
ISSUING OFFICE: Pittsburgh 385 East Waterfront Drive, Homestead, PA 15120			
This drawing was produced with computer aided drafting technology and is not a replacement for a professional engineer's seal. Do not use this drawing as a replacement for a professional engineer's seal. Do not use this drawing as a replacement for a professional engineer's seal.			
DRAWN BY:		CHECKED BY:	APPROVED BY:
BRANTLR		PAHEKJA	NICKLDM
DWG TYPE:		SCALE:	ISSUE DATE:
AS SHOWN		AS SHOWN	01/31/2020
GAI DRAWING NUMBER:			
C180795-09-000-02-E-003			
© 2019 GAI Consultants			

NO.	DATE	BY	DESCRIPTION
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		003	006
		GAI FILE NUMBER	C180795-09-000-02-E-003



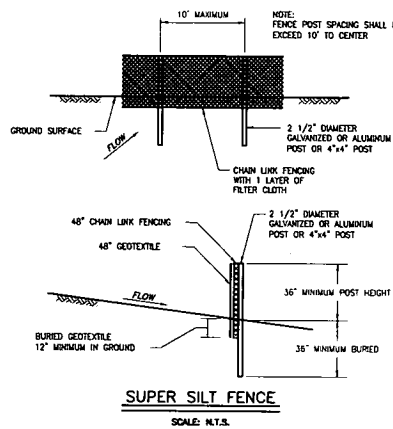
NOTE:
 1. REMOVE TOPSOIL TO A DEPTH OF 6 INCHES. PROTECT STOCKPILE WITH SILT FENCE OR COMPOST FILTER SOCK.
 2. TOPSOIL STOCKPILE SHALL HAVE SLOPES NO STEEPER THAN 2:1 (HORIZONTAL TO VERTICAL) AND BE NO MORE THAN 25 FEET HIGH.
 3. PLACE GEOTEXTILE FABRIC AND AGGREGATE PER DETAIL.
 4. THE MAJORITY OF THE SOIL TYPES IN THIS PROJECT HAVE A SLIGHT EROSION HAZARD. TEMPORARY AND PERMANENT SEEDING WILL BE USED TO MITIGATE RUNOFF ON SLOPES. SEE NARRATIVE FOR DETAILS.
 5. GRADES IDENTIFIED REPRESENT FINISHED GRADE WITH AGGREGATE INSTALLED.

DRAWING TITLE EROSION AND SEDIMENT CONTROLS		CLIENT FIRSTENERGY SERVICE COMPANY 800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15601
PROJECT FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD DODDRIDGE COUNTY, WEST VIRGINIA	GAI CONSULTANTS 1385 East Market Street, Homestead, PA 15120	
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NO. DATE: 01/07/2020 DWN: BRANTLR CHK: NICKLDM APV: NICKLDM ADDRESSING W/DEP COMMENTS DESCRIPTION REVISION RECORD SHEET NO: 004 OF 006 GAI FILE NUMBER: C180795-09-000-02-E-004		ISSUING OFFICE: Pittsburgh, PA PROJECT LOCATION: 1385 East Market Street, Homestead, PA 15120 SCALE: 1" = 50' DATE: 01/31/2020 11:52:55 AM PLOTTED BY: Loretta Burchester PLOT FILE: GAIS



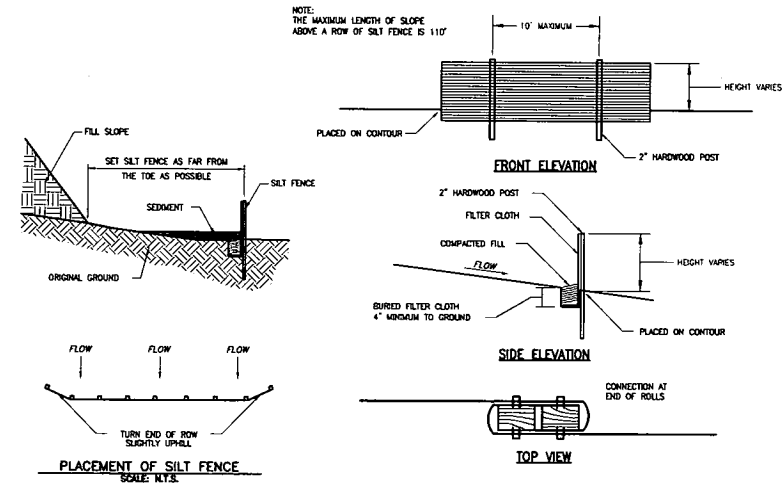
STABILIZED CONSTRUCTION ENTRANCE:

1. USE 2-4 INCH STONE FOR LOW VOLUME ENTRANCES, LARGER STONE (4-6 INCH) FOR HEAVY USE OR MATERIAL DELIVERY ENTRANCES.
2. LENGTH IS AS REQUIRED, BUT NOT LESS THAN 70 FEET (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS SHOULD NOT BE LESS THAN 8 INCHES.
4. THE WIDTH SHALL BE A MINIMUM OF 12 FEET, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO THE PLACING OF STONE.
6. ALL SURFACE WATER FLOWING OR OVERTOPPED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF A CULVERT IS IMPRACTICAL, A MOUNTABLE BEAM WITH SLIP SIDES SHALL BE USED.



SUPER SILT FENCE

1. SLOPE LENGTH ABOVE THE FENCE SHOULD NOT EXCEED 400 FT ON STEEP TERRAIN.
2. SUPER SILT FENCE SHALL BE PLACED AS CLOSE TO CONTOUR AS POSSIBLE. NO SECTION OF SILT FENCE SHALL EXCEED GRADE OF 5% FOR MORE THAN A DISTANCE OF 20 FEET.
3. GEOTEXTILE FABRIC SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION.
4. GEOTEXTILE FABRIC SHALL BE EMBEDDED A MINIMUM OF 12 INCHES INTO THE GROUND.
5. WHEN TWO SECTIONS OF GEOTEXTILE FABRIC JOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY A MINIMUM OF 8 INCHES AND FOLDED.
6. METAL POSTS CAN BE REPLACED BY PRESSURE TREATED 4" x 4" POSTS.

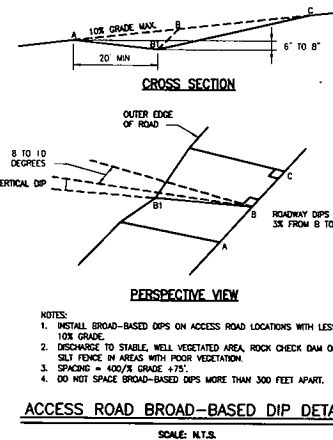


SILT FENCE:

1. SILT FENCE SHALL BE INSTALLED PRIOR TO MAJOR SOIL DISTURBANCE.
2. SILT FENCE SHALL BE PLACED ACROSS THE BOTTOM OF A SLOPE ALONG A LINE OF UNIFORM ELEVATION (ALWAYS PERPENDICULAR TO THE DIRECTION OF FLOW).
3. THE HEIGHT OF SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34 INCHES ABOVE GROUND ELEVATION.
4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ON THE UPSLOPE SIDE OF THE PROPOSED LOCATION OF THE MEASURE.
5. THE FILTER FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING ONE INCH LONG (WOODEN) HEAVY-DUTY WIRE STAPLES OR THE WIRE AND EIGHT INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH.
6. SILT FENCE SHALL BE INSTALLED WHERE THE SIZE OF THE DRAINAGE AREA IS NO MORE THAN 1/4 ACRE PER 100' OF SILT FENCE LENGTH. THE MAXIMUM GRADIENT ABOVE THE SILT FENCE SHOULD BE LESS THAN 2:1.

SILT FENCE

SCALE: N.T.S.



DRAWING TITLE EROSION AND SEDIMENT CONTROL DETAILS (1 OF 2)											
PROJECT		CLIENT		FIRSTENERGY SERVICE COMPANY		800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15601					
DRAWN BY BRAMLJA		CHECKED BY PANEKJA		ISSUED BY NICKLOM		SCALE AS SHOWN		ISSUE DATE 01/31/2020		GAI DRAWING NUMBER C180795-09-000-00-E-005	
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APPENDIX A Soils Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Doddridge County, West Virginia



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

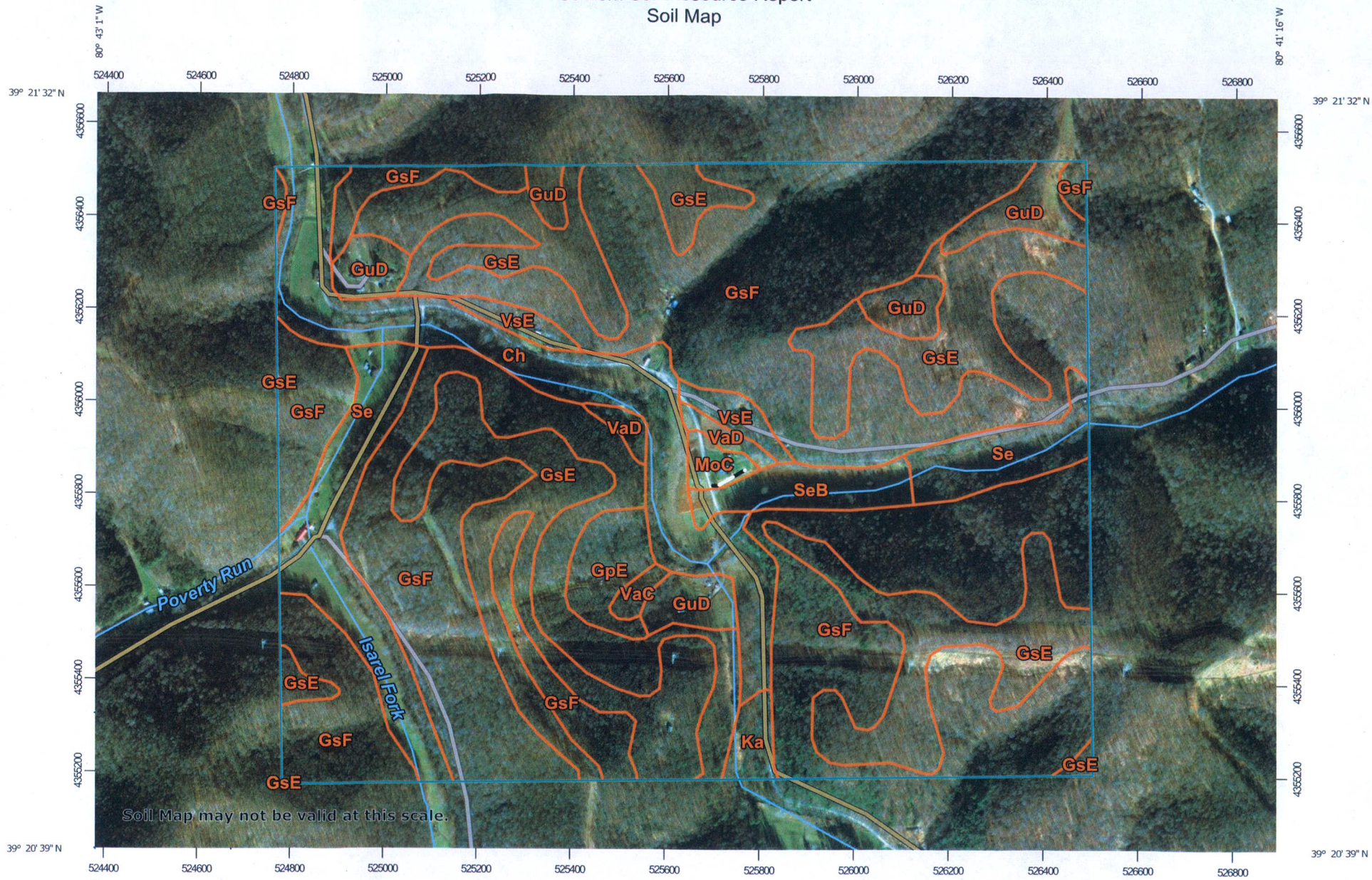
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

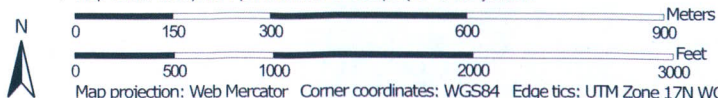
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.


Map Scale: 1:11,500 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole




Slide or Slip



Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Doddridge County, West Virginia
 Survey Area Data: Version 14, Sep 6, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 4, 2009—Dec 27, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ch	Chagrin silt loam, 0 to 3 percent slopes, occasionally flooded	47.0	8.3%
GpE	Gilpin-Peabody silt loams, 25 to 35 percent slopes	8.7	1.5%
GsE	Gilpin-Peabody complex, 15 to 35 percent slopes, very stony	123.5	21.7%
GsF	Gilpin-Peabody silt loams, 35 to 70 percent slopes, very stony	297.8	52.3%
GuD	Gilpin-Upshur silt loams, 15 to 25 percent slopes	23.0	4.0%
Ka	Kanawha loam, 0 to 3 percent slopes, rarely flooded	3.9	0.7%
MoC	Monongahela silt loam, 8 to 15 percent slopes	3.0	0.5%
Se	Sensabaugh silt loam, 0 to 3 percent slopes, occasionally flooded	39.2	6.9%
SeB	Sensabaugh silt loam, 3 to 8 percent slopes, rarely flooded	10.1	1.8%
VaC	Vandalia silt loam, 8 to 15 percent slopes	1.7	0.3%
VaD	Vandalia silt loam, 15 to 25 percent slopes	4.0	0.7%
VsE	Vandalia silt loam, 15 to 35 percent slopes, very stony	7.0	1.2%
Totals for Area of Interest		568.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

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Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion

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of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Doddridge County, West Virginia

Ch—Chagrin silt loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2v2wf
Elevation: 520 to 1,330 feet
Mean annual precipitation: 38 to 51 inches
Mean annual air temperature: 49 to 55 degrees F
Frost-free period: 165 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Chagrin and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chagrin

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 8 inches: silt loam
Bw - 8 to 38 inches: loam
C1 - 38 to 51 inches: fine sandy loam
C2 - 51 to 79 inches: loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Newark

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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Lobdell

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Holly

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

GpE—Gilpin-Peabody silt loams, 25 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2vyz2
Elevation: 730 to 1,450 feet
Mean annual precipitation: 45 to 48 inches
Mean annual air temperature: 51 to 53 degrees F
Frost-free period: 144 to 173 days
Farmland classification: Not prime farmland

Map Unit Composition

Gilpin and similar soils: 45 percent
Peabody and similar soils: 45 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peabody

Setting

Landform: Hillslopes, ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope, nose slope, head slope, interfluvium
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Residuum weathered from shale and siltstone

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
A - 1 to 3 inches: silt loam
B_t - 3 to 23 inches: silty clay
C - 23 to 28 inches: parachannery silty clay
Cr - 28 to 38 inches: bedrock

Properties and qualities

Slope: 25 to 35 percent

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Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Gilpin

Setting

Landform: Ridges, hillslopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, crest, side slope, nose slope, head slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Parent material: Residuum weathered from sandstone and siltstone

Typical profile

A - 0 to 4 inches: silt loam
BA - 4 to 5 inches: silt loam
Bt - 5 to 30 inches: channery silty clay loam
Cr - 30 to 40 inches: bedrock

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: 25 to 37 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Weikert

Percent of map unit: 10 percent
Landform: Hillslopes, ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope, nose slope, crest
Down-slope shape: Linear, convex

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Across-slope shape: Convex, linear
Hydric soil rating: No

GsE—Gilpin-Peabody complex, 15 to 35 percent slopes, very stony

Map Unit Setting

National map unit symbol: lvjc
Mean annual precipitation: 35 to 52 inches
Mean annual air temperature: 39 to 64 degrees F
Frost-free period: 144 to 173 days
Farmland classification: Not prime farmland

Map Unit Composition

Gilpin and similar soils: 50 percent
Peabody and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilpin

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Very stony fine-loamy residuum weathered from shale and siltstone

Typical profile

A - 0 to 3 inches: silt loam
Bt1 - 3 to 10 inches: silt loam
Bt2 - 10 to 23 inches: channery silty clay loam
Bt3 - 23 to 33 inches: very channery silt loam
R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

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Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Other vegetative classification: Very Rocky, Acid Soils (RA3)
Hydric soil rating: No

Description of Peabody

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Very stony clayey residuum weathered from interbedded sedimentary rock

Typical profile

A - 0 to 3 inches: silt loam
Bt1 - 3 to 7 inches: silty clay loam
Bt2 - 7 to 21 inches: clay
BC - 21 to 27 inches: very channery silty clay
Cr - 27 to 33 inches: bedrock
R - 33 to 43 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock; 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 15 percent

GsF—Gilpin-Peabody silt loams, 35 to 70 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2vyz0
Elevation: 530 to 1,630 feet
Mean annual precipitation: 41 to 48 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 144 to 187 days
Farmland classification: Not prime farmland

Map Unit Composition

Gilpin and similar soils: 50 percent
Peabody and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilpin

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, nose slope, head slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Parent material: Residuum weathered from sandstone and siltstone

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
A - 1 to 4 inches: silt loam
BA - 4 to 5 inches: silt loam
Bt - 5 to 30 inches: channery silty clay loam
Cr - 30 to 40 inches: bedrock

Properties and qualities

Slope: 35 to 70 percent
Percent of area covered with surface fragments: 0.5 percent
Depth to restrictive feature: 25 to 37 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (K_{sat}): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C

Custom Soil Resource Report

Hydric soil rating: No

Description of Peabody

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Side slope, nose slope, head slope

Down-slope shape: Linear, convex

Across-slope shape: Convex, linear

Parent material: Residuum weathered from shale and siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material

A - 1 to 3 inches: silt loam

Bt - 3 to 23 inches: silty clay

C - 23 to 28 inches: parachannery silty clay

Cr - 28 to 38 inches: bedrock

Properties and qualities

Slope: 35 to 70 percent

Percent of area covered with surface fragments: 0.5 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Weikert

Percent of map unit: 10 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Side slope, nose slope

Down-slope shape: Linear, convex

Across-slope shape: Convex, linear

Hydric soil rating: No

Coolville

Percent of map unit: 10 percent

Landform: Hillslopes

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Side slope, head slope, nose slope

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Other vegetative classification: Fertile Loams (FL3)

Hydric soil rating: No

Custom Soil Resource Report

Rock outcrop

Percent of map unit: 0 percent

GuD—Gilpin-Upshur silt loams, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2t11m

Elevation: 540 to 1,760 feet

Mean annual precipitation: 41 to 52 inches

Mean annual air temperature: 51 to 55 degrees F

Frost-free period: 152 to 195 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Gilpin and similar soils: 50 percent

Upshur and similar soils: 30 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilpin

Setting

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, interfluve

Down-slope shape: Convex

Across-slope shape: Convex, linear

Parent material: Residuum weathered from sandstone and siltstone

Typical profile

A - 0 to 3 inches: silt loam

BA - 3 to 5 inches: silt loam

Bt - 5 to 30 inches: channery silty clay loam

Cr - 30 to 40 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 25 to 37 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Custom Soil Resource Report

Hydrologic Soil Group: C

Hydric soil rating: No

Description of Upshur

Setting

Landform: Hillslopes

Landform position (two-dimensional): Shoulder, backslope, summit

Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Residuum weathered from clayey shale

Typical profile

A - 0 to 5 inches: silt loam

Bt1 - 5 to 10 inches: silty clay loam

Bt2 - 10 to 37 inches: silty clay

Bt3 - 37 to 44 inches: parachannery silty clay

Cr - 44 to 54 inches: bedrock

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: 40 to 59 inches to paralithic bedrock

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 2 percent

Available water storage in profile: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Guernsey

Percent of map unit: 10 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, interfluve

Down-slope shape: Concave, linear

Across-slope shape: Concave

Hydric soil rating: No

Dormont

Percent of map unit: 5 percent

Landform: Hillslopes

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Linear

Across-slope shape: Concave, linear

Hydric soil rating: No

Custom Soil Resource Report

Peabody

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope, interfluvium
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ka—Kanawha loam, 0 to 3 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: 2t11b
Elevation: 520 to 1,150 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 138 to 214 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Kanawha and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kanawha

Setting

Landform: Flood plains, stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Fine-loamy alluvium derived from interbedded sedimentary rock

Typical profile

Ap - 0 to 7 inches: loam
BA - 7 to 13 inches: loam
Bt - 13 to 54 inches: loam
BC - 54 to 65 inches: loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water storage in profile: High (about 11.0 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 1

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Guyan

Percent of map unit: 4 percent

Landform: Stream terraces, flood plains

Landform position (three-dimensional): Tread

Down-slope shape: Concave, linear

Across-slope shape: Linear, concave

Hydric soil rating: No

Vandalia

Percent of map unit: 4 percent

Landform: Stream terraces

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear, concave

Across-slope shape: Linear

Hydric soil rating: No

Lobdell

Percent of map unit: 4 percent

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Holly

Percent of map unit: 3 percent

Landform: Flood plains

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

MoC—Monongahela silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2rfbj

Elevation: 580 to 1,300 feet

Mean annual precipitation: 37 to 54 inches

Mean annual air temperature: 41 to 62 degrees F

Frost-free period: 130 to 200 days

Farmland classification: Farmland of statewide importance

Custom Soil Resource Report

Map Unit Composition

Monongahela and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Monongahela

Setting

Landform: Terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Fine-loamy alluvium derived from sandstone and siltstone

Typical profile

Ap - 0 to 8 inches: silt loam

BA - 8 to 12 inches: silt loam

Bt - 12 to 22 inches: silt loam

Btx - 22 to 51 inches: clay loam

BC - 51 to 65 inches: gravelly clay loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 18 to 30 inches to fragipan

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 30 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Other vegetative classification: Acid Loams (AL3)

Hydric soil rating: No

Minor Components

Allegheny

Percent of map unit: 10 percent

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: No

Purdy

Percent of map unit: 5 percent

Landform: Terraces

Landform position (three-dimensional): Tread, dip

Down-slope shape: Concave

Across-slope shape: Concave

Custom Soil Resource Report

Hydric soil rating: Yes

Gilpin

Percent of map unit: 5 percent

Landform: Terraces

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Convex, linear

Hydric soil rating: No

Se—Sensabaugh silt loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2w1w3

Elevation: 540 to 1,350 feet

Mean annual precipitation: 41 to 52 inches

Mean annual air temperature: 49 to 55 degrees F

Frost-free period: 135 to 230 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Sensabaugh and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sensabaugh

Setting

Landform: Flood plains, alluvial fans

Down-slope shape: Linear, concave, convex

Across-slope shape: Linear

Parent material: Fine-loamy alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 7 inches: silt loam

Bw - 7 to 26 inches: channery loam

BC - 26 to 30 inches: channery loam

C - 30 to 65 inches: very channery loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)

Depth to water table: About 42 to 53 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water storage in profile: Moderate (about 7.7 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Lobdell

Percent of map unit: 10 percent

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Chagrin

Percent of map unit: 5 percent

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Melvin

Percent of map unit: 5 percent

Landform: Flood plains

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Hydric soil rating: Yes

SeB—Sensabaugh silt loam, 3 to 8 percent slopes, rarely flooded

Map Unit Setting

National map unit symbol: 2w1w4

Elevation: 540 to 1,330 feet

Mean annual precipitation: 41 to 51 inches

Mean annual air temperature: 49 to 55 degrees F

Frost-free period: 145 to 210 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Sensabaugh and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sensabaugh

Setting

Landform: Flood plains, alluvial fans

Down-slope shape: Linear

Across-slope shape: Linear

Custom Soil Resource Report

Parent material: Fine-loamy alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 7 inches: silt loam
Bw - 7 to 26 inches: channery loam
BC - 26 to 30 inches: channery loam
C - 30 to 65 inches: very channery loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 42 to 53 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Vandalia

Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Fertile Loams (FL3)
Hydric soil rating: No

Chagrin

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Lobdell

Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

VaC—Vandalia silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2t31d
Elevation: 540 to 1,630 feet
Mean annual precipitation: 40 to 52 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 164 to 211 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Vandalia and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vandalia

Setting

Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Parent material: Colluvium derived from sandstone and siltstone

Typical profile

Ap - 0 to 6 inches: silt loam
BA - 6 to 13 inches: silt loam
Bt1 - 13 to 31 inches: silty clay loam
Bt2 - 31 to 46 inches: parachannery silty clay
Bt3 - 46 to 54 inches: parachannery silty clay
C - 54 to 65 inches: very parachannery silty clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Other vegetative classification: Fertile Loams (FL3)
Hydric soil rating: No

Custom Soil Resource Report

Minor Components

Upshur

Percent of map unit: 8 percent

Landform: Hillslopes

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Crest, nose slope, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Sensabaugh

Percent of map unit: 7 percent

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Gilpin

Percent of map unit: 5 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex, linear

Hydric soil rating: No

VaD—Vandalia silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2t317

Elevation: 520 to 1,730 feet

Mean annual precipitation: 41 to 52 inches

Mean annual air temperature: 50 to 55 degrees F

Frost-free period: 163 to 219 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Vandalia and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vandalia

Setting

Landform: Hillslopes

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Custom Soil Resource Report

Down-slope shape: Concave, convex

Across-slope shape: Linear, convex

Parent material: Colluvium derived from sandstone and siltstone

Typical profile

Ap - 0 to 6 inches: silt loam

BA - 6 to 13 inches: silt loam

Bt1 - 13 to 31 inches: silty clay loam

Bt2 - 31 to 46 inches: parachannery silty clay

Bt3 - 46 to 54 inches: parachannery silty clay

C - 54 to 65 inches: very parachannery silty clay loam

Properties and qualities

Slope: 15 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C

Other vegetative classification: Fertile Loams (FL3)

Hydric soil rating: No

Minor Components

Upshur

Percent of map unit: 8 percent

Landform: Hillslopes

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Crest, nose slope, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Sensabaugh

Percent of map unit: 7 percent

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Gilpin

Percent of map unit: 5 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope, nose slope

Down-slope shape: Convex

Across-slope shape: Convex, linear

Custom Soil Resource Report

Hydric soil rating: No

VsE—Vandalia silt loam, 15 to 35 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2t31b
Elevation: 540 to 1,510 feet
Mean annual precipitation: 41 to 51 inches
Mean annual air temperature: 51 to 55 degrees F
Frost-free period: 176 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Vandalia and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Vandalia

Setting

Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Parent material: Colluvium derived from sandstone and siltstone

Typical profile

Ap - 0 to 6 inches: silt loam
BA - 6 to 13 inches: silt loam
Bt1 - 13 to 31 inches: silty clay loam
Bt2 - 31 to 46 inches: parachannery silty clay
Bt3 - 46 to 54 inches: parachannery silty clay
C - 54 to 65 inches: very parachannery silty clay loam

Properties and qualities

Slope: 15 to 35 percent
Percent of area covered with surface fragments: 1.3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C

Custom Soil Resource Report

Other vegetative classification: Fertile Loams (FL3)

Hydric soil rating: No

Minor Components

Upshur

Percent of map unit: 8 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Crest, nose slope, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Sensabaugh

Percent of map unit: 7 percent

Landform: Alluvial fans

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Gilpin

Percent of map unit: 5 percent

Landform: Hillslopes

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex, linear

Hydric soil rating: No

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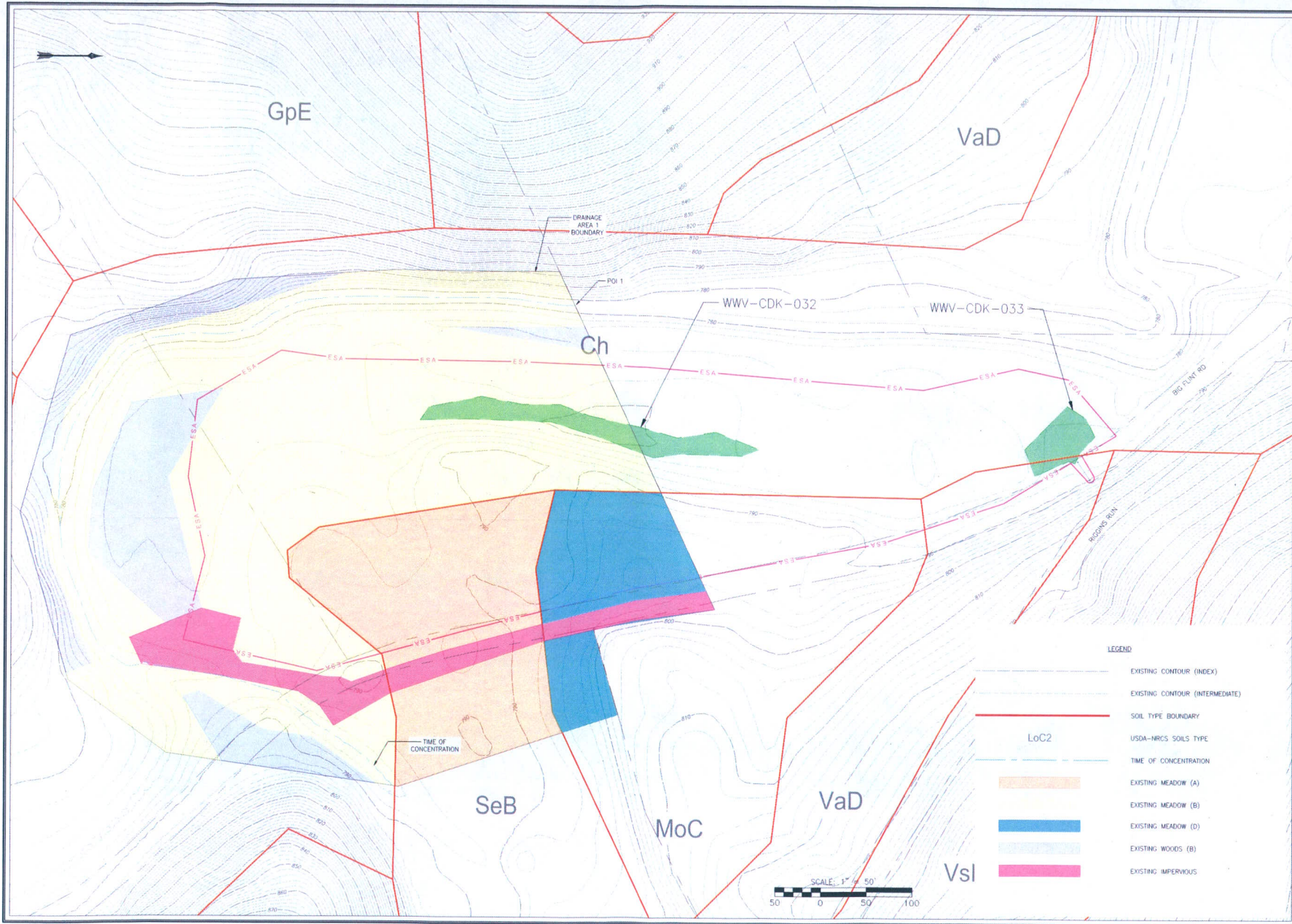
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APPENDIX B
Pre-Construction and Post-Construction
Stormwater Calculations and Erosion and Sediment Control
Calculations



LEGEND

	EXISTING CONTOUR (INDEX)
	EXISTING CONTOUR (INTERMEDIATE)
	SOIL TYPE BOUNDARY
	USDA-MRCS SOIL TYPE
	TIME OF CONCENTRATION
	EXISTING MEADOW (A)
	EXISTING MEADOW (B)
	EXISTING MEADOW (D)
	EXISTING WOODS (B)
	EXISTING IMPERVIOUS

DRAWING TITLE		CLIENT	
PRE-CONSTRUCTION DRAINAGE AREAS		FIRSTENERGY SERVICE COMPANY 800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15601	
PROJECT		CLIENT	
FLINT RUN PROJECT: BIG FLINT ROAD LAYDOWN YARD DODDRIDGE COUNTY, WEST VIRGINIA		gai consultants 1385 East Waterfront Drive, Homestead, PA 15120	
ISSUING OFFICE: Pittsburgh		ISSUING DATE: 10/15/2019	
DRAWN BY: BRANTLR		CHECKED BY: LESSOUR	
DWG TYPE: SCALE		APPROVED BY: NICKLDM	
AS SHOWN: 10/15/2019		ISSUE DATE:	
GAI DRAWING NUMBER:			
C180795-09-000-02-E-003			
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NO. DATE DWN CHK APV REVISION RECORD SHEET NO. 001 OF 002 C:\180795-09-000-02-E-003-PRE-LAYDOWN

REVISIONS: ALT CLIENT DRAWING NUMBER: 001 OF 002

PLOTTED BY: Laurel Brantlauer PLT FILE: GAI.plt

<u>Project:</u> Flint Run - Laydown Yard Transmission Line Project Pre-Construction Stormwater	<u>By:</u> BrantLR	<u>Date:</u> 8/26/2019
<u>Location:</u> Drainage Area 1	<u>Checked:</u> LessoJR	<u>Date:</u> 9/17/2019



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Cover Description	Runoff CN	Pre-Development	
		Area	Product of CN x Area
		<input type="checkbox"/> Acres <input type="checkbox"/> miles ² <input type="checkbox"/> %	
Impervious	98	0.48	47
Woods (Fair) (B)	60	1.09	65
Meadow (B)	58	4.29	249
Meadow (D)	78	0.61	48
Meadow (A)	30	1.32	40
TOTALS		7.79	448
CN (WEIGHTED)		58	

Project: FE Flint Run Transmission Line Laydown Yard	By: BrantLR	Date: 9/10/2019
Location: Drainage Area 1 - Pre Construction	Checked: LessoJR	Date: 9/17/2019

Check: Present Under Development Developed

Sheet Flow

Segment ID	A	
Surface Description.....	Meadow	
Manning's Roughness Coefficient, n.....	0.15	(TR-55, Table 3-1)
Flow Length, L.....	100	ft
Two-year 24-hour Rainfall, P ₂	2.56	in
Land Slope, s.....	0.010	ft/ft
Travel Time, T _t = (0.007*(n*L) ^{0.8}) / (P ₂ ^{0.5} *s ^{0.4}).....	0.2409	hrs

Shallow Concentrated Flow

Segment ID	B	C	
Surface Description (Paved / Unpaved).....	Unpaved	Unpaved	
Surface Description Coefficient, C.....	16.13	16.13	
Flow Length, L.....	58	157	ft
Watercourse Slope, s.....	0.010	0.024	ft/ft
Average Velocity, V = C*s ^{0.5}	1.61	2.50	ft/sec
Travel Time, T _t = (L) / (3600*V).....	0.010	0.017	hrs

Channel Flow

Segment ID	D	E	F	
Section Base, b.....	1.00	1.00	1.00	ft
Section Depth, d.....	1	1	1	ft
Section Side Slope, z.....	2	2	2	ft/ft
Cross Sectional Flow Area, a = b*d + z*d ²	3.00	3.00	3.00	sq ft
Wetted Perimeter, p _w = b + (2*d)*(z ² + 1) ^{0.5}	5.47	5.47	5.47	ft
Hydraulic Radius, r = a / p _w	0.03	0.03	0.03	ft
Channel Slope, s.....	0.010	0.010	0.010	ft/ft
Manning's Roughness Coefficient, n.....	0.15	0.15	0.15	
Average Velocity, V = (1.49*r ^{2/3} *s ^{1/2}) / (n).....	0.10	0.10	0.10	ft/sec
Flow Length, L.....	68	191	685.5	ft
Travel Time, T _t = (L) / (3600*V).....	0.1970	0.5532	1.9855	hrs

Time of Concentration

Sheet Flow T _t	0.2409	hrs
Shallow Concentrated Flow T _t	0.0274	hrs
Channel Flow T _t	2.7356	hrs
Time of Concentration, T _c	3.0040	hrs
	180	mins

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.146	2	914	4,184	----	----	----	Drainage Area 1

Hydrograph Report

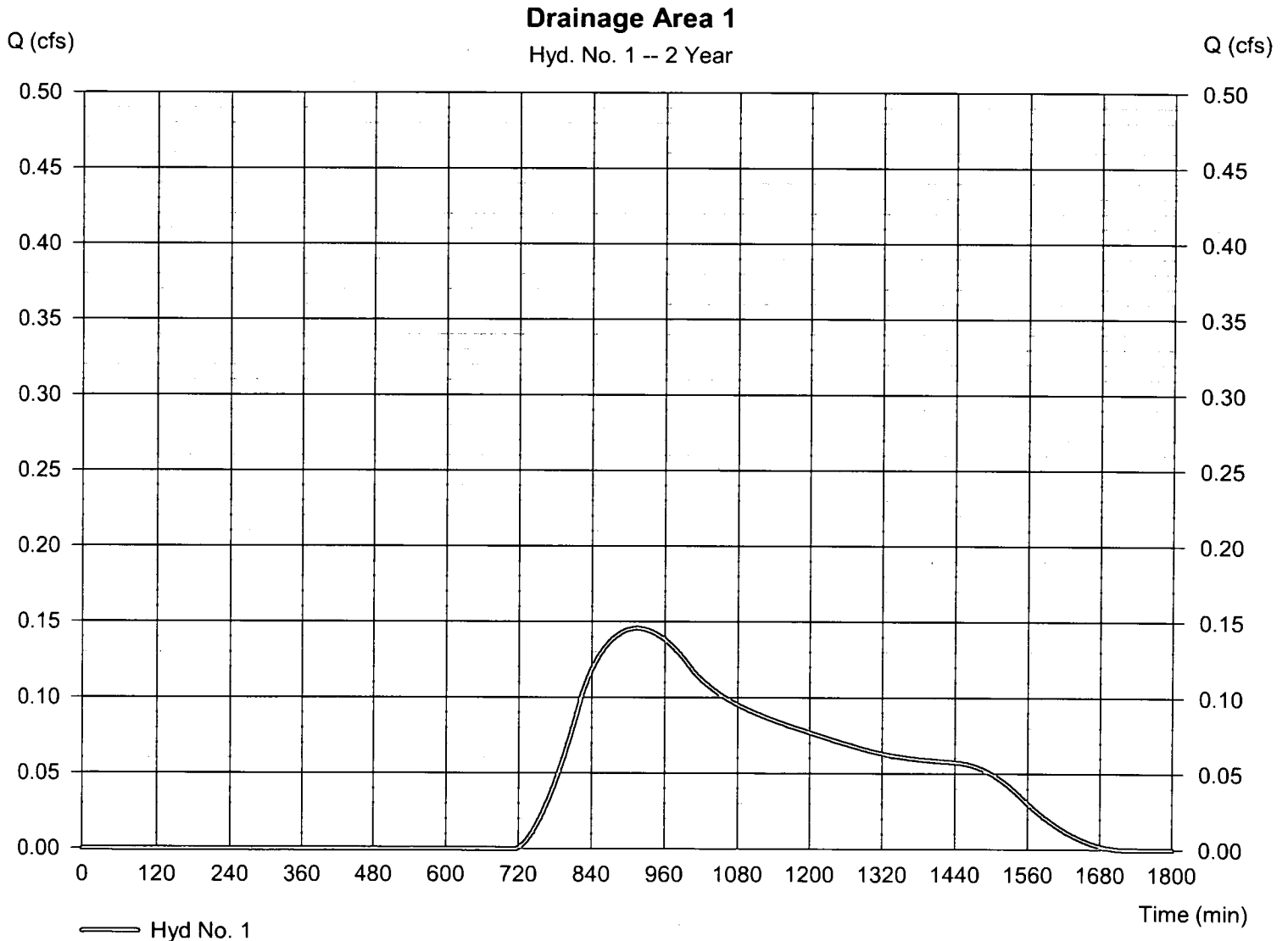
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Tuesday, 09 / 17 / 2019

Hyd. No. 1

Drainage Area 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.146 cfs
Storm frequency	= 2 yrs	Time to peak	= 914 min
Time interval	= 2 min	Hyd. volume	= 4,184 cuft
Drainage area	= 7.790 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 180.00 min
Total precip.	= 2.56 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.615	2	858	13,252	-----	-----	-----	Drainage Area 1
Laydown PrePost Hydrograph.gpw					Return Period: 10 Year		Tuesday, 09 / 17 / 2019		

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Tuesday, 09 / 17 / 2019

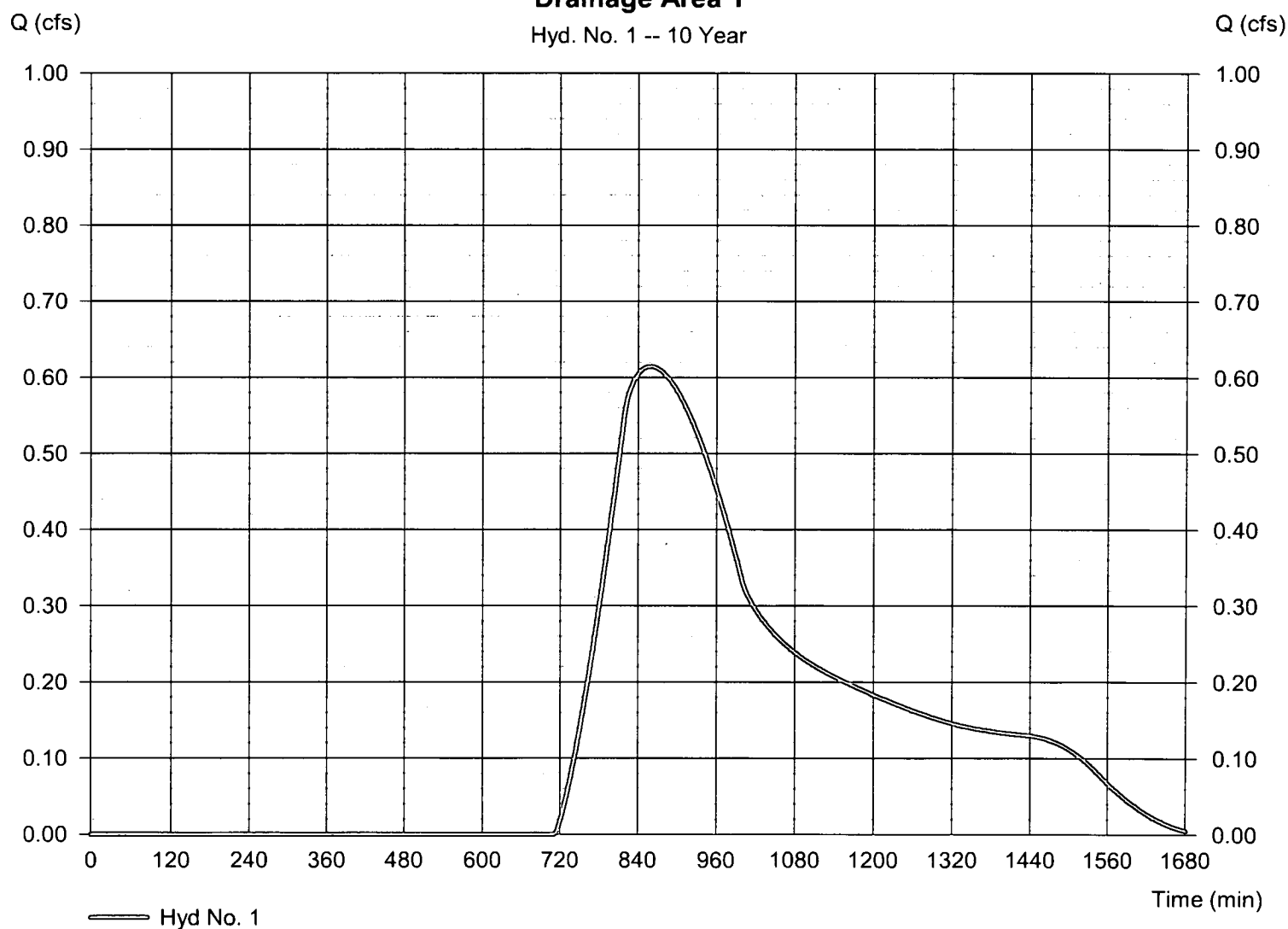
Hyd. No. 1

Drainage Area 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.615 cfs
Storm frequency	= 10 yrs	Time to peak	= 858 min
Time interval	= 2 min	Hyd. volume	= 13,252 cuft
Drainage area	= 7.790 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 180.00 min
Total precip.	= 3.54 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Drainage Area 1

Hyd. No. 1 -- 10 Year



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

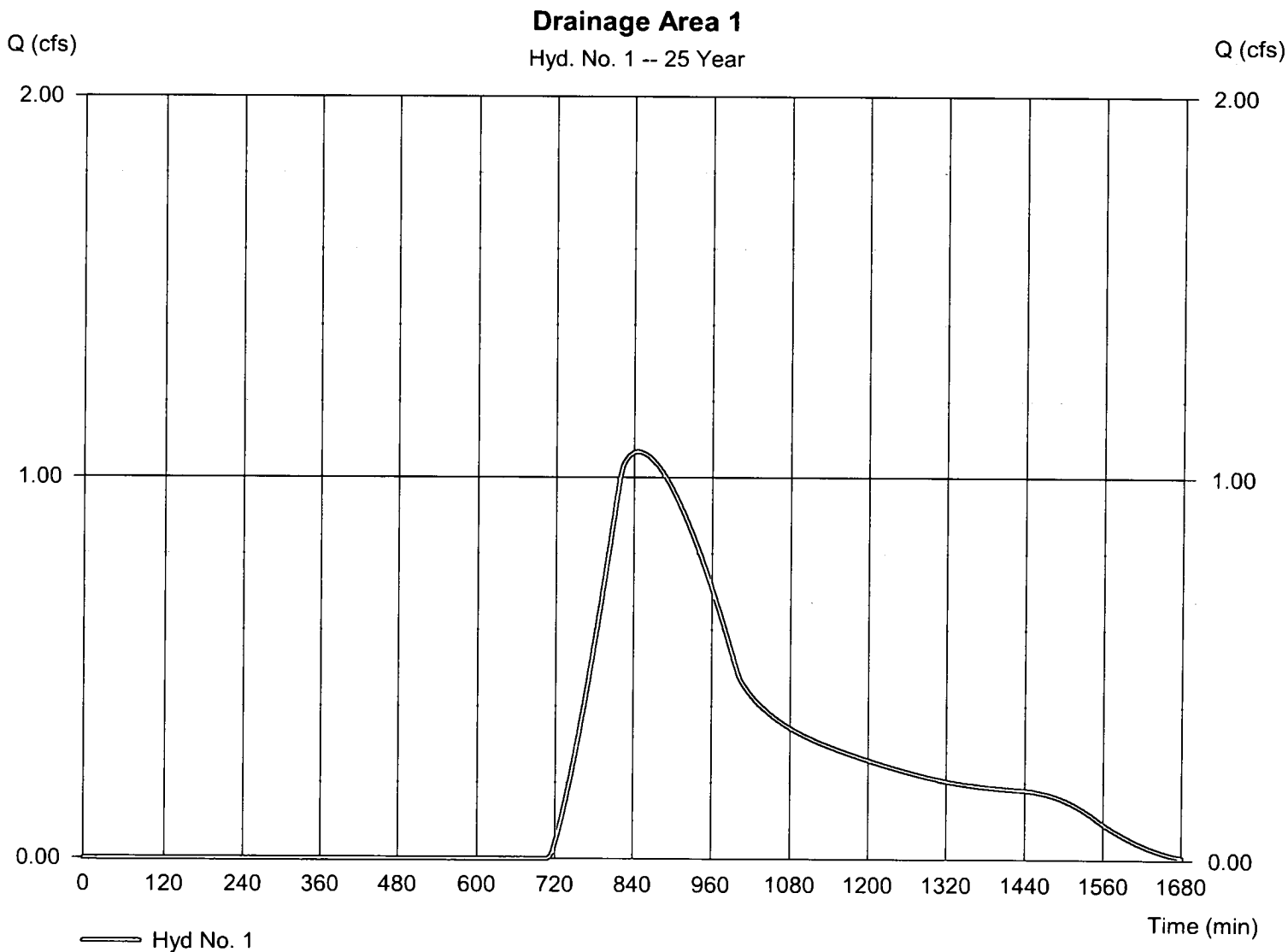
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.068	2	846	20,889	-----	-----	-----	Drainage Area 1

Hydrograph Report

Hyd. No. 1

Drainage Area 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.068 cfs
Storm frequency	= 25 yrs	Time to peak	= 846 min
Time interval	= 2 min	Hyd. volume	= 20,889 cuft
Drainage area	= 7.790 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 180.00 min
Total precip.	= 4.16 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

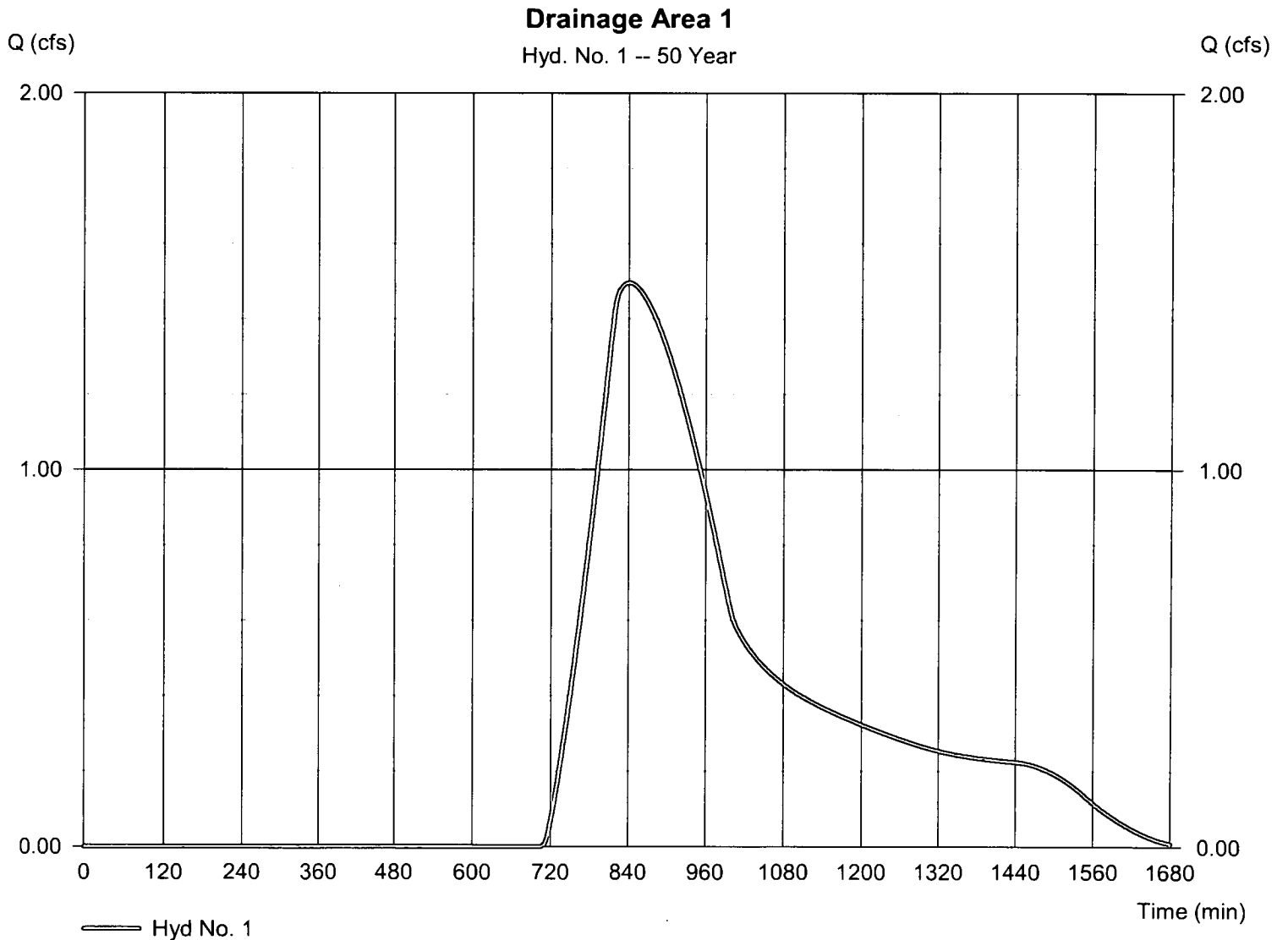
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.497	2	840	27,756	-----	-----	-----	Drainage Area 1
Laydown PrePost Hydrograph.gpw					Return Period: 50 Year		Tuesday, 09 / 17 / 2019		

Hydrograph Report

Hyd. No. 1

Drainage Area 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.497 cfs
Storm frequency	= 50 yrs	Time to peak	= 840 min
Time interval	= 2 min	Hyd. volume	= 27,756 cuft
Drainage area	= 7.790 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 180.00 min
Total precip.	= 4.65 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.013	2	836	35,727	-----	-----	-----	Drainage Area 1

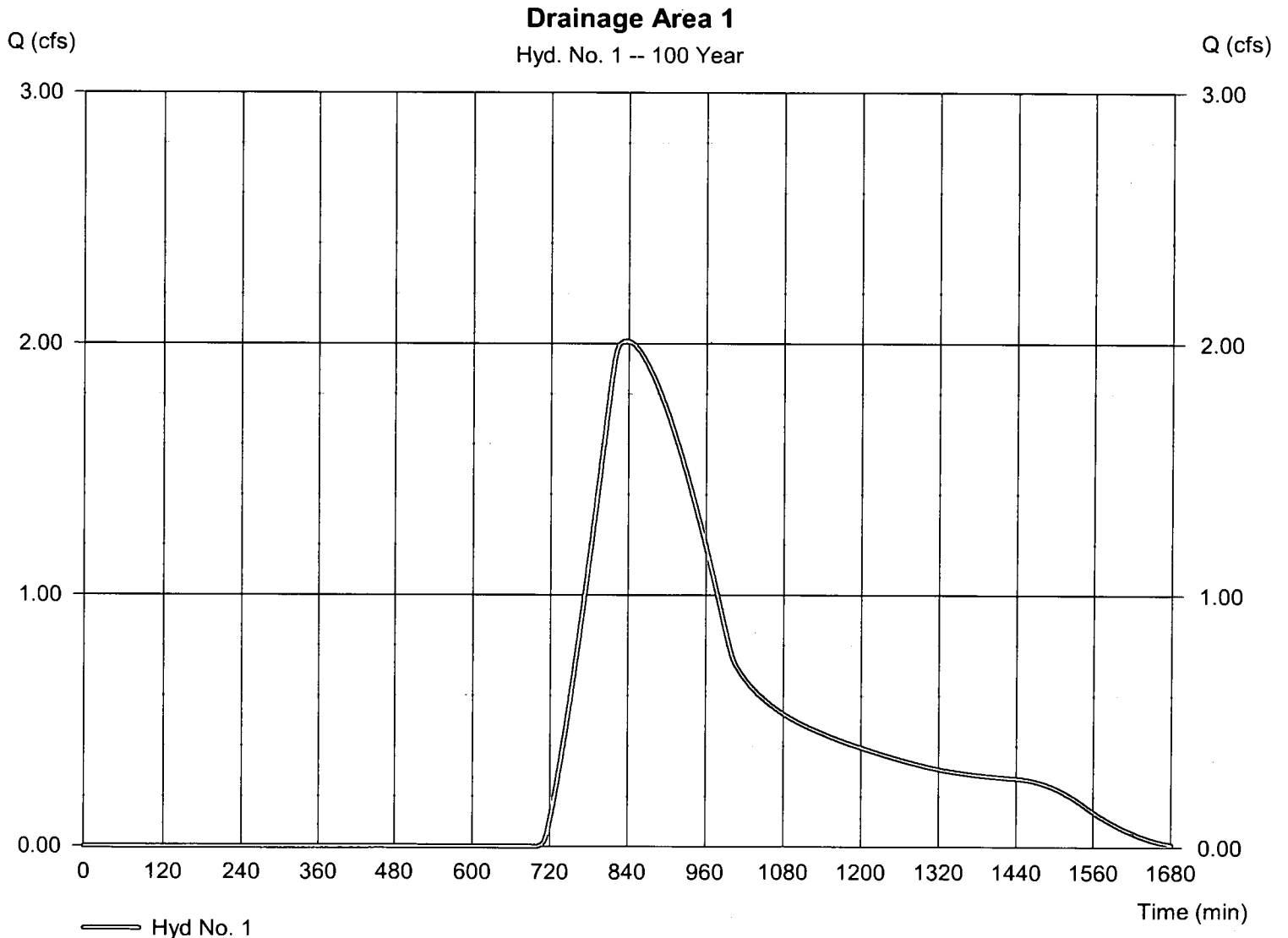
Hydrograph Report

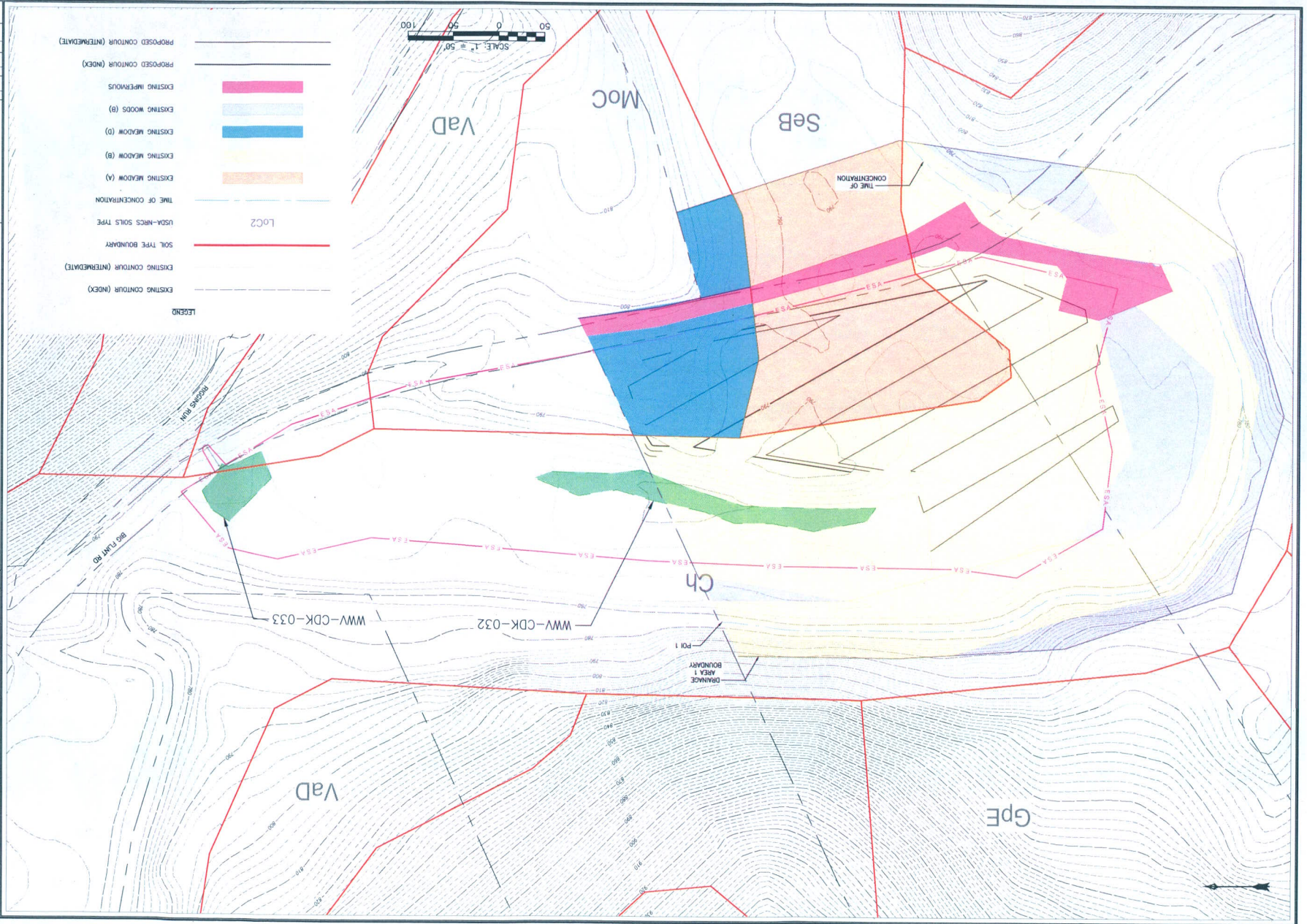
Hyd. No. 1

Drainage Area 1

Hydrograph type = SCS Runoff
Storm frequency = 100 yrs
Time interval = 2 min
Drainage area = 7.790 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 5.17 in
Storm duration = 24 hrs

Peak discharge = 2.013 cfs
Time to peak = 836 min
Hyd. volume = 35,727 cuft
Curve number = 58
Hydraulic length = 0 ft
Time of conc. (Tc) = 180.00 min
Distribution = Type II
Shape factor = 484





- LEGEND**
- EXISTING CONTOUR (INDEX)
 - EXISTING CONTOUR (INTERMEDIATE)
 - USDA-NRCS SOILS TYPE
 - TIME OF CONCENTRATION
 - EXISTING MEADOW (A)
 - EXISTING MEADOW (B)
 - EXISTING MEADOW (D)
 - EXISTING WOODS (B)
 - EXISTING IMPERVIOUS
 - PROPOSED CONTOUR (INDEX)
 - PROPOSED CONTOUR (INTERMEDIATE)

PROJECT		DRAWING TITLE	
PLANT RUN PROJECT BIG FLINT ROAD LAYDOWN YARD DOODRIDGE COUNTY, WEST VIRGINIA		POST CONSTRUCTION DRAINAGE AREAS	
CLIENT		REVISION RECORD	
FIRSTBERGENY SERVICE COMPANY 800 CABIN HILL DRIVE GREENSBURG, PENNSYLVANIA, 15801		NO.	DATE
gai consultants		OWN.	CHK.
ISSUING OFFICE: Pittsburgh 1385 East Woodford Drive, Homestead, PA 15120		APP.	DESCRIPTION
DRAWN BY: PANKAJA		REVISION NO.	SHEET NO.
CHECKED BY: NICKLOM		002	OF 002
DATE: 10/15/2019		DRAWING NUMBER: 09-000-02-E-003	
SCALE: AS SHOWN		PROJECT NUMBER: C1807895-09-000-02-E-003	
DRAWING NUMBER: C1807895-09-000-02-E-003		DATE: 10/15/2019	

Project: Flint Run - Laydown Yard Transmission Line Project Post-Construction Stormwater	By: BrantLR	Date: 8/26/2019
Location: Drainage Area 1	Checked: LessoJR	Date: 9/17/2019



gai consultants

Cover Description	Runoff CN	Pre-Development	
		Area	Product of CN x Area
		<input type="checkbox"/> Acres <input type="checkbox"/> miles ² <input type="checkbox"/> %	
Impervious	98	0.48	47
Woods (Fair) (B)	60	1.09	65
Meadow (B)	58	4.29	249
Meadow (D)	78	0.61	48
Meadow (A)	30	1.32	40
TOTALS		7.79	448
CN (WEIGHTED)		58	

Project: FE Flint Run Transmission Line Laydown Yard	By: BrantLR	Date: 9/10/2019
Location: Drainage Area 1 - Post Construction	Checked: LessoJR	Date: 9/17/2019

Check: Present Under Development Developed

Sheet Flow

Segment ID	A	
Surface Description.....	Meadow	
Manning's Roughness Coefficient, n	0.15	(TR-55, Table 3-1)
Flow Length, L.....	100	ft
Two-year 24-hour Rainfall, P ₂	2.56	in
Land Slope, s.....	0.010	ft/ft
Travel Time, T _t = (0.007*(n*L) ^{0.8}) / (P ₂ ^{0.5} *s ^{0.4}).....	0.2409	hrs

Shallow Concentrated Flow

Segment ID	B	C	
Surface Description (Paved / Unpaved).....	Unpaved	Unpaved	
Surface Description Coefficient, C.....	16.13	16.13	
Flow Length, L.....	58	157	ft
Watercourse Slope, s.....	0.010	0.024	ft/ft
Average Velocity, V = C*s ^{0.5}	1.61	2.50	ft/sec
Travel Time, T _t = (L) / (3600*V).....	0.010	0.017	hrs

Channel Flow

Segment ID	D	E	F	
Section Base, b.....	1.00	1.00	1.00	ft
Section Depth, d.....	1	1	1	ft
Section Side Slope, z.....	2	2	2	ft/ft
Cross Sectional Flow Area, a = b*d + z*d ²	3.00	3.00	3.00	sq ft
Wetted Perimeter, p _w = b + (2*d)*(z ² + 1) ^{0.5}	5.47	5.47	5.47	ft
Hydraulic Radius, r = a / p _w	0.03	0.03	0.03	ft
Channel Slope, s.....	0.010	0.010	0.010	ft/ft
Manning's Roughness Coefficient, n.....	0.15	0.15	0.15	
Average Velocity, V = (1.49*r ^{2/3} *s ^{1/2}) / (n).....	0.10	0.10	0.10	ft/sec
Flow Length, L.....	68	191	685.5	ft
Travel Time, T _t = (L) / (3600*V).....	0.1970	0.5532	1.9855	hrs

Time of Concentration

Sheet Flow T _t	0.2409	hrs
Shallow Concentrated Flow T _t	0.0274	hrs
Channel Flow T _t	2.7356	hrs
Time of Concentration, T _c	3.0040	hrs
	180	mins

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.146	2	914	4,184	-----	-----	-----	Drainage Area 1

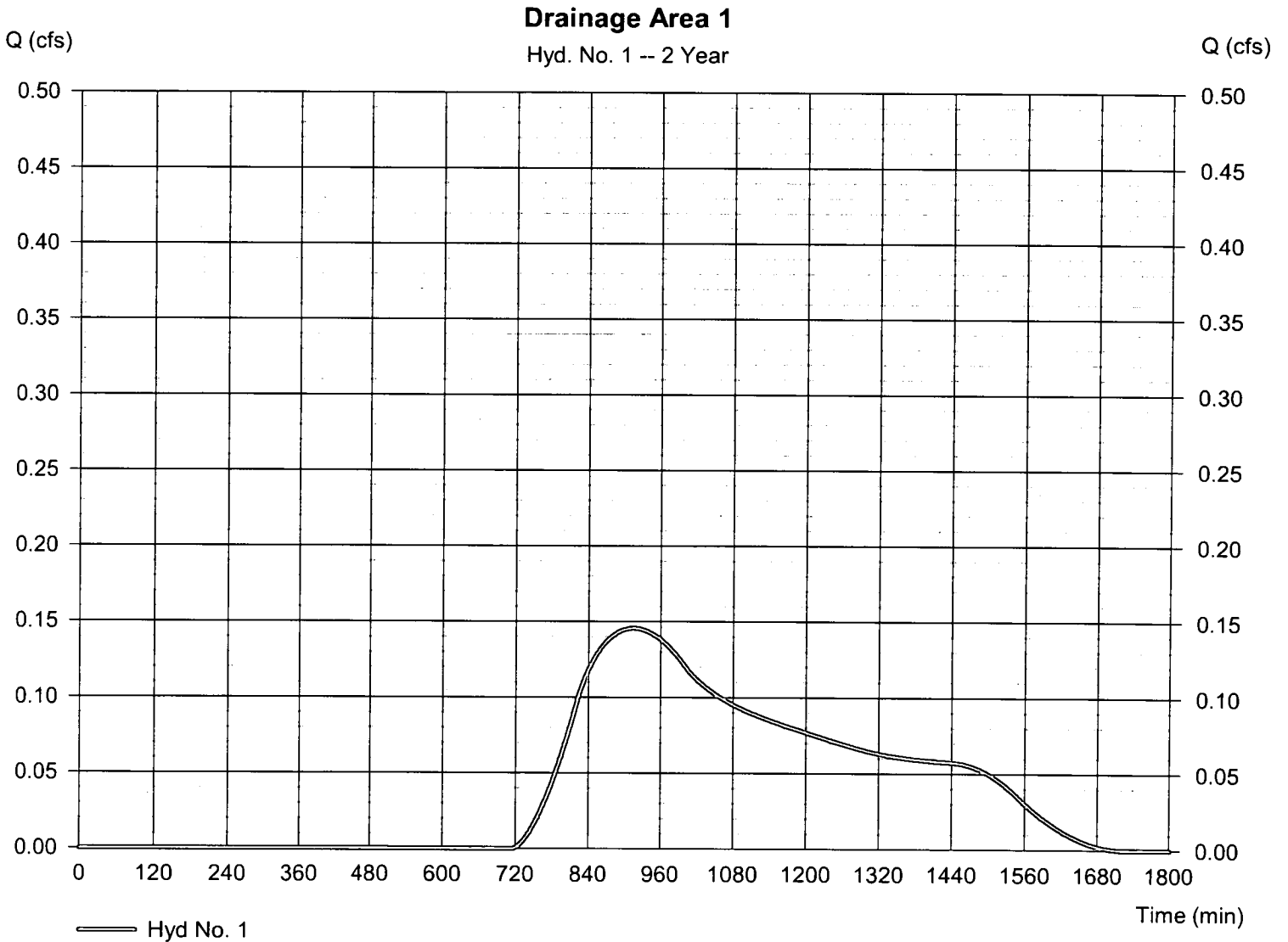
Hydrograph Report

Hyd. No. 1

Drainage Area 1

Hydrograph type = SCS Runoff
Storm frequency = 2 yrs
Time interval = 2 min
Drainage area = 7.790 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 2.56 in
Storm duration = 24 hrs

Peak discharge = 0.146 cfs
Time to peak = 914 min
Hyd. volume = 4,184 cuft
Curve number = 58
Hydraulic length = 0 ft
Time of conc. (Tc) = 180.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

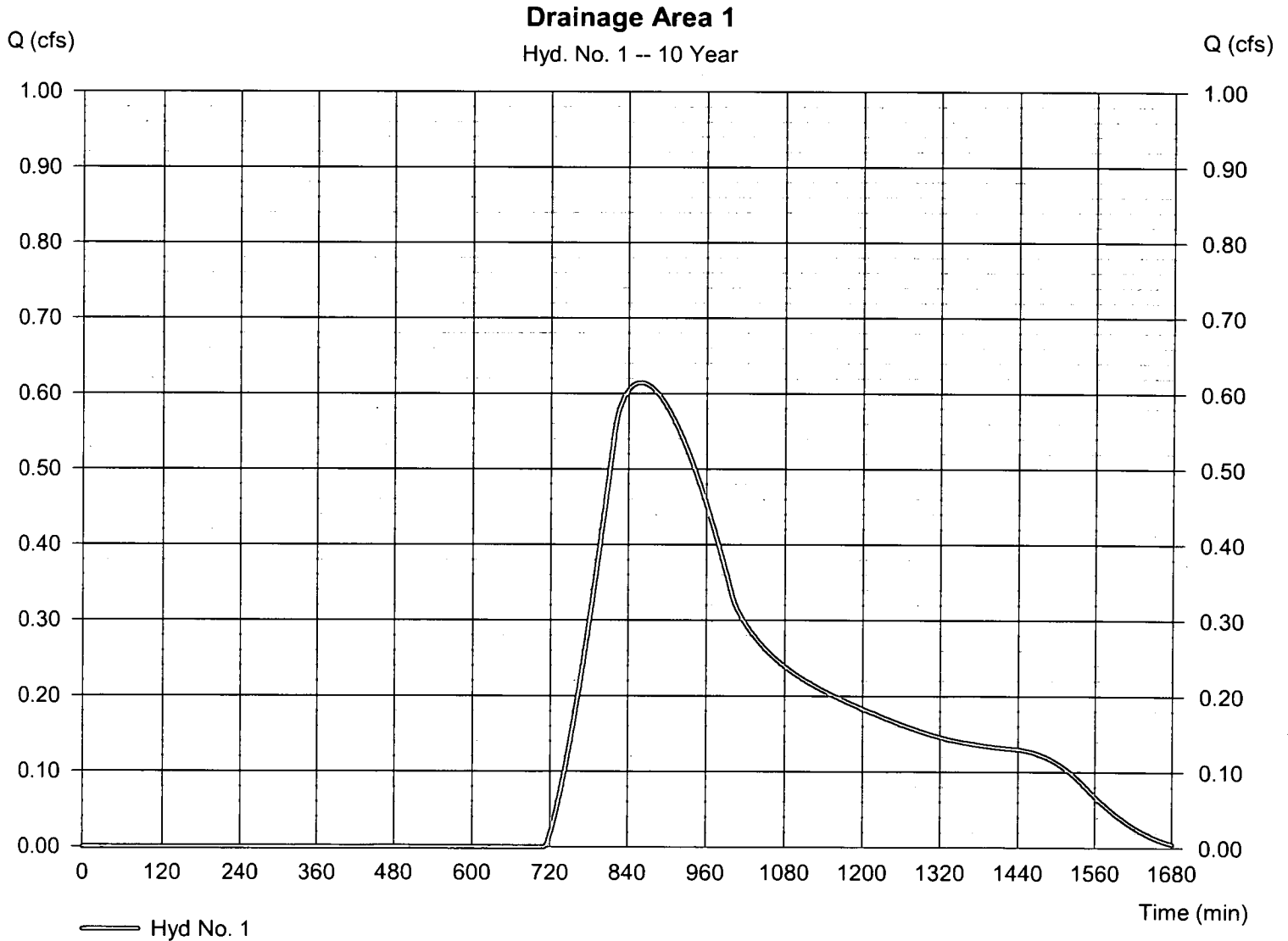
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	0.615	2	858	13,252	-----	-----	-----	Drainage Area 1

Hydrograph Report

Hyd. No. 1

Drainage Area 1

Hydrograph type	= SCS Runoff	Peak discharge	= 0.615 cfs
Storm frequency	= 10 yrs	Time to peak	= 858 min
Time interval	= 2 min	Hyd. volume	= 13,252 cuft
Drainage area	= 7.790 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 180.00 min
Total precip.	= 3.54 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.068	2	846	20,889	-----	-----	-----	Drainage Area 1

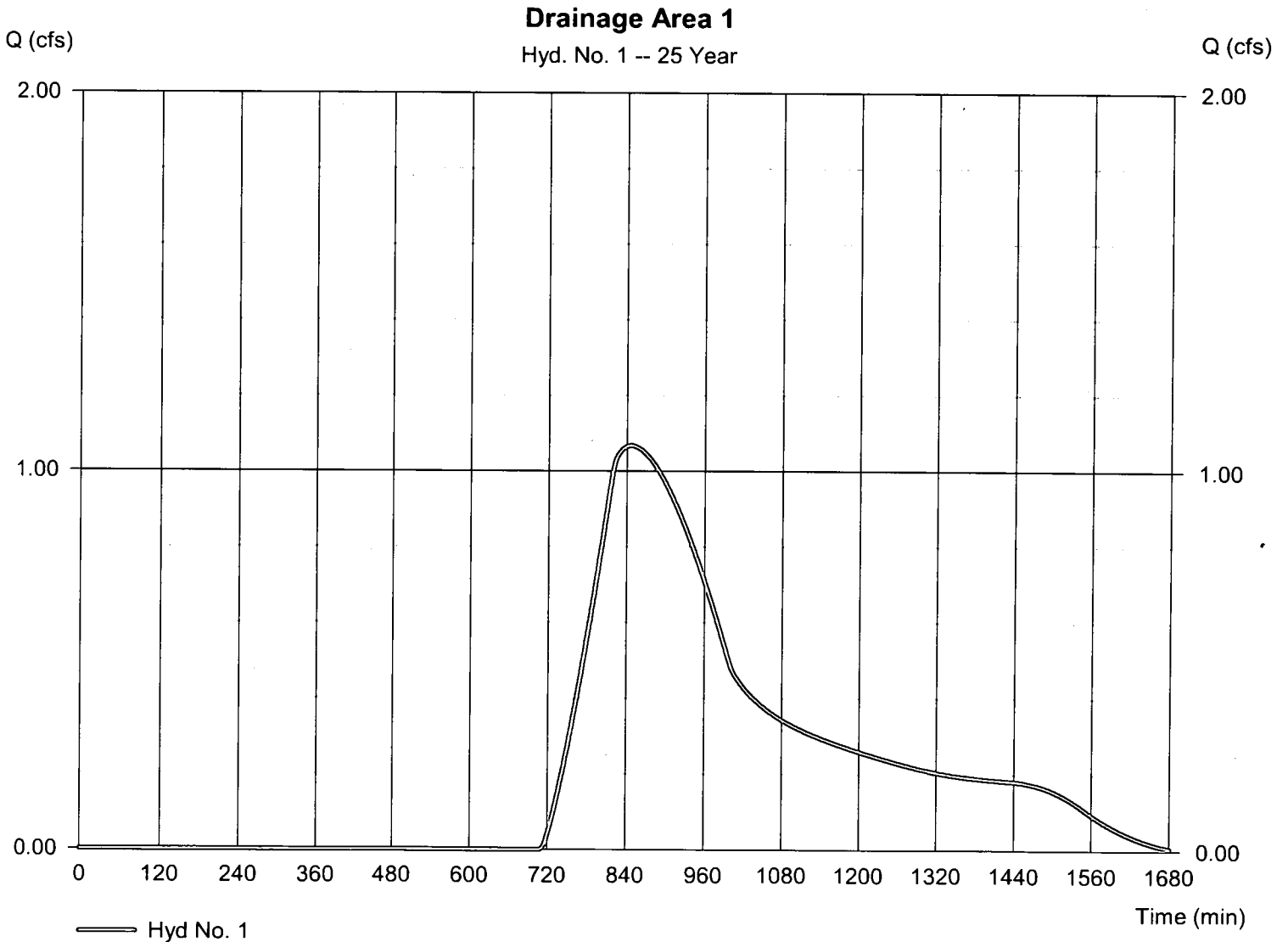
Hydrograph Report

Hyd. No. 1

Drainage Area 1

Hydrograph type = SCS Runoff
Storm frequency = 25 yrs
Time interval = 2 min
Drainage area = 7.790 ac
Basin Slope = 0.0 %
Tc method = User
Total precip. = 4.16 in
Storm duration = 24 hrs

Peak discharge = 1.068 cfs
Time to peak = 846 min
Hyd. volume = 20,889 cuft
Curve number = 58
Hydraulic length = 0 ft
Time of conc. (Tc) = 180.00 min
Distribution = Type II
Shape factor = 484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

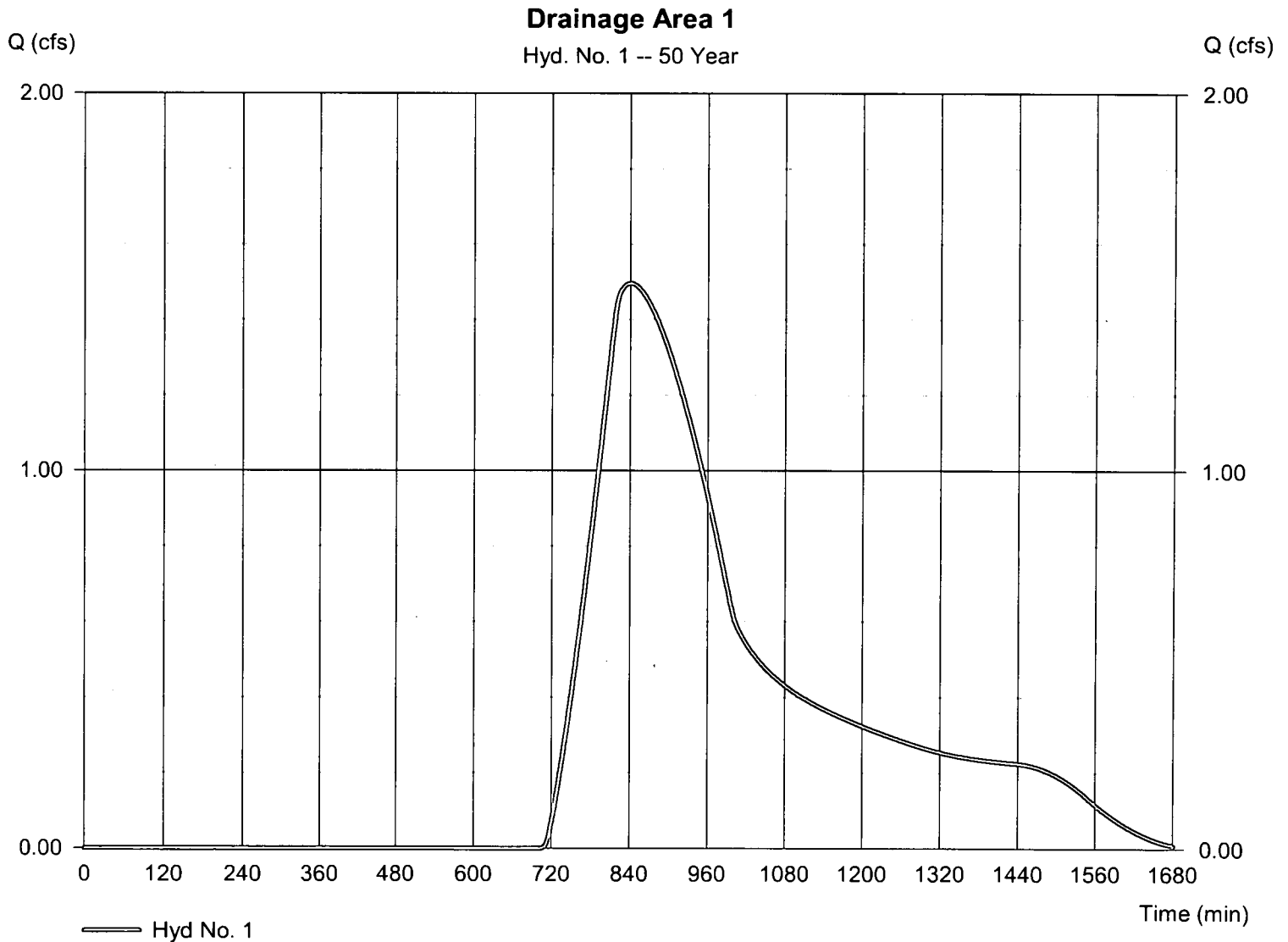
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.497	2	840	27,756	-----	-----	-----	Drainage Area 1
Laydown PrePost Hydrograph.gpw					Return Period: 50 Year		Tuesday, 09 / 17 / 2019		

Hydrograph Report

Hyd. No. 1

Drainage Area 1

Hydrograph type	= SCS Runoff	Peak discharge	= 1.497 cfs
Storm frequency	= 50 yrs	Time to peak	= 840 min
Time interval	= 2 min	Hyd. volume	= 27,756 cuft
Drainage area	= 7.790 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 180.00 min
Total precip.	= 4.65 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.013	2	836	35,727	-----	-----	-----	Drainage Area 1

Hydrograph Report

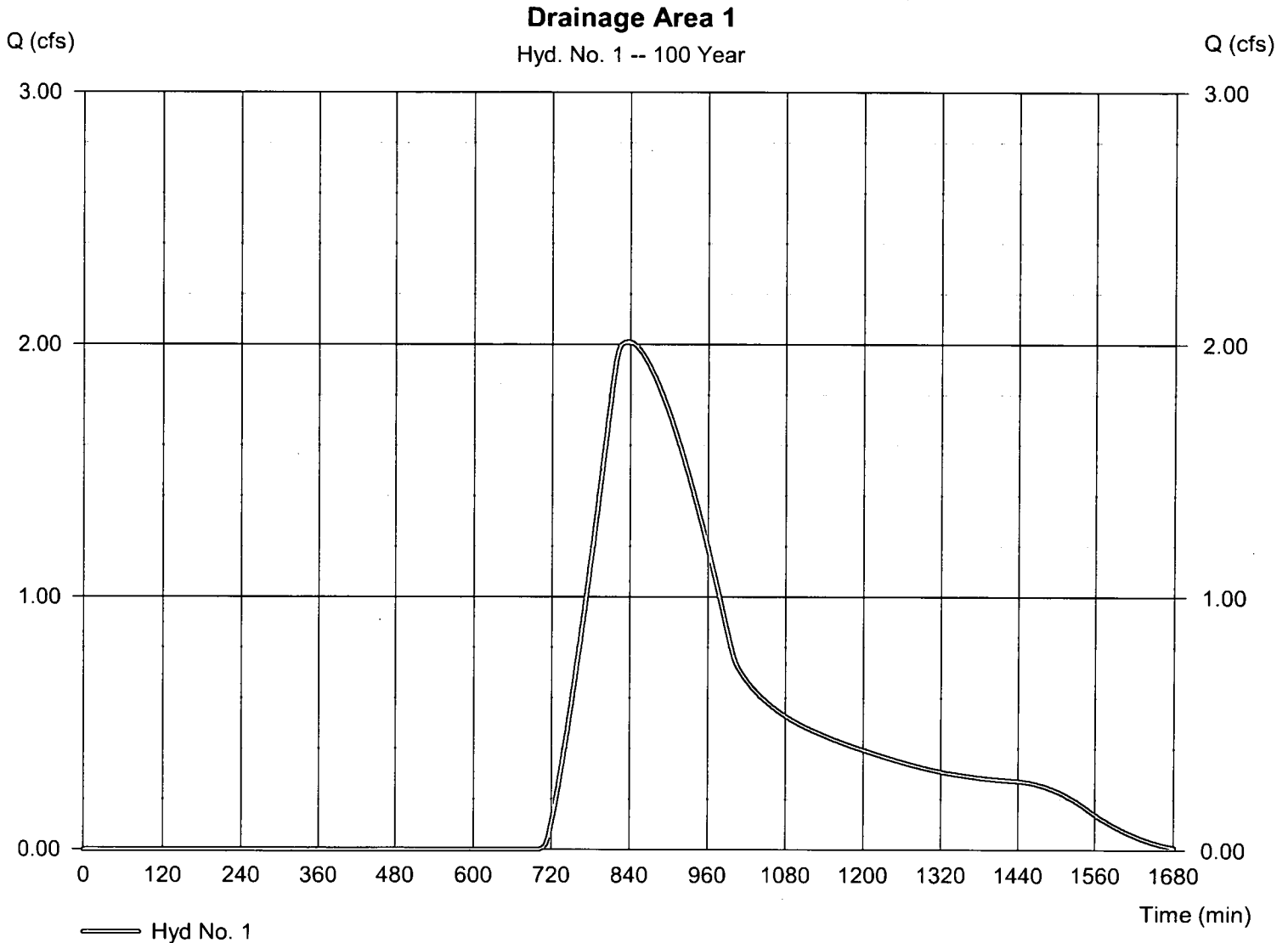
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2018 by Autodesk, Inc. v12

Tuesday, 09 / 17 / 2019

Hyd. No. 1

Drainage Area 1

Hydrograph type	= SCS Runoff	Peak discharge	= 2.013 cfs
Storm frequency	= 100 yrs	Time to peak	= 836 min
Time interval	= 2 min	Hyd. volume	= 35,727 cuft
Drainage area	= 7.790 ac	Curve number	= 58
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 180.00 min
Total precip.	= 5.17 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



Summary Table

Drainage Area	Condition	Total Area (ac)	TOC (mins)	Weighted CN	Runoff Volume (cu ft)	Runoff Volume Increase (cu ft)
1	EXISTING	7.79	180.0	58	4,184	0
	DEVELOPED	7.79	180.0	58	4,184	
TOTAL					0	

Drainage Area	Condition	2-Year Rate	10-Year Rate	25-Year rate	50-Year Rate	100-Year Rate
1	EXISTING	0.15	0.62	1.07	1.50	2.01
	DEVELOPED	0.15	0.62	1.07	1.50	2.01

Sediment Trap Calculations
Flint Run Project: Big Flint Laydown Yard

SUBJECT: Flint Run: Big Flint Run Laydown Yard Sediment Trap Calculations

BY: Brantlr DATE: 1/31/2020

CHECKED BY: NickIDM DATE: 1/31/2020

REFERENCE: PA BMP MANUAL, CHAPTER 6.4.10, p. 118-119

Infiltration Structure	Infiltration Berm Length (ft)	Impoundment Area Bottom Width (ft)	Berm Side Slopes (Upslope)	Slope Infiltration Area (%)	Impoundment Area Depth (ft)	Impoundment Area Top Width (ft)	Calculated Impoundment (ft ² /LF)	Calculated Storage (ft ³)
Sedimentation Trap 1	150	0	1	1%	2	202.0	202.0	30300

Required Storage Volume: ft³

Total Provided Storage: ft³

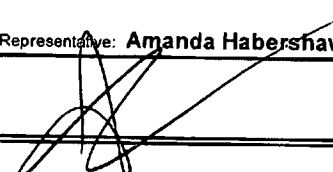
APPENDIX C

Generic Groundwater Protection Plan

BIG FLINT ROAD LAYDOWN YARD GROUNDWATER PROTECTION PLAN

This GPP must be available on site for review at all times. The Director may require modification of a GPP to assure adequate protection of ground water.

If a facility does not have adequate ground water protection practices in place they may submit a compliance schedule for implementation of the necessary practices. This compliance schedule would allow them time (no longer than thirty days) to implement the necessary practices.

FACILITY/SITE INFORMATION	
Facility Name: Big Flint Road Laydown Yard	
Facility location: Big Flint Road, Center Point, WV 26339	County: Doddridge County
Latitude: 39°21'03.7"N	Longitude: 80°42'09.0"W
Contact Person: Amanda Habershaw	Telephone: 724-830-7657
Company Name: Trans-Allegheny Interstate Line Company (A FirstEnergy Company)	
Mailing Address: 800 Cabin Hill Drive	
City, State, Zip Greensburg, PA 15601	
Date Construction to begin: February 2020	
Date Construction to end: December 2020	
I certify that I have personally examined and approved this Groundwater Protection Plan (GPP). This GPP will be implemented and adhered to during the period construction is in progress at this site.	
Designated Representative: Amanda Habershaw	Title: Energy Delivery Permitting Supervisor
Signature: 	Date: 02/06/2020

INVENTORY WORK SHEET FOR POTENTIAL CONTAMINANTS

(47 CSR 58.4.11.1)

Complete the following table providing the storage location, quantity and potential to contaminate soil or ground water. If the potential contaminate listed is not kept on site, then enter "NA" in all three columns. If this site maintains additional items with the potential to contaminate ground water list the additional items in the spaces provided at the end of this list. The storage location should be indicated on a site map.

Potential Contaminant	Storage Locations	Quantity in Gallons	Potential to Contaminate Soil or Ground Water
Fertilizers/including ammonium nitrate	NA	NA	NA
Batteries/ Battery Acid	NA	NA	NA
Fuels (tanks)	NA	NA	NA
Lubricants (Oil/Grease) (tanks and drums)	NA	NA	NA
Parts Cleaners	NA	NA	NA

PROCEDURES DESIGNED TO PROTECT GROUND WATER AT CONSTRUCTION SITES

(47 CSR 58.4.11.2)

Complete the following table providing the practices and procedures which will be in place at the construction site to prevent contamination of ground water by the potential contaminants. Equipment cleaning, maintenance activities, pipelines, and sumps and tanks which contain potential contaminants must be addressed. Examples of Groundwater Protection Practices can be found in 47 CSR 58.4. et seq.

Potential Contaminant	Procedures to Prevent Contamination of Ground Water
Fertilizers including ammonium nitrate	Fertilizer will not be stored on this site. Fertilizer will only be utilized by Contractors performing seeding activities at the site and the material will be purchased and brought to the site for specific use only. Spills that occur during vegetation activities shall be promptly cleaned up and disposed of by the contractor if the material is no longer usable for fertilization activities. Disposal shall be performed by double bagging the material and removed from the site by the Contractor.
Batteries/ Battery Acid	Batteries and battery acid, located in construction equipment being utilized throughout construction activities, will be monitored for proper operation. Should problems be identified or develop during ongoing construction activities that damage a battery or require the removal or replacement of a battery, the damaged or malfunctioning battery shall be removed from the construction site at the end of the day by Construction personnel.

	responsible for maintaining the equipment. Batteries shall be disposed of in an appropriate manner at an approve site.
Fuels (Tanks)	<p>Fuel tanks are not anticipated to be stored at the site. Construction equipment will be fueled daily by trucks servicing the site. Should a fuel tank be stored at the site, even temporarily, a berm or containment dike shall be placed around the tank that will allow for the containment of 110% of the volume of the tank. Spills shall be addressed and cleaned up by qualified personnel as soon as a leak or spill is detected.</p> <p>If fuel is spilled during fueling operations, it shall be cleaned up and any contaminated rock or soil bagged, removed from the site, and disposed of in an acceptable and approved manner.</p>
Lubricants (Oil/Grease) (tanks and drums)	<p>Lubricants are not anticipated to be stored at the site. Construction equipment will be serviced daily by Construction maintenance personnel the site, not at this Laydown Yard. Should lubricants be stored at the site, even temporarily, a containment device shall be placed around the drum or tank that will allow for the containment of 110% of the volume of the tank. Spills shall be addressed and cleaned up by qualified personnel as soon as a leak or spill is detected.</p> <p>Spills shall be cleaned up and any contaminated rock or soil bagged, removed from the site, and disposed of in an acceptable and approved manner.</p>
Parts Cleaners	NA
Storage area for raw materials, product, or wastes	NA

47 CSR 58.4.11.4.

A summary of all activities carried out under other regulatory programs that have relevance to ground water protection. Indicate below all permits, required plans and regulatory agencies who have any control over the facility and how the facility could impact ground water. Examples WV/National Pollutant Discharge Elimination System, WV/DEP/OWM Solid Waste Facility Permit, WV/DEP/OWM Hazardous Waste Facility Permit, WV/DEP/OWM Underground Storage Tank Program, Resource Conservation Recovery Act (RCRA), Comprehensive Environmental Response, Compensation & Liability Act (CERCLA), Toxic Substances Control Act, Underground Injection Control Permit, and WV Department of Health (septic tanks and sewage systems)

PERMIT NUMBER	PERMIT
WVR110561	WV/NPDES Permit

47 CSR 58.4.11.5.

A discussion of all available information reasonably available to the facility/activity regarding existing ground water quality at, or which may be affected by the site. Complete the following table as much as possible and attach a brief description of readily available information such as soil type, type of underlying geologic formations, the results of any percolation tests conducted by the county health department for septic tanks, and the results of any sampling activity at the facility from monitoring wells, drinking water wells, springs, or seeps. The location of the sampling points should

be identified on the site sketch. Monitoring wells and sampling are not requirements of a GPP. However, if the information is available it should be included. Prior spills, remediation efforts, and known contamination, both on site and at adjacent or nearby sites, should be included.

Closest surface water body:	SWE-LJE-003
Distance to closest surface water body:	Approx. 42 feet +/-
Depth to ground water (if known):	Unknown
Known ground water monitoring wells within 2000 feet:	None identified.
Known public or private drinking water wells within 2000 feet:	There are likely numerous private water wells within 2,000 feet of this site. There are approximately 8 houses within a 2,000-foot radius and, presumably, all have water wells.
Closest Well Head Protection Area:	Unknown.
Closest Source Water Protection Area:	Unknown.

47 CSR 58.4.11.6.

No wastes will be used for deicing, ice control, structural fills, road base or other uses unless provided for in existing regulations.

47 CSR 58.4.11.7.

All employees will be trained on their responsibility to ensure groundwater protection. Current job procedures provide direction on how to prevent ground water contamination through proper work practices.

47 CSR 58.4.11.8.

Every three months during the life of the construction activity the site will be inspected to ensure that all elements and equipment of the sites ground water protection program are in place, properly functioning, and appropriately managed.

APPENDIX D
Public Notice Sign

**For information on NPDES Stormwater Permit
or
to comment on Sediment Control Plan:**

**Call: 800-654-5227 or DEP.Plan@wv.gov
DEP 601 57th Street SE, Charleston WV 25304**

Application Date: *October 15, 2019*

Flint Run Laydown Yard Transmission Line Project

Trans-Allegheny Interstate Line Company, A FirstEnergy Company, is proposing a Project located in Doddridge County, WV. The Project involves construction of a laydown yard.

1-800-589-2837

APPENDIX E
WV ePermit Report and Signature Page