



# 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: #22-611**

**Date Approved: March 7, 2022**

**Expires: March 7, 2023**

**Issued to: Antero Resources**

**POC: John Angiulli**

**Company Address: 535 White Oaks Blvd. Bridgeport, WV 26330**

**Project Address: Punkin Center Road Road West Union, WV 26456**

**Firm: 54017C0120C**

**Lat/Long: 39.270421N, -80.805330W**

**Purpose of Development: Renewal (Original Permit #20-565)**

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

**Date: March 7, 2022**

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

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# FLOODPLAIN PERMIT #22-611

Antero Resources, Arnolds Creek/Punkin Center Rd (renewal of 20-565) 39.270421, -80.805330

<b>TASK</b>	<b>COMPLETE (DATE)</b>	<b>NOTES</b>
<i>CHECK RECEIVED</i>		
<i>US ARMY CORP. ENGINEERS (USACE)</i>		
<i>US FISH &amp; WILDLIFE SERVICES (USFWS)</i>		
<i>WV DEPT. NATURAL RESOURCES (WVDNR)</i>		
<i>WV DEPT. ENVIROMENTAL PROTECTION (WVDEP)</i>		
<i>STATE HISTORIC &amp; PRESERVATION OFFICE (SHPO)</i>		
<i>OFFICE of LAND &amp; STREAM (OLS)</i>		
<i>WVDOH</i>		
<i>Elevation Certificate</i>		
<i>DATE OF COMMISSION READING</i>	2/15/2022	
<i>DATE AVAILABLE TO BE GRANTED</i>	3/7/2022	
<i>PERMIT GRANTED</i>		
<i>COMPLETE</i>		

7019 2280 0000 5315 7671

7019 2280 0000 5315 7664

7019 2280 0000 5315 7657

7019 2280 0000 5315 7640

7019 2280 0000 5315 9125

7019 2280 0000 5315 9118

7019 2280 0000 5315 9101

7019 2280 0000 5315 9095

7019 2280 0000 5315 9088

7019 2280 0000 5315 9071

7019 2280 0000 5315 9064

7019 2280 0000 5315 9057

7019 2280 0000 5315 9040



7019 2280 0000 5315 9071

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**CERTIFIED MAIL® RECEIPT**  
*Domestic Mail Only*

For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

**OFFICIAL USE**

Certified Mail Fee \$ **3.75**

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ **3.05**

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$ **.53**

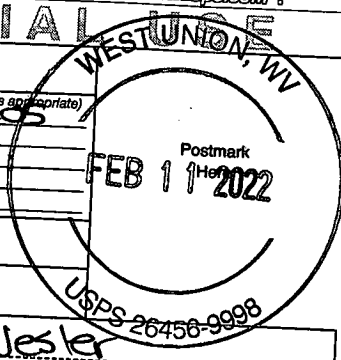
Total Postage and Fees \$ **7.33**

Sent To **Mary L. Nester**

Street and Apt. No., or PO Box No. **856 Arnolds Creek Rd.**

City, State, ZIP+4® **West Union, WV 26456 22-611**

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



7019 2280 0000 5315 9064

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**OFFICIAL USE**

Certified Mail Fee \$ **3.75**

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ **3.05**

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$ **.53**

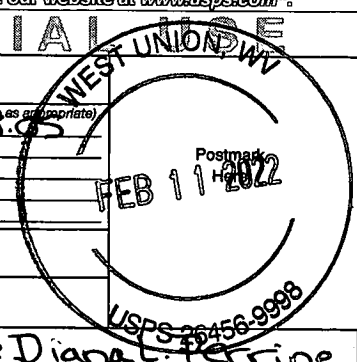
Total Postage and Fees \$ **7.33**

Sent To **Glade Avon: Diane L. Perrine**

Street and Apt. No., or PO Box No. **613 Punkin Center Road**

City, State, ZIP+4® **West Union, WV 26456 22-611**

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



7019 2280 0000 5315 9057

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**OFFICIAL USE**

Certified Mail Fee \$ **3.75**

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ **3.05**

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$ **.53**

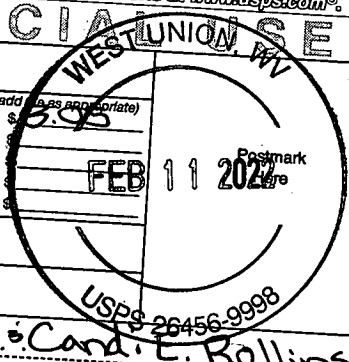
Total Postage and Fees \$ **7.33**

Sent To **Marvin B. Card E. Rollins**

Street and Apt. No., or PO Box No. **P.O. Box 56**

City, State, ZIP+4® **West Union, WV 26456 22-611**

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



7019 2280 0000 5315 7657

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**OFFICIAL USE**

Certified Mail Fee \$ **3.75**

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ **3.05**

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$ **.53**

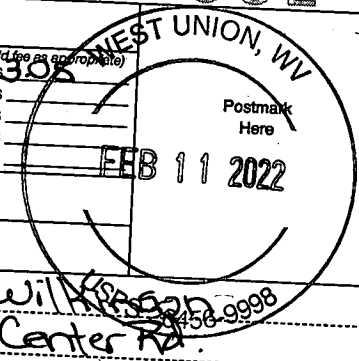
Total Postage and Fees \$ **7.33**

Sent To **Michael Wilkerson**

Street and Apt. No., or PO Box No. **818 Punkin Center Rd.**

City, State, ZIP+4® **West Union, WV 26456 22-611**

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



7019 2280 0000 5315 7640

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For delivery information, visit our website at [www.usps.com](http://www.usps.com)®.

**OFFICIAL USE**

Certified Mail Fee \$ **3.75**

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$ **3.05**

Return Receipt (electronic) \$

Certified Mail Restricted Delivery \$

Adult Signature Required \$

Adult Signature Restricted Delivery \$

Postage \$ **.53**

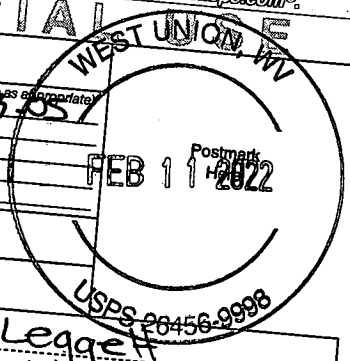
Total Postage and Fees \$ **7.33**

Sent To **Richard L. Leggett**

Street and Apt. No., or PO Box No. **526 Punkin Center Rd.**

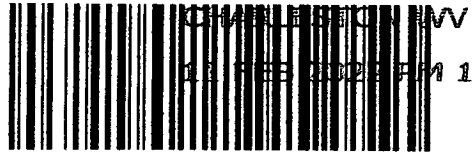
City, State, ZIP+4® **West Union, WV 26456 22-611**

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

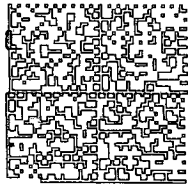


**CERTIFIED MAIL®**

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



7019 2280 0000 5315 9125



quadiënt

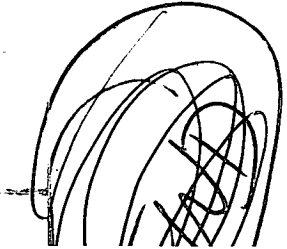
**\$007.33<sup>0</sup>**

02/10/2022 ZIP 26456  
042L14835518

**US POSTAGE**

WTF  
4-13

**EQM Gathering OPCO, LLC**  
Equitrans Midstream Corporation  
P.O. Box 6308  
Pittsburgh, PA 15222

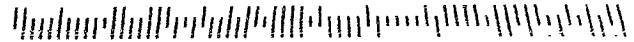


NIXIE 152 FE 1 0004/15/22

RETURN TO SENDER  
NOT DELIVERABLE AS ADDRESSED  
UNABLE TO FORWARD

152  
FND  
26456>1194

BC: 26456119427 \*0596-04538-15-18



PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT  
OF RETURN ADDRESS FOR POSTAL PROCESSING

**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.

**EQM Gathering OPCO, LLC**  
**Equitrans Midstream Corporation**  
**P.O. Box 6308**  
**Pittsburgh, PA 15222**



9590 9402 7059 1225 5359 50

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

**X**

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
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

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



Dear Sir or Ma'am,

February 10, 2022

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'.

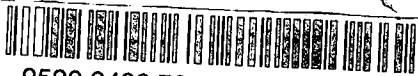
George Eidel, CFM, OEM Director/Floodplain Manager

**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:

**Loren K. & Larry N. Smith**  
**1093 Punkin Center Road**  
**West Union, WV 26456**

  
 9590 9402 7059 1225 5360 56

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 X *Carol*  Agent  Addressee

B. Received by (Printed Name) *D. Cutright* C. Date of Delivery *2/14*

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"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Collect on Delivery Restricted Delivery	
<input type="checkbox"/> Insured Mail	
<input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)	

PS Form 3811, July 2020 PSN 7530-02-000-9053

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.

1. Article Addressed to:

**Shirley Cutright**  
**50 Hummingbird Drive**  
**West Union, WV 26456**

  
 9590 9402 7059 1225 5360 49

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  
 X *Carol*  Agent  Addressee

B. Received by (Printed Name) *D. Cutright* C. Date of Delivery *2/14*

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"/> Signature Confirmation™
<input type="checkbox"/> Collect on Delivery	<input type="checkbox"/> Signature Confirmation Restricted Delivery
<input type="checkbox"/> Collect on Delivery Restricted Delivery	
<input type="checkbox"/> Insured Mail	
<input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)	

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt



## **Doddridge County Floodplain Permits**

**(Week of February 14, 2022)**

Please take notice that on the (9<sup>th</sup>) of (February), 2022, (Antero Resources) filed an application for a Floodplain Permit (#22-611) to develop land located at or about (Arnolds Creek/Punkin Center Road Improvement); Coordinates: 39.270421, -80.805330. 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 (March 7, 2022) (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 a renewal of Permit 20-565 Road Improvement

**GEORGE C. EIDEL, CFM**

Doddridge County 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:

**Richard L. Leggett**  
**526 Punkin Center Road**  
**West Union, WV 26456**



9590 9402 7059 1225 5359 43

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

Covind

 Agent Addressee

B. Received by (Printed Name)

Richard L. Leggett

C. Date of Delivery

5/14

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
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

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.

1. Article Addressed to:

**Dennis L. & Sonya G. Hayes**  
**165 Punkin Center Road**  
**West Union, WV 26456**



9590 9402 7059 1225 5359 74

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X

Covind

 Agent Addressee

B. Received by (Printed Name)

Sonya Hayes

C. Date of Delivery

2/14

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
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt



## **Doddridge County Floodplain Permits**

**(Week of February 14, 2022)**

Please take notice that on the (9<sup>th</sup>) of (February), 2022, (Antero Resources) filed an application for a Floodplain Permit (#22-611) to develop land located at or about (Arnolds Creek/Punkin Center Road Improvement); Coordinates: 39.270421, -80.805330. 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 (March 7, 2022) (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 a renewal of Permit 20-565 Road Improvement

  
GEORGE C. EIDEL, CFM

Doddridge County Floodplain Manager

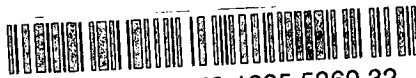


**SENDER: COMPLETE THIS SECTION**

- 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:

**Marvin B. & Candi E. Rollins**  
**P.O. Box 56**  
**West Union, WV 26456**



9590 9402 7059 1225 5360 32

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

B. Received by (Printed Name) C. Date of Delivery  
 Marvin Rollins 7/14/22

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
  - Signature Confirmation™
  - Signature Confirmation Restricted Delivery

Domestic Return Receipt

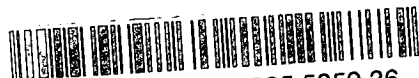
PS Form 3811, July 2020 PSN 7530-02-000-9053

**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:

**Michael Wilkinson**  
**878 Punkin Center Road**  
**West Union, WV 26456**



9590 9402 7059 1225 5359 36

Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

B. Received by (Printed Name) C. Date of Delivery  
 James Wilkinson 7/15

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
  - Signature Confirmation™
  - Signature Confirmation Restricted Delivery

Domestic Return Receipt

Form 3811, July 2020 PSN 7530-02-000-9053

COPY

KLEINFELDER OFFICE CHECKING

550 WEST C STREET SUITE 1200  
SAN DIEGO, CA 92101

COPY

COPY

DATE 2/7/2022

PAY TO THE  
ORDER OF

Doddridge County Commission

\$ 1,960.77

One thousand nine hundred sixty and 77/100

DOLLARS

usbank.

COPY

COPY

Janice A. Kana

FOR

1383.001A / 12-0000

⑆0⑆⑆642⑆⑆⑆⑆25000⑆05⑆⑆575⑆9869794⑆



51 Dutilh Road  
Suite 240  
Cranberry Township, PA  
16066  
o | 724.772.7072  
f | 724.203.6737

# TRANSMITTAL

To:

Mr. George Eidel  
Floodplain Manager  
101 Church Street, Suite #102  
West Union, WV 26456

Date: February 9, 2022

cc: Project File

FEB 9 22 1:09PM

<b>Subject:</b>	<b>Floodplain Permit Application Antero Resources Corporation Arnolds Creek Road (CR11) Punkin Center Road (CR 11/4) Roadway Improvements Doddridge County, West Virginia</b>
<input checked="" type="checkbox"/> <b>Attached</b> <input type="checkbox"/> <b>Under separate cover</b>	

Via:

- Messenger/Courier
- First Class Mail
- FedEx
- United Parcel
- DHL
- Lone Star Overnight
- Freight
- Other

Transmitted:

- As Requested
- For Approval
- For Your Use
- For Review & Comment

Remarks:

Enclosed please find the following documents to facilitate your review of the above referenced application:

- Attachment A – Floodplain Application
- Attachment B – Table of Adjacent Property Owners
- Attachment C – Floodplain Map
- Attachment D – Location Exhibit
- Attachment E – Compliance Certificate
- Attachment F – Permitting & Coordination

The check for fee is \$1960.77. The site budget within the Floodplain is \$292,153.59 bringing the permit fee to \$1,960.77.

By: **Matthew Albright**  
Project Manager



Permit#	22-611
Project Name:	Arnolds Creek/Dunkin Center Ret. improvement
Permittees Name:	Antero Resources
	Renewal of 20-565

03 9 22 11:09PM

## 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 John M. Angiulli

DATE 2/9/2022



**ATTACHMENT A**  
**FLOODPLAIN APPLICATION**

Doddridge County Commercial/Industrial  
Floodplain Development Permit Application

**Applicant Information:**

*Please provide all pertinent data.*

<b>Applicant Information</b>		
<b>Responsible Company Name: Antero Resources Corporation</b>		
<b>Corporate Mailing Address: 1615 Wynkoop Street</b>		
<b>City: Denver</b>	<b>State: CO</b>	<b>Zip: 80202</b>
<b>Corporate Point of Contact (POC): N/A</b>		
<b>Corporate POC Title: N/A</b>		
<b>Corporate POC Primary Phone: N/A</b>		
<b>Corporate POC Primary Email: N/A</b>		
<b>Corporate FEIN: N/A</b>	<b>Corporate DUNS: N/A</b>	
<b>Corporate Website: <a href="http://www.anteroresources.com">www.anteroresources.com</a></b>		
<b>Local Mailing Address: 535 White Oaks Blvd</b>		
<b>City: Bridgeport</b>	<b>State: WV</b>	<b>Zip: 26330</b>
<b>Local Project Manager (PM): John Angiulli</b>		
<b>Local PM Primary Phone: 304-842-4139</b>		
<b>Local PM Secondary Phone: N/A</b>		
<b>Local PM Primary Email: <a href="mailto:jangiulli@anteroresources.com">jangiulli@anteroresources.com</a></b>		
<b>Person Filing Application: John Angiulli</b>		
<b>Applicant Title: Environmental Specialist II</b>		
<b>Applicant Primary Phone: 304-842-4139</b>		
<b>Applicant Secondary Phone: N/A</b>		
<b>Applicant Primary Email: <a href="mailto:jangiulli@anteroresources.com">jangiulli@anteroresources.com</a></b>		

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.*

<p><b>Project Narrative:</b></p> <p>Antero Resources Corporation (Antero) submitted a floodplain permit application on February 19, 2020 for the purpose of roadway improvements along Arnolds Creek Road (CR 11) and Punkin Center Road (CR 11/4) totaling approximately 2.07-miles of road length near the town of West Union in Doddridge County, West Virginia. The floodplain permit (Permit #20-565) was issued in a letter dated March 23, 2020 and expired on March 23, 2021 (Attachment E).</p> <p>Since receipt of this approval, delays have occurred, which have not allowed Antero to construct any portion of this project. Furthermore, due to deteriorating road conditions from weather and continued use, design changes have occurred resulting in the need to expand and reduce select areas of the limits-of-disturbance (LOD) at 7 segments (LOD Segments 1-7) along Arnolds Creek Road (CR 11) and Punkin Center Road (CR 11/4) (Attachment C). The Roadway Improvements will utilize the existing county roads and will support access to future Antero-operated sites. The roadway improvements as originally permitted with Doddridge County consisted of an 8.09-acre LOD. However, due to the deteriorating road conditions Antero currently proposes to repair 7 segments consisting of an approximately 1.08-acre cumulative LOD, of which 0.84 acre (78%) is located within the limits of a regulated floodplain. As a result, 2 abbreviated hydraulic studies were performed in HEC-RAS to analyze the potential for adverse effects to the floodplains of Arnold Creek and Left Fork Arnold Creek; which determined that the proposed road improvements will have no impact to the base flood elevation (Attachment E). The road improvements at each LOD segment are described below and will consist of but are not limited to:</p> <ul style="list-style-type: none"><li>• ~ Station 70+91 to 72+76 (LOD Segment 1) LOD workspace located outside of the floodplain for the purpose of road grade improvements.</li><li>• ~ Station 93+47 to 94+32 (LOD Segment 2) LOD workspace located partially inside the floodplain for the purpose of road stabilization, installation of plug pile wall, and slip repair.</li><li>• ~ Station 95+45 to 96+14 (LOD Segment 3) LOD workspace located inside the floodplain for the purpose of road stabilization, installation of plug pile wall, and slip repair.</li><li>• ~ Station 97+19 to 100+48 (LOD Segment 4): LOD workspace located inside the floodplain for the purposes of road stabilization, installation of plug pile wall, and slip repair.</li><li>• ~ Station 120+57 to 121+06 (LOD Segment 5): LOD workspace located inside the floodplain for the purposes of shoulder restoration.</li><li>• ~ Station 284+55 to 287+35 (LOD Segment 6): LOD workspace located inside the floodplain for the purposes of road stabilization, installation of plug pile wall, and slip repair.</li><li>• ~ Station 295+85 to 296+83 (LOD Segment 7): LOD workspace located inside the floodplain for the purposes of road stabilization, installation of pile and lagging wall, and slip repair.</li></ul> <p>Antero is requesting a new floodplain permit for the design changes located within the regulated floodplain at the different LOD segments.</p>
--

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:**

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

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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:**   1   of   1  

<b>Site/Property Information:</b>		
<b>Legal Description: Arnolds Creed Road (CR 11) and Punkin Center Road (CR 11/4)</b>		
<b>Physical Address/911 Address: County Route 11 &amp; 11/4</b>		
<b>Decimal Latitude/Longitude: 39.267533</b>		
<b>DMS Latitude/Longitude: -80.800373</b>		
<b>District: 08 (West Union)</b>	<b>Map: 14 &amp; 20</b>	<b>Parcel: N/A</b>
<b>Land Book Description: N/A</b>		
<b>Deed Book Reference: N/A</b>		
<b>Tax Map Reference: N/A</b>		
<b>Existing Buildings/Use of Property: County Roads (Arnolds Creek Road &amp; Punkin Center Road)</b>		

<b>Floodplain Location Data: (to be completed by Floodplain Manager or designee)</b>			
<b>Community:</b>	<b>Number:</b>	<b>Panel:</b>	<b>Suffix:</b>
<b>Location (Lat/Long):</b>		<b>Approximate Elevation:</b>	
		<b>Estimated BFE:</b>	
<b>Is the development in the floodway?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Is the development in the floodplain?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Zone: _____</b>	
<b>Notes:</b>			

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: <u>  1  </u> of <u>  1  </u>
--

<b>Property Owner Data:</b>		
Name of Primary Owner (PO): Arnolds Creek Road (CR 11) & Punkin Center Road (CR 11/4)		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

<b>Surface Rights Owner Data:</b>		
Name of Primary Owner (PO): See Table of Adjacent Property Owners (Attachment B)		
PO Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

<b>Mineral Rights Owner Data: (As Applicable)</b>		
Name of Primary Owner (PO): N/A		
PO Address: N/A		
City: N/A	State: N/A	Zip: N/A
PO Primary Phone: N/A		
PO Secondary Phone: N/A		
PO Primary Email: N/A		

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:   1   of   1**

<b>Contractor/Sub--Contractor (C/SC) Information:</b>		
<b>C/SC Company Name: One contractor to be selected from the following: Ohio West Virginia Excavating Co. (WV005911), Energy Transportation, LLC (WV053927), Orders Construction Company, Inc. (WV000007).</b>		
<b>C/SC Company Name: See Above</b>		
<b>C/SC WV License Number: See Above</b>		
<b>C/SC FEIN: TBD</b>	<b>C/SC DUNS: TBD</b>	
<b>Local C/SC Point of Contact (POC): TBD</b>		
<b>Local C/SC POC Title: TBD</b>		
<b>C/SC Mailing Address: TBD</b>		
<b>City: TBD</b>	<b>State: TBD</b>	<b>Zip--Code: TBD</b>
<b>Local C/SC Office Phone: TBD</b>		
<b>Local C/SC POC Phone: TBD</b>		
<b>Local C/SC POC E--Mail: TBD</b>		

<b>Engineer Firm Information:</b>		
<b>Engineer Firm Name: Civil &amp; Environmental Consultants</b>		
<b>Engineer WV License Number: 19756</b>		
<b>Engineer Firm FEIN: N/A</b>	<b>Engineer Firm DUNS: N/A</b>	
<b>Engineer Firm Primary Point of Contact (POC): Patrick W. Carpenter</b>		
<b>Engineer Firm Primary POC Title: Project Manager</b>		
<b>Engineer Firm Mailing Address: 120 Genesis Boulevard</b>		
<b>City: Bridgeport</b>	<b>State: WV</b>	<b>Zip--Code: 26330</b>
<b>Engineer Firm Office Phone: 304-933-3119</b>		
<b>Engineer Firm Primary POC Phone: 304-848-7109</b>		
<b>Engineer Firm Primary POC E--Mail: <a href="mailto:pcarpenter@cecinc.com">pcarpenter@cecinc.com</a></b>		

### 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.*

<b>Adjacent Property Owner Data: Upstream</b>		
Name of Primary Owner (PO): See Table of Adjacent Property Owners (Attachment B)		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

<b>Adjacent Property Owner Data: Downstream</b>		
Name of Primary Owner (PO): See Table of Adjacent Property Owners (Attachment B)		
Physical Address:		
City:	State:	Zip:
PO Primary Phone:		
PO Secondary Phone:		
PO Primary Email:		

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

## 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 access roads)*
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.

## 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: John M. Angiulli Date: 2/9/2022

Applicant Printed Name: John M. Angiulli



ATTACHMENT B  
TABLE OF ADJACENT PROPERTY OWNERS

PROPERTY OWNER	PARCEL ID NUMBER	E-911 ADDRESS	PROPERTY OWNER ADDRESS	IN FLOODPLAIN
ARNOLDS CREEK U B CHURCH	09-08-0020-0001-0000	939 PUNKIN CENTER RD, WEST UNION, WV, 26456	ROUTE 11/4	No
CUTRIGHT SHIRLEY ET AL (LIFE)	09-08-0014-0019-0002	36 HUMMINGBIRD DR, WEST UNION, WV, 26456 14 HUMMINGBIRD DR, WEST UNION, WV, 26456 85 HUMMINGBIRD DR, WEST UNION, WV, 26456 70 HUMMINGBIRD DR, WEST UNION, WV, 26456 50 HUMMINGBIRD DR, WEST UNION, WV, 26456 47 HUMMINGBIRD DR, WEST UNION, WV, 26456	50 HUMMINGBIRD DR, WEST UNION, WV 26456	Yes
EQM GATHERING OPCO LLC	09-08-0020-0004-0000	1156 PUNKIN CENTER RD, WEST UNION, WV, 26456 1140 PUNKIN CENTER RD, WEST UNION, WV, 26456 1082 PUNKIN CENTER RD, WEST UNION, WV, 26456	EQUITRANS MIDSTREAM CORPORATI, PO BOX 6308, PITTSBURGH, PA 15222	Yes
ERVOLINA ANTHONY A & LYNDIA F (SURV)	09-08-0014-0005-0000	47 ARNOLDS CREEK RD, WEST UNION, WV, 26456	47 ARNOLDS CREEK RD, WEST UNION, WV 26456	Yes
HAYES DENNIS L & SONYA G (SURV)	09-08-0014-0007-0000	164 PUNKIN CENTER RD, WEST UNION, WV, 26456 328 PUNKIN CENTER RD, WEST UNION, WV, 26456	164 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
HAYES DENNY D	09-08-0014-0007-0001	167 PUNKIN CENTER RD, WEST UNION, WV, 26456	HOUSING DEVELOPMENT, 5710 MACCORKLE AVE SE, CHARLESTON, WV 25304	Yes
LEGGETT RICHARD	09-08-0014-0019-0001	23 HUMMINGBIRD DR, WEST UNION, WV, 26456	526 PUMPKIN CENTER RD, WEST UNION, WV 26456	Yes
LEGGETT RICHARD LEE	09-08-0014-0019-0004	No E-911 address found	526 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
LEGGETT RICHARD LEE	09-08-0014-0019-0003	482 PUNKIN CENTER RD, WEST UNION, WV, 26456	526 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
MEYER LISA MAXWELL	09-08-0014-0006-0000	3357 ELLIOT RD, WEST UNION, WV, 26456	282 VAN BRUNT ST APT 2, BROOKLYN, NY 11231	Yes
NESLER MARY L	09-08-0014-0020-0000	3434 ELLIOT RD, WEST UNION, WV, 26456 856 ARNOLDS CREEK RD, WEST UNION, WV, 26456	856 ARNOLDS CREEK RD, WEST UNION, WV 26456	Yes
PERRINE GLADE AVON	09-08-0015-0015-0000	No E-911 address found	613 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
PERRINE GLADE AVON & DIANA L (SURV)	09-08-0015-0016-0000	613 PUNKIN CENTER RD, WEST UNION, WV, 26456	613 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
ROLLINS MARVIN B & CANDI E	09-08-0014-0009-0000	233 PUNKIN CENTER RD, WEST UNION, WV, 26456	PO BOX 56, WEST UNION, WV 26456	No
RULEY CHURCH	09-08-0014-0008-0000	322 ARNOLDS CREEK RD, WEST UNION, WV, 26456	C/O ROBERT L HOLLAND ATTORNEY, HIGH ST, WEST UNION, WV 26456	Yes
SMITH LOREN K & LARRY N	09-08-0020-0008-0000	No E-911 address found	1093 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
SMITH MARK B	09-08-0014-0017-0000	747 ARNOLDS CREEK RD, WEST UNION, WV, 26456	P O BOX 213, SMITHBURG, WV 26436	Yes
TRUSTEES OF M P CHURCH DAVID TRAVIS ET AL TRUSTEES	09-08-0014-0008-0001	No E-911 address found	ROUTE 11	Yes
WILKINSON MICHAEL ETAL	09-08-0020-0002-0000	No E-911 address found	878 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
WILKINSON MICHAEL ETAL	09-08-0015-0012-0001	878 PUNKIN CENTER RD, WEST UNION, WV, 26456	878 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes
WILKINSON MICHAEL ETAL	09-08-0015-0012-0002	No E-911 address found	878 PUNKIN CENTER RD, WEST UNION, WV 26456	Yes





ATTACHMENT C  
FLOODPLAIN MAP





Northwestern Terminus:  
39.277259, -80.811072

LOD Segment 7  
39.274192, -80.811132

LOD Segment 6  
39.273055, -80.809325

LOD Segment 5  
39.270544, -80.805008

LOD Segment 4  
39.267423, -80.800345

LOD Segment 2  
39.266142, -80.799740

LOD Segment 3  
39.266602, -80.800039

LOD Segment 1  
39.261489, -80.795201

Southeastern Terminus:  
39.256303, -80.791810

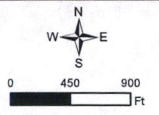
FIRM PANEL:  
54017C0115C

FIRM PANEL:  
54017C0120C

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Antero Resources Corporation is the owner of the project. Antero Resources Corporation is not responsible for the accuracy of the information shown on this map. The information shown on this map is for informational purposes only and should not be used for any other purpose. The information shown on this map is not a warranty, representation, or guarantee of any kind. The information shown on this map is not to be used for any other purpose. The information shown on this map is not to be used for any other purpose.

SITE NO. 20201383  
DRAWN BY: SWilliams  
CHECKED BY: JLewis  
FILE NAME:  
ArnoldsCreekRD\_Floodplain\_Fig\_1boc\_v1



**Doddridge  
County,  
West Virginia**  
Aerial Imagery: ESRI

- Proposed LOD Segments (1.08 ac)
- NHD Stream
- Previously Permitted LOD (8.09 ac)
- Existing Road
- FEMA 100 Year Floodplain
- FEMA Firm Panel

**Antero Resources Corporation**  
Attachment C  
Floodplain Map  
Arnolds Creek Road (CR11) Punkin Center  
Road (CR11/4) Roadway Improvements  
Date: 2/9/2022  
Index Sheet

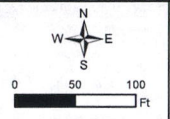
\*0.84 acres of the Proposed LOD Segments is located within the FEMA 100 Year Floodplain





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 ENGINEERS, PLANNERS & ARCHITECTS  
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SITE NO. 20201383  
 DRAWN BY: SWilliams  
 CHECKED BY: JLewis  
 FILE NAME: ArnoldsCreekRd\_Floodplain\_Fig\_Lv1



**Doddridge County, West Virginia**  
 Aerial Imagery: ESRI

- Proposed LOD Segments (1.08 ac)
- Existing Road
- Previously Permitted LOD (8.09 ac)
- FEMA 100 Year Floodplain
- NHD Stream

**Antero Resources Corporation**  
 Attachment C  
 Floodplain Map  
 Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements  
 Date: 2/9/2022

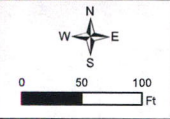
\*0.84 acres of the Proposed LOD Segments is located within the FEMA 100 Year Floodplain





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SITE NO. 20201383  
 DRAWN BY: SWilliams  
 CHECKED BY: JLewis  
 FILE NAME: ArnoldsCreekRD\_Floodplain\_Fig1\_y1



**Doddridge County, West Virginia**  
 Aerial Imagery: ESRI

- Proposed LOD Segments (1.08 ac)
- Existing Road
- Previously Permitted LOD (8.09 ac)
- FEMA 100 Year Floodplain
- NHD Stream

**Antero Resources Corporation**  
 Attachment C  
 Floodplain Map  
 Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements  
 Date: 2/9/2022      Sheet 2 of 4

\*0.84 acres of the Proposed LOD Segments is located within the FEMA 100 Year Floodplain

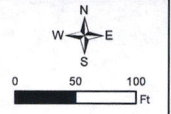




LOD Segment 5  
39.270544, -80.805008

**KLEINFELDER**  
Aerial Imagery: ESRI

SITE NO. 20201383  
DRAWN BY: SVWilliams  
CHECKED BY: JLewis  
FILE NAME: ArnoldsCreekRd\_Floodplain\_Fig1\_Lv1



**Doddridge County, West Virginia**  
Aerial Imagery: ESRI

- Proposed LOD Segments (1.08 ac)
- Existing Road
- Previously Permitted LOD (8.09 ac)
- FEMA 100 Year Floodplain
- NHD Stream

**Antero Resources Corporation**  
Attachment C  
Floodplain Map  
Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements  
Date: 2/9/2022

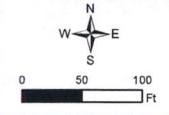
\*0.84 acres of the Proposed LOD Segments is located within the FEMA 100 Year Floodplain





**KLEINFELDER**  
 8000 Westside, Right to Redeem  
 www.kleinfelder.com

SITE NO. 20201383  
 DRAWN BY: SWilliams  
 CHECKED BY: JLewis  
 FILE NAME: ArnoldCreekRd\_Floodplain\_Fig1\_1



**Doddridge County, West Virginia**  
 Aerial Imagery: ESRI

- Proposed LOD Segments (1.08 ac)
- Existing Road
- FEMA 100 Year Floodplain
- NHD Stream

**Antero Resources Corporation**  
 Attachment C  
 Floodplain Map  
 Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements  
 Date: 2/9/2022

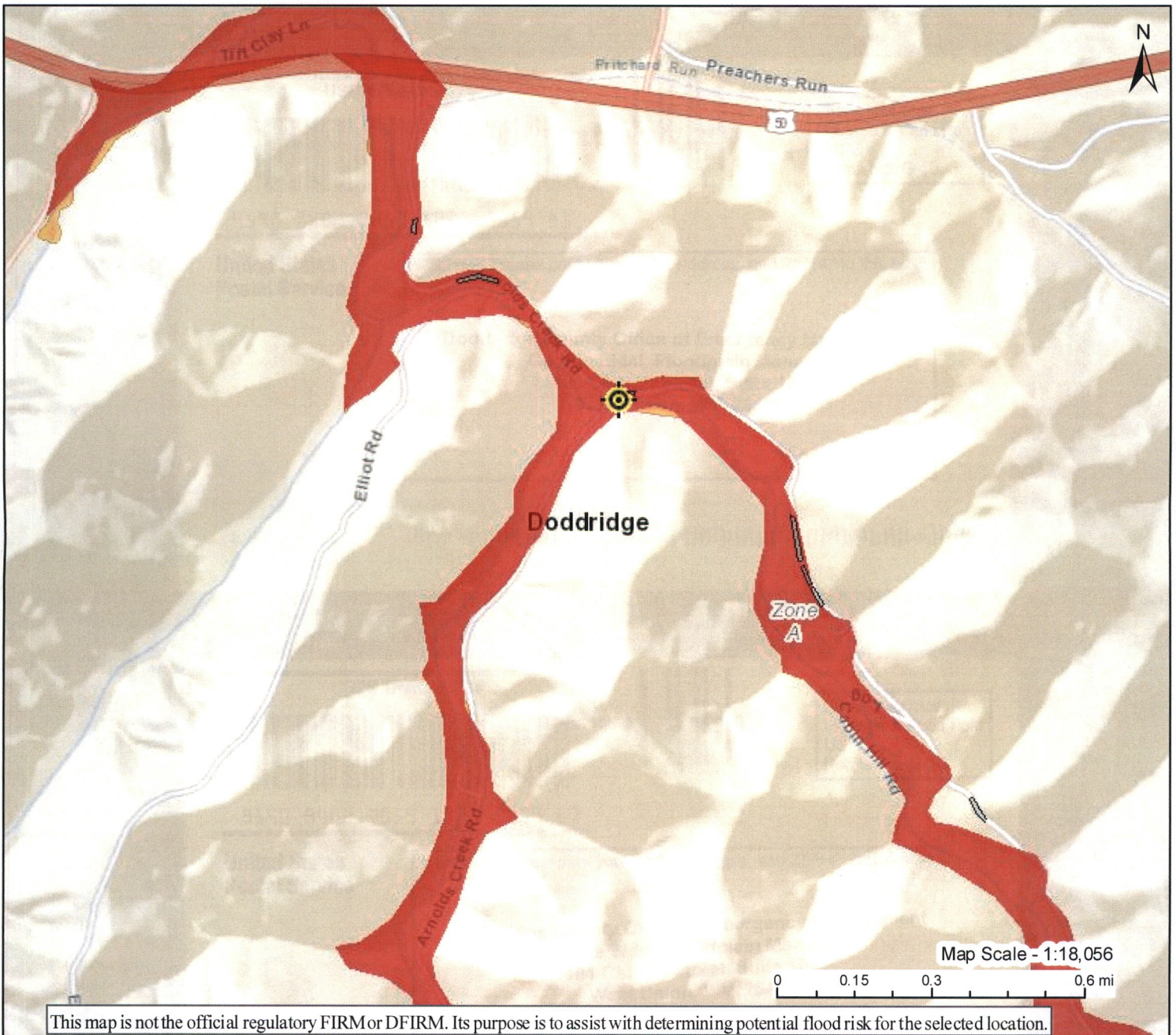
\*0.84 acres of the Proposed LOD Segments is located within the FEMA 100 Year Floodplain





ATTACHMENT D  
LOCATION EXHIBIT


# CR 11 and CR 11/4 Roadway Improvements



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 <span style="float: right;">Map created on 2/7/2022</span>
		1-Percent-Annual-Chance Flood Hazard Area <b>With Base Flood Elevation (BFE)</b>	
R I S K		1-Percent-Annual-Chance Flood Hazard Area <b>Without BFE (may have Advisory Flood Heights)</b>	<b>Flood Hazard Area</b> Location is <b>WITHIN</b> the FEMA 100-year floodplain. Advisory Flood Heights available.
		1-Percent-Annual-Chance Future Conditions (High Risk Advisory Flood Zones)	<b>Flood Zone</b> A (Advisory Flood Heights available) <b>Stream</b> Arnold Creek <b>Watershed (HUC8)</b> Little Musringum-Middle Island (5030201)
Download the Full Legend for all flood tool symbols <a href="https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf">https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf</a>			<b>Flood Height</b> Flood Height 4 About 814.3 ft (Source: AFH) NAVD88 <b>Water Depth</b> About 6.4 ft (Source: HEC-RAS)
<b>Disclaimer:</b> 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 ( <a href="https://www.MapWV.gov/flood/">https://www.MapWV.gov/flood/</a> ) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.			<b>Elevation</b> 813.9 ft (Source: FEMA 2018-20) (NAVD88) <b>Community &amp; ID</b> Doddridge County (ID: 540024) <b>FEMA Map &amp; Date</b> 54017C0120C; Effective Date: 10/4/2011 <b>Location (lat, long)</b> (39.270421, -80.805330) (WGS84) <b>Parcel ID</b> 09-08-0014-0007-0000 <b>E-911 Address</b> multiple addresses



SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery <u>2/18/22</u></p>
<p>1. Article Addressed to:</p> <p><b>Mark B. Smith</b>  <b>P.O. Box 213</b>  <b>Smithburg, WV 26436</b></p>  <p>9590 9402 7059 1225 5359 81</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No          If YES, enter delivery address below: _____</p>
<p>2. Article Number (Transfer from service label)</p>	<p>3. Service Type <input type="checkbox"/> Priority Mail Express®</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Registered Mail™</p> <p><input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail Restricted Delivery</p> <p><input type="checkbox"/> Certified Mail® <input type="checkbox"/> Signature Confirmation™</p> <p><input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p> <p><input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p> <p><input type="checkbox"/> Collect on Delivery Restricted Delivery</p> <p><input type="checkbox"/> Insured Mail</p> <p><input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>	<p>A. Signature <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery <u>2/14</u></p>
<p>1. Article Addressed to:</p> <p><b>Anthony A. &amp; Lyndia F. Ervolina</b>  <b>47 Arnolds Creek Road</b>  <b>West Union, WV 26456</b></p>  <p>9590 9402 7059 1225 5359 67</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input type="checkbox"/> No          If YES, enter delivery address below: _____</p>
<p>2. Article Number (Transfer from service label)</p>	<p>3. Service Type <input type="checkbox"/> Priority Mail Express®</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Registered Mail™</p> <p><input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail Restricted Delivery</p> <p><input type="checkbox"/> Certified Mail® <input type="checkbox"/> Signature Confirmation™</p> <p><input type="checkbox"/> Certified Mail Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p> <p><input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery</p> <p><input type="checkbox"/> Collect on Delivery Restricted Delivery</p> <p><input type="checkbox"/> Insured Mail</p> <p><input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p>

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt



ATTACHMENT E  
COMPLIANCE CERTIFICATE

**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:

**Blade Avon & Diana L. Perrine  
613 Punkin Center Road  
West Union, WV 26456**



9590 9402 7059 1225 5360 25

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Corvid*

- Agent
- Addressee

B. Received by (Printed Name)

C. Date of Delivery

*2/14*

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
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

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.

**Denny D. Hayes  
167 Punkin Center Road  
West Union, WV 26456**



9590 9402 7059 1225 5359 98

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *Corvid*

- Agent
- Addressee

B. Received by (Printed Name)

C. Date of Delivery

*Sonya Hayes*

*2/14*

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
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt



February 2, 2022

Doddridge County Office of Emergency Management  
Attention: Mr. George Eidel  
105 Court Street Suite 3  
West Union, WV 26456-2095

Dear Mr. George Eidel :

Subject: Antero Resources Corporation  
Arnolds Creek Road and Punkin Center Road County Route Improvement  
Compliance Certificate  
Doddridge County, West Virginia  
CEC Project 183-783

Civil & Environmental Consultants, Inc. (CEC) is pleased to evaluate the potential floodplain impacts for the above referenced project on behalf of Antero Resources Corporation. The proposed project involves a county route improvement of County Route 11 (Arnolds Creek Road) and County Route 11/4 (Punkin Center Road) and slip repairs along some sections of both County Route 11 and County Route 11/4. According to the Flood Insurance Rate Map (FIRM) for Doddridge County, Map Panel 54017C0120C, with a map revised date of October 4, 2011, portions of County Route 11 are located within the Arnold Creek Zone A Flood Hazard Area, and portions of County Route 11/4 are located within the Left Fork Arnold Creek Zone A Flood Hazard Area. The proposed work that will take place in the floodplain consists of full depth reclamation, hot mix asphalt overlay, and slip repairs. On County Route 11 a 2 inch hot-mix asphalt overlay over approximately 3,617-foot section of the existing pavement is proposed. The proposed work on County Route 11/4 includes 12 inch full depth reclamation of the existing roadway, with a hot-mix asphalt overlay of 3 inches for an approximately 2,585-foot section of roadway and a hot-mix asphalt overlay of 4.5 inches for an approximately 4,740-foot section of roadway. The road sections at slip locations will be stabilized using a plug pile wall with lagging or a standard pile and lagging wall, installing guardrail, re-establishing the road with suitable materials, and providing proper drainage.

A hydraulic study was performed in HEC-RAS to analyze the potential for adverse effects due to the proposed work and the potential impacts to the water levels and floodplains of Arnolds Creek and Left Fork Arnolds Creek. Representative sections of the proposed work within each floodplain were selected for the hydraulic study. Two (2) analyses were performed for the study: an existing conditions analysis and a proposed conditions analysis. The existing condition model was created using cross-sections based on existing topography along the centerlines of Arnolds Creek and Left Fork Arnolds Creek. The drainage areas for the study were determined to be approximately 10.07 square miles for Arnold Creek and 5.45 square miles for Left Fork Arnolds Creek. The United States Geological Survey (USGS) Regression Equations were used to calculate the 100-year discharge for each drainage area.

Mr. George Eidel  
CEC Project 183-783  
Page 2  
February 2, 2022

A flow change location was used in the model downstream of the confluence of Right Fork Arnolds Creek and Left Fork Arnolds Creek to account for the additional flow coming from Right Fork Arnolds Creek. Based on the existing topography, the average slope of the stream was found to be 0.0103. This value was used as the boundary condition in the steady flow data for the model. In the proposed conditions model, an obstruction was added to the cross-sections in order to model the proposed asphalt overlay over the existing roadway. In addition, proposed wall and grading were incorporated into the sections where slip repairs are located. By comparing the results from the two (2) analyses, the effects of the proposed work on the 100-year water levels of Arnolds Creek and Left Fork Arnolds Creek were determined. The results indicate that the proposed county route improvement will have no impact to the base flood elevation for Arnolds Creek and Left Fork Arnolds Creek. Thus, the project is in compliance with FEMA criteria as well as the Doddridge County Floodplain Ordinance.

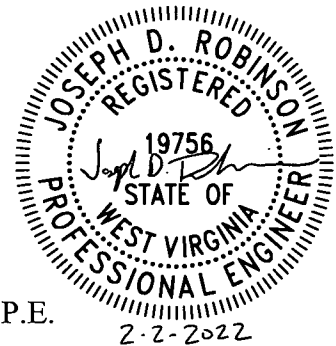
This compliance certificate is provided in support of the floodplain development permit application. Your time and effort in reviewing this floodplain development permit application is appreciated. Please feel free to contact Joseph D. Robinson at 304-933-3119 or via e-mail at [jrobinson@cecinc.com](mailto:jrobinson@cecinc.com) if you have questions or need additional information.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

  
Andrew P. Darnell, P.E.  
Project Manager

Joseph D. Robinson, P.E.  
Vice President



## **ATTACHMENTS**

ATTACHMENT A	100-Year Discharge Calculations
ATTACHMENT B	WV Flood Map
ATTACHMENT C	County Route Improvement Plans
ATTACHMENT D	Slip Repair Plans
ATTACHMENT E	HEC-RAS Cross-Sections
ATTACHMENT F	HEC-RAS Profile Summary Table

# **ATTACHMENT A**

*100-year Discharge Calculations*

PROJECT Arnolds Creek Floodplain AnalysisPROJECT NO. 183-783PAGE 1 OF 1PREPARED BY APD DATE 1/9/20 CHECKED BY GSL DATE 1-17-2020Left Fork Arnold Creek (Station 122+25)

Drainage Area = 3,486 acres = 5.45 square miles

USGS Regression Equations (Western Plateau Region)

$$Q_2 = 129 A^{0.730} = (129)(5.45)^{0.730} = 445 \text{ cfs}$$

$$Q_{10} = 292 A^{0.699} = (292)(5.45)^{0.699} = 955 \text{ cfs}$$

$$Q_{25} = 391 A^{0.688} = (391)(5.45)^{0.688} = 1,256 \text{ cfs}$$

$$Q_{100} = 557 A^{0.674} = (557)(5.45)^{0.674} = 1,747 \text{ cfs}$$

Arnold Creek (Station 275+50)

Drainage Area = 6,444 acres = 10.07 square miles

$$Q_2 = 129 A^{0.730} = (129)(10.07)^{0.730} = 696 \text{ cfs}$$

$$Q_{10} = 292 A^{0.699} = (292)(10.07)^{0.699} = 1,467 \text{ cfs}$$

$$Q_{25} = 391 A^{0.688} = (391)(10.07)^{0.688} = 1,915 \text{ cfs}$$

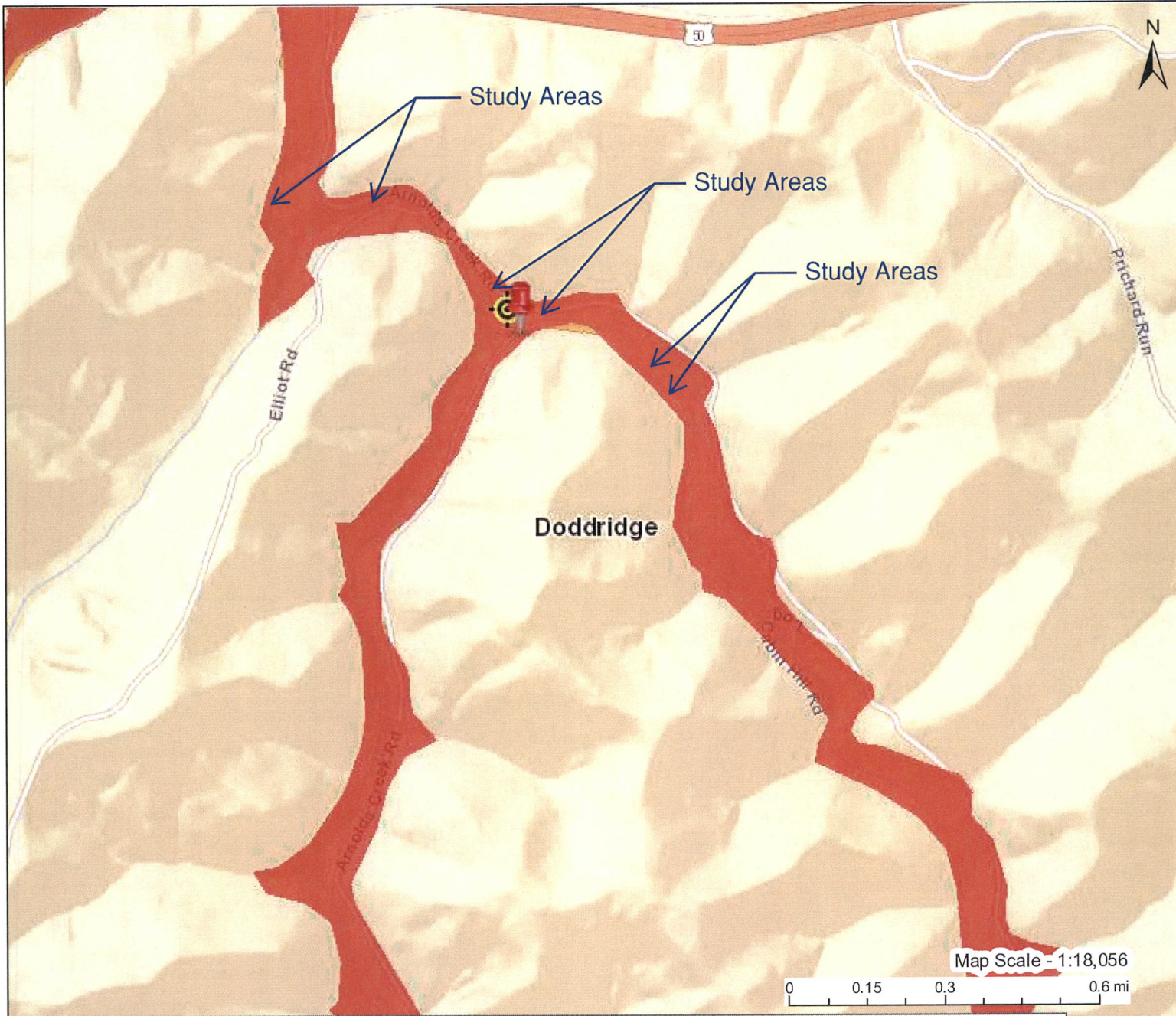
$$Q_{100} = 557 A^{0.674} = (557)(10.07)^{0.674} = 2,642 \text{ cfs}$$



# **ATTACHMENT B**

*WV Flood Map*

# 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.

<b>H I G H  R I S K</b>		Regulatory Floodway
		1-Percent-Annual-Chance Flood Hazard Area <b>With Base Flood Elevation (BFE)</b>
		1-Percent-Annual-Chance Flood Hazard Area <b>Without BFE (may have Advisory Flood Heights)</b>
		1-Percent-Annual-Chance Future Conditions (High Risk Advisory Flood Zones)
<a href="https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf">Download the Full Legend for all flood tool symbols</a> <a href="https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf">https://www.mapwv.gov/flood/map/docs/wv_flood_tool_legend.pdf</a>		
<b>Disclaimer:</b> 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 ( <a href="https://www.MapWV.gov/flood">https://www.MapWV.gov/flood</a> ) is supported by FEMA, WV NFIP Office, and WV GIS Technical Center.		
Flood Info Location		Map created on 2/1/2022
<b>User Notes</b>		
<b>Flood Hazard Area</b>	Location is <b>WITHIN</b> the FEMA 100-year floodplain. Advisory Flood Heights available.	
<b>Flood Zone</b>	A (Advisory Flood Heights available)	
<b>Stream</b>	Arnold Creek	
<b>Watershed (HUC8)</b>	Little Musringum-Middle Island (5030201)	
<b>Flood Height</b>	Flood Height 4 About 814.1 ft (Source: AFH) NAVD88	
<b>Water Depth</b>	About 6.0 ft (Source: HEC-RAS)	
<b>Elevation</b>	813.1 ft (Source: FEMA 2018-20) (NAVD88)	
<b>Community &amp; ID</b>	Doddridge County (ID: 540024)	
<b>FEMA Map &amp; Date</b>	54017C0120C; Effective Date: 10/4/2011	
<b>Location (lat, long)</b>	(39.270572, -80.806170) (WGS84)	
<b>Parcel ID</b>	09-08-0014-0020-0000	
<b>E-911 Address</b>	multiple addresses	



**ATTACHMENT C**

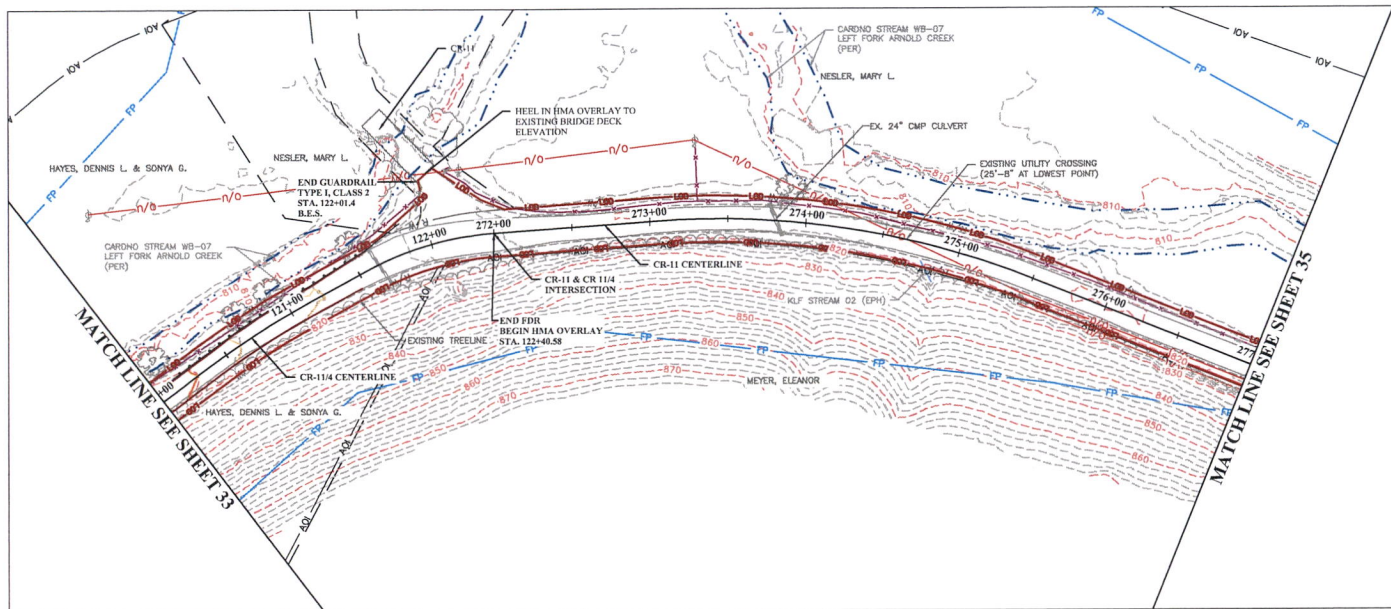
*County Route Improvement Plans*







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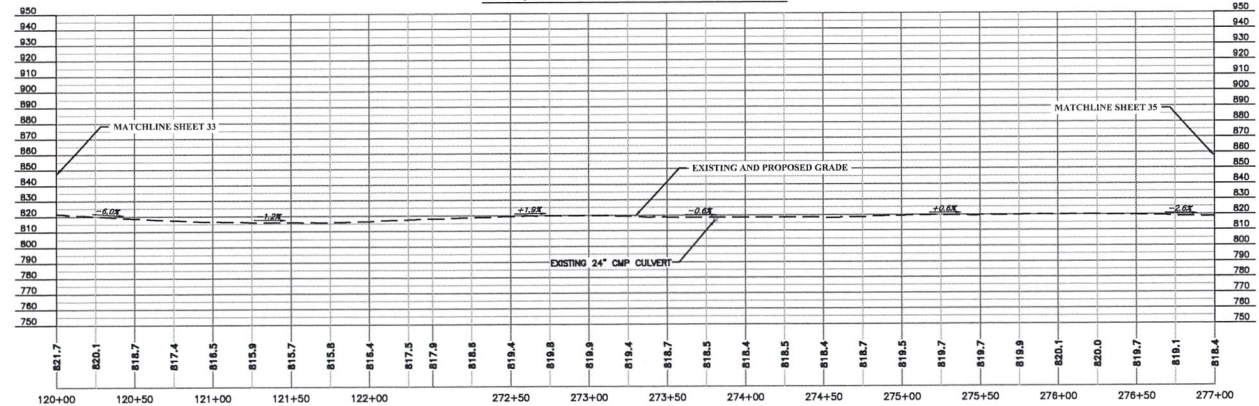
### PLAN LEGEND

- PROPERTY LINE
- EXISTING RIGHT OF WAY
- - - EXISTING CONTOURS
- - - EXISTING ROAD EDGE
- - - EXISTING DRIVEWAY
- - - EXISTING TRAIL
- - - EXISTING BUILDING
- - - EXISTING UTILITY POLE AND OVERHEAD LINE
- - - EXISTING GAS LINE
- - - EXISTING WATER LINE
- - - EXISTING UNDERGROUND TELEPHONE LINE
- - - EXISTING GUARDRAIL
- - - EXISTING TREE LINE
- - - EXISTING DEGRADED STREAM - PERMANENT
- - - EXISTING DEGRADED STREAM - INTERMITTENT
- - - EXISTING DELIMITED WETLAND
- - - EXISTING STORM SEWER
- - - EXISTING SANITARY SEWER
- - - EXISTING SWALE/DITCH
- - - EXISTING MAIL BOX
- - - EXISTING GAS VALVE
- - - EXISTING WATER VALVE
- - - EXISTING TELEPHONE JUNCTION BOX
- - - EXISTING TREE
- - - LIMIT OF DISTURBANCE
- - - PROPOSED AREA OF INTEREST
- - - PROPOSED CONTOURS
- - - PROPOSED EDGE OF PAVEMENT
- - - PROPOSED SHOULDER
- - - PROPOSED DITCH
- - - PROPOSED ROCK LINED DITCH
- - - PROPOSED 8-IN COMPOST FILTER SOCK
- - - PROPOSED 18-IN COMPOST FILTER SOCK
- - - PROPOSED 18-IN COMPOST FILTER SOCK
- - - PROPOSED SILT FENCE
- - - PROPOSED SUPER SILT FENCE
- - - PROPOSED CULVERT
- - - PROPOSED CUT LIMIT
- - - PROPOSED FILL LIMIT
- - - PROPOSED TREE CLEARING LIMIT
- - - PROPOSED ROCK CHECK DAM
- - - PROPOSED OUTLET PROTECTION

NORTH

40 ft. 0 40 ft. 80 ft.

CR 11/4 AND CR 11 CENTERLINE PROFILE

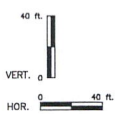


### PROFILE LEGEND

- - - EXISTING GROUND
- - - PROPOSED GRADE

EXISTING CULVERT										CULVERT TABLE									
CULVERT	EXISTING STRUCTURE	INLET STA.	OUTLET STA.	INLET FL. EL.	OUTLET FL. EL.	LENGTH (FT.)	SLOPE	CONDITION	COVER (IN.)	ACTIVITY PROPOSED	PROPOSED CULVERT				NOTES				
											PROPOSED STRUCTURE	LENGTH (FT.)	SLOPE	COVER (IN.)					
19	18" RCP	UNK	UNK	UNK	UNK	21	UNK	GOOD	1.3	CLEAN									
20	18" CMP	273+85.3	273+76.0	816.5	815.5	23	4.24%	GOOD	1.0	CLEAN									

OVERHEAD UTILITY CLEARANCE				
POLE #	TO	POLE #	STATION	LOCATION
			274+66	CL



**Antero**  
RESOURCES

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APPROVED FOR PERMITS: DATE: --  
 APPROVED FOR BIDS: DATE: --  
 PREPARED FOR CONSTRUCTION: DATE: --

DATE: --  
 DATE: --  
 DATE: --

---

**CEC**  
Civil & Environmental Consultants, Inc.  
200 Washington Ave., Suite 200, Wausau, WI 54980  
Ph: 715.832.1111 Fax: 715.832.2222

---

NO.	BY	DATE	DESCRIPTION

---

ANTERO RESOURCES CORPORATION  
 ARNOLDS CREEK RD & PUNKIN CNTR. RD  
 COUNTY ROUTE IMPROVEMENT  
 PLAN AND PROFILE SHEET 10

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SHEET No.  
**34**

# **ATTACHMENT D**

*Slip Repair Plans*

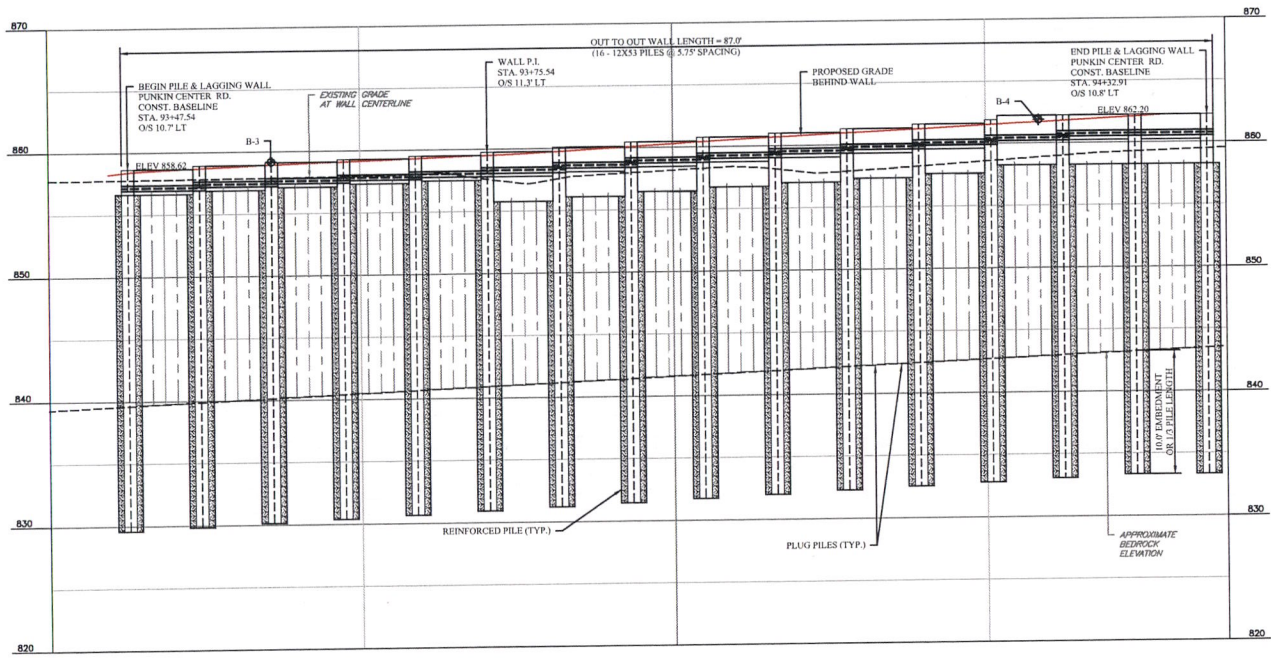




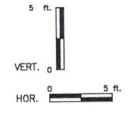








PLUG PILE W/ LAGGING PROFILE  
SCALE: H: 1"=5' V: 1"=5'



ANTERO RESOURCES CORPORATION  
ARNOLDS CREEK RD & PUNKIN CENTER RD  
ROADWAY IMPROVEMENT  
SLIP REPAIR CR-117/4, MP 0.548  
WALL PROFILE SHEET

SHEET No.  
**31**

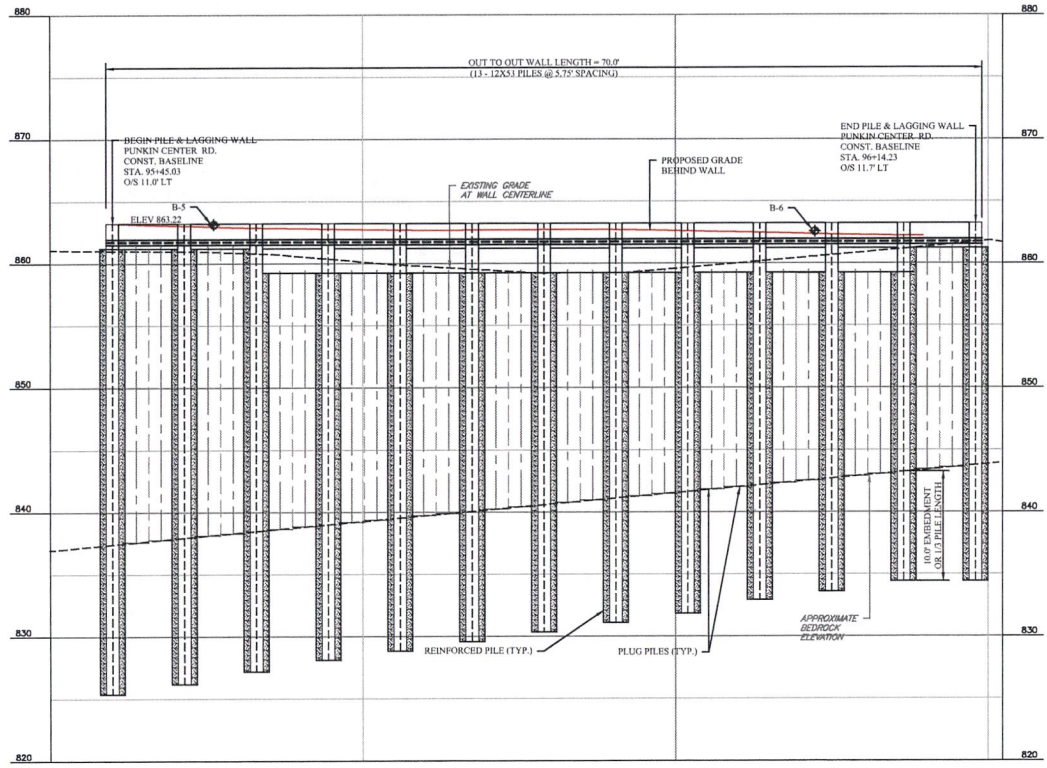
NO.	BY	DATE	DESCRIPTION

**CEC**  
Civil & Environmental Consultants, Inc.  
10000  
P.O. BOX 12117 • 800 445 4500 • FAX 800 445 4507

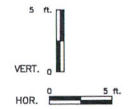
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APPROVED FOR BIDS	DATE
APPROVED FOR CONSTRUCTION	DATE







PLUG PILE W/ LAGGING PROFILE  
SCALE: H: 1"=5' V: 1"=3'



ANTERO RESOURCES CORPORATION  
ARNOLDS CREEK RD & PUNKIN CENTER RD  
ROADWAY IMPROVEMENT  
SLIP REPAIR CR-11/4 MP 0.502  
WALL PROFILE SHEET

SHEET No. **33**

NO.	BY	DATE	DESCRIPTION

**CEE**  
Civil & Environmental Consultants, Inc.  
100 Boulevard des Ales 200, Bridgport, NY 14020  
P: 516-833-1118 F: 516-833-0977

APPROVED FOR PERMITS	DATE
APPROVED FOR BIDS	DATE
APPROVED FOR CONSTRUCTION	DATE



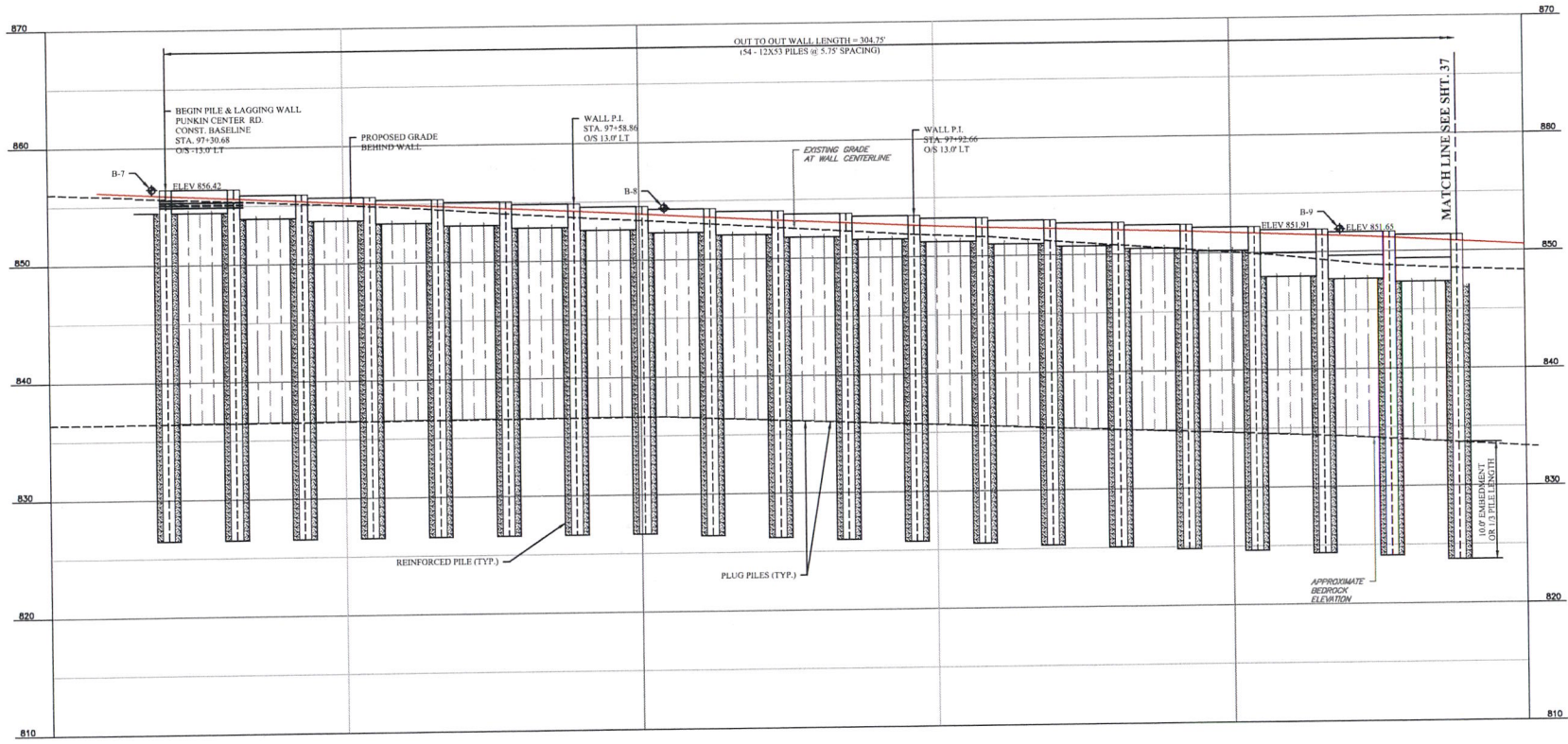




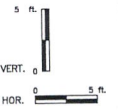


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PLUG PILE W/ LAGGING PROFILE  
SCALE: H: 1"=5' V: 1"=5'



ANTERO RESOURCES CORPORATION  
 99 ARNOLDS CREEK RD & PUNKIN CENTER RD  
 SLIP REPAIR CR-11/4 MP 0.425  
 WALL PROFILE SHEET 1 OF 3

SHEET No. **36**

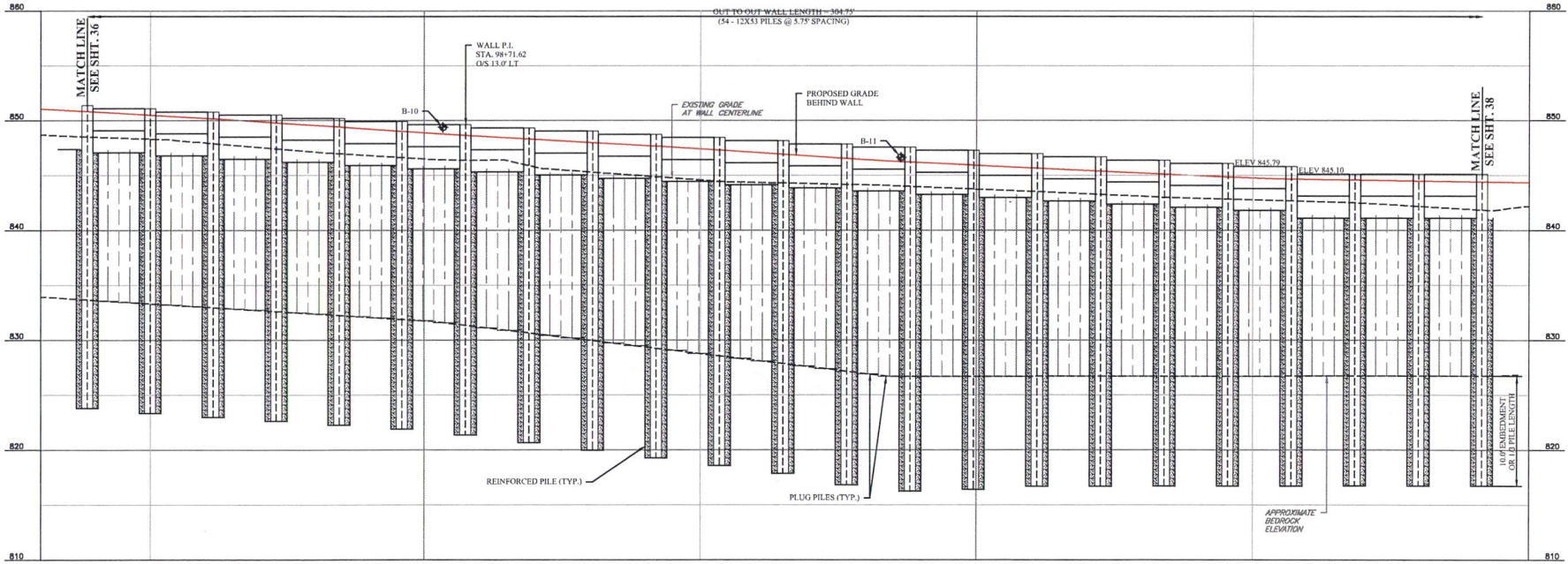
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**EEC**  
 Civil & Environmental Consultants, Inc.  
 800 Washington Ave. Suite 200 | Bismarck, ND 58103  
 PH: 701.251.1111 FAX: 701.251.1127

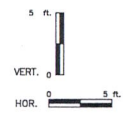
**Antero**  
 RESOURCES

APPROVED FOR PERMITS	DATE
APPROVED FOR BIDS	DATE
APPROVED FOR CONSTRUCTION	DATE





PLUG PILE W/ LAGGING PROFILE  
SCALE: H: 1"=5' V: 1"=3'



ANTERO RESOURCES CORPORATION  
ARNOLDS CREEK RD & PUNKIN CENTER RD  
ROADWAY IMPROVEMENT  
SLIP REPAIR CR-117/4 MP 0.425  
WALL PROFILE SHEET 2 OF 3

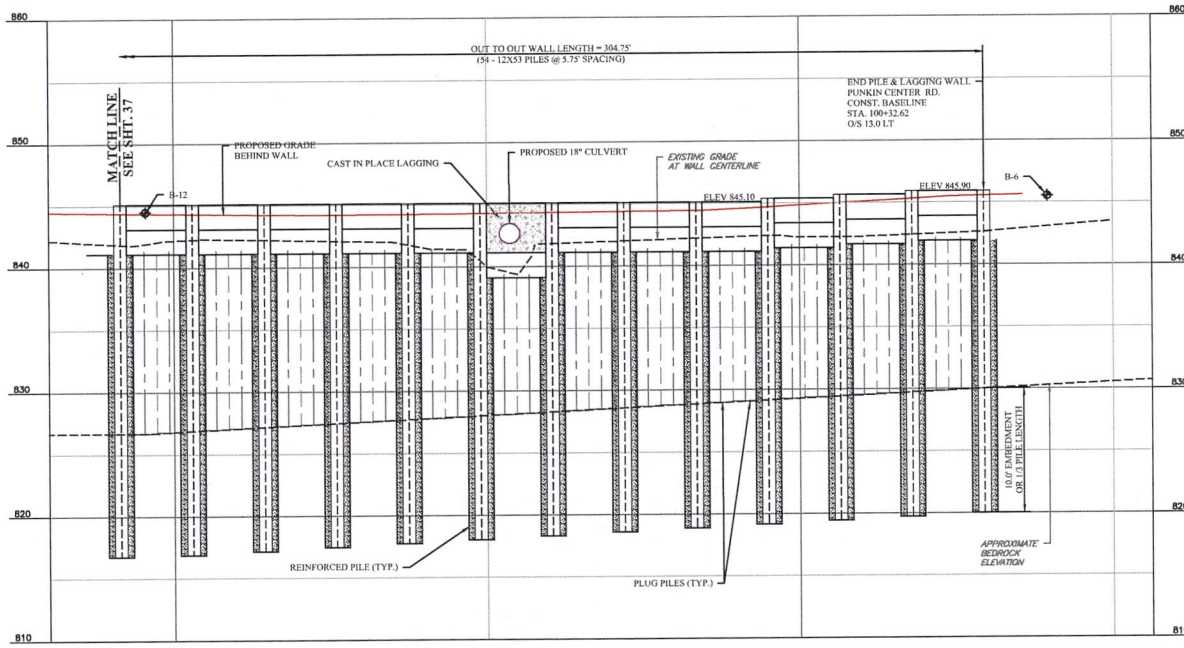
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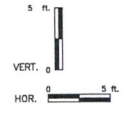
APPROVED FOR PERMITS: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED FOR BIDS: \_\_\_\_\_ DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_ APPROVED FOR CONSTRUCTION: \_\_\_\_\_ DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**LEE**  
 Civil & Environmental Consultants, Inc.  
 100 Lakeshore Ave. Ste 200 | Bridgewater, NJ 08807  
 PH: 908.633.1111 FAX: 908.633.1227  
 WWW.LEE-INC.COM

**Antero**  
 RESOURCES



**PLUG PILE W/ LAGGING PROFILE**  
SCALE: H: 1"=5' V: 1"=5'



APPROVED FOR PERMITS	DATE: --
BY: --	
APPROVED FOR BIDS	DATE: --
BY: --	
APPROVED FOR CONSTRUCTION	DATE: --
BY: --	

**CEE**  
**Carl & Environmental Consultants, Inc.**  
 100 Lakeshore Ave. Suite 300, Englewood, CO 80150  
 P: 303.733.1111 | www.ceeinc.com

NO.	BY	DATE	DESCRIPTION

ANTERO RESOURCES CORPORATION  
 ARNOLDS CREEK RD & PUNKIN CENTER RD  
 ROADWAY IMPROVEMENT  
 SLIP REPAIR CR-11/4 MP 0.425  
 WALL PROFILE SHEET 3 OF 3





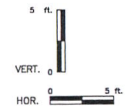
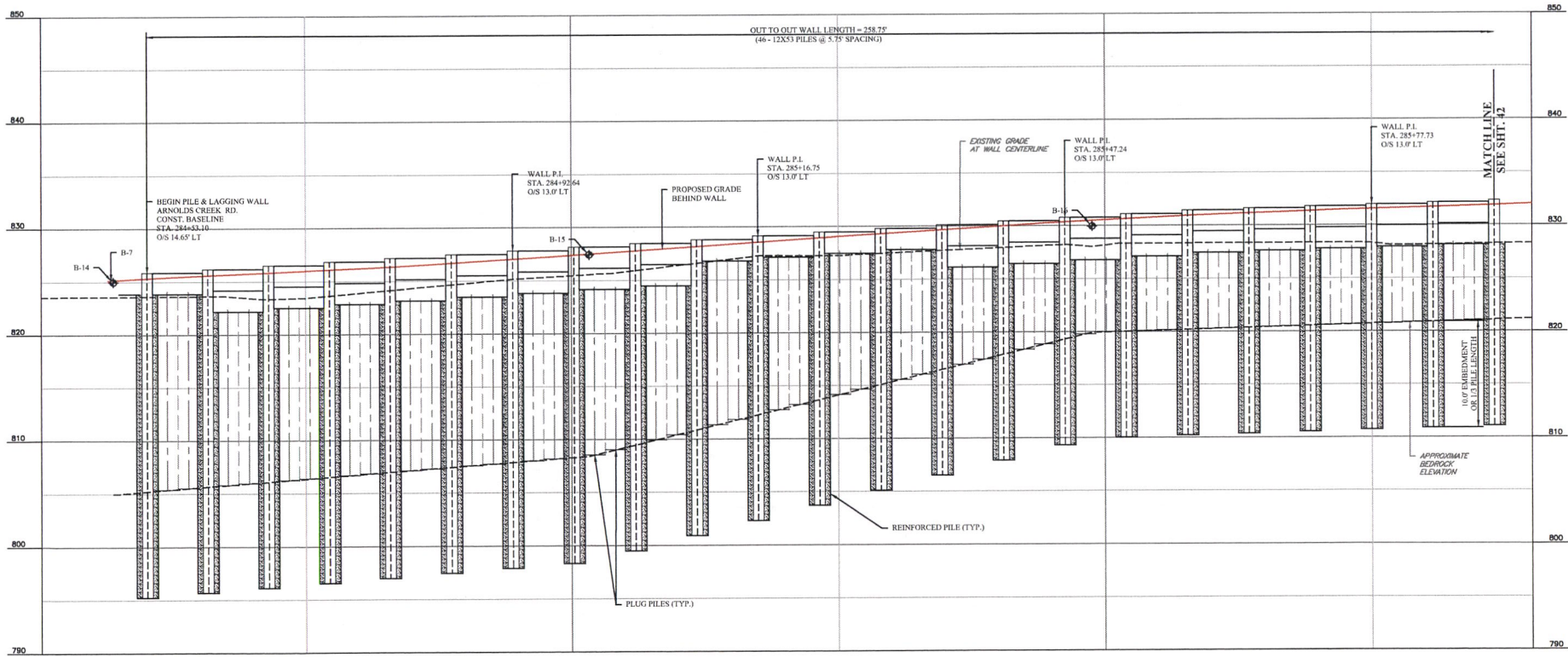






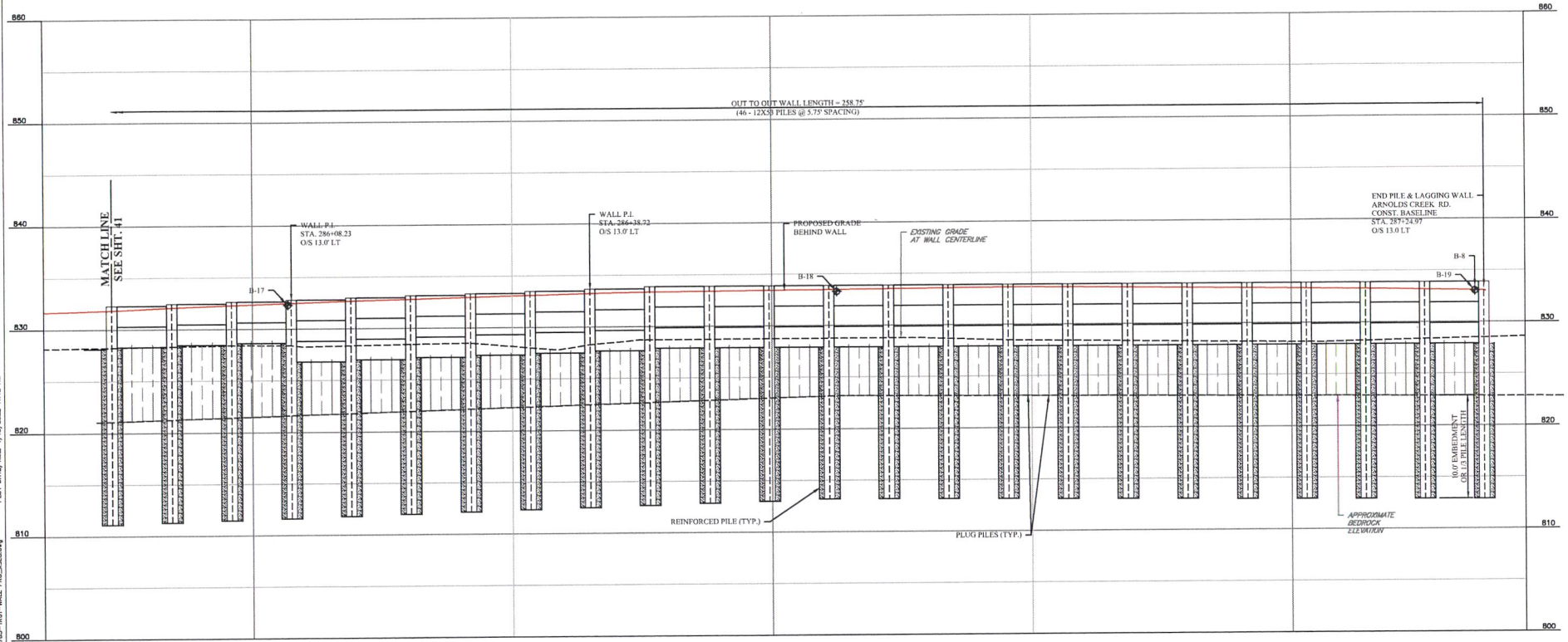


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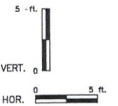


	APPROVED FOR PERMITS DATE: -- BY: --
Carl & Environmental Consultants, Inc. <small>an Antero Resource</small> 100 West 100th Street, Suite 100, Englewood, CO 80150 TEL: 303.733.1111 FAX: 303.733.1122 WWW.CEE-INC.COM	APPROVED FOR BIDS DATE: -- BY: -- APPROVED FOR CONSTRUCTION DATE: -- BY: --
ANTERO RESOURCES CORPORATION ARNOLDS CREEK RD & PUNKIN CENTER RD ROADWAY IMPROVEMENT SLIP REPAIR CR-11 MP 5.430 WALL PROFILE SHEET 1 OF 2	DESCRIPTION NO. BY DATE
SHEET No. <b>41</b>	

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PLUG PILE WALL W/ LAGGING PROFILE  
SCALE: H: 1"=3' V: 1"=3'



ANTERO RESOURCES CORPORATION  
ARNOLDS CREEK RD. & PUNKIN CENTER RD  
SLIP ROADWAY IMPROVEMENT  
WALL REPAIR CR-11 WP 5.430  
WALL PROFILE SHEET 2 OF 2

NO.	BY	DATE	DESCRIPTION

APPROVED FOR REMITS: DATE: --  
BY: --  
APPROVED FOR BIDS: DATE: --  
BY: --  
APPROVED FOR CONSTRUCTION: DATE: --  
BY: --

**CEC**  
Civil & Environmental Consultants Inc.  
1225 Massachusetts Ave. Suite 200, Waltham, MA 02450  
PH: 508.853.1719 FAX: 508.853.1707

**Antero**  
RESOURCES

SHEET No. **42**









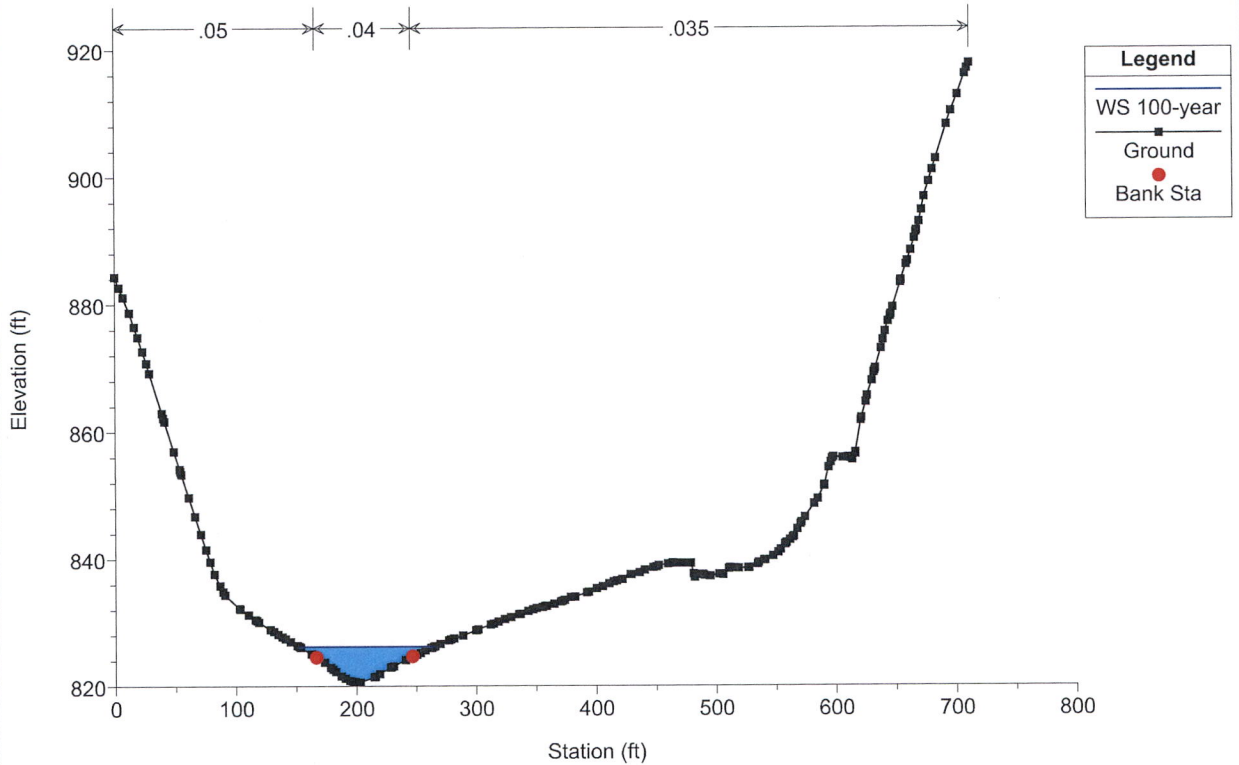
# **ATTACHMENT E**

*HEC-RAS Cross-Sections*

183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

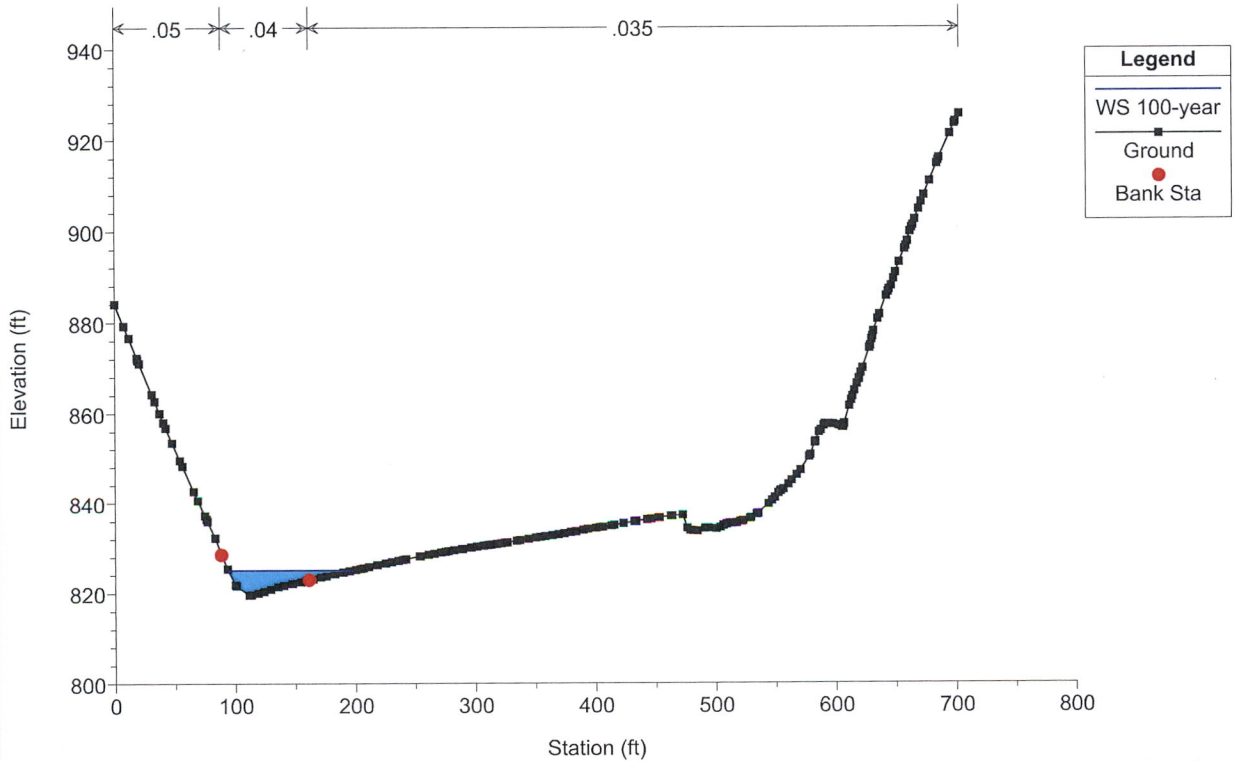
River = Arnolds Creek Reach = 183783-Stream CL RS = 6772.74



183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

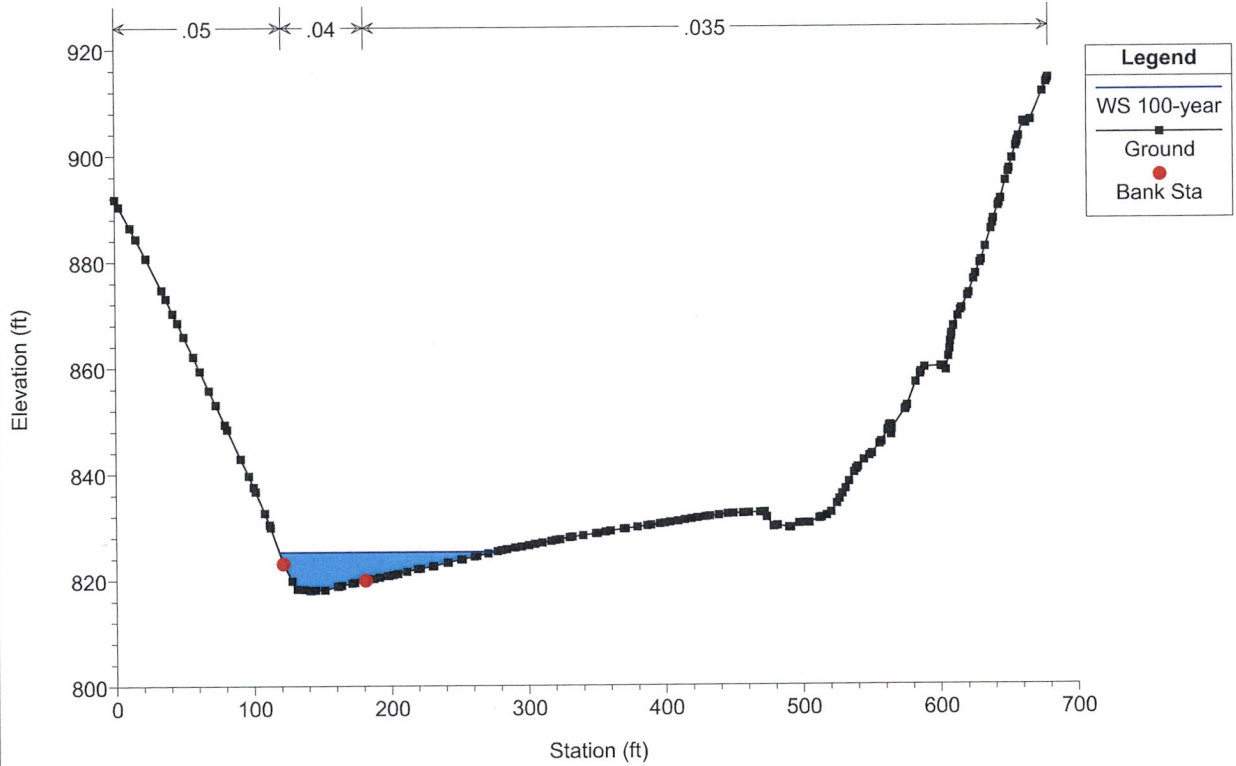
River = Arnolds Creek Reach = 183783-Stream CL RS = 6581.4



183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

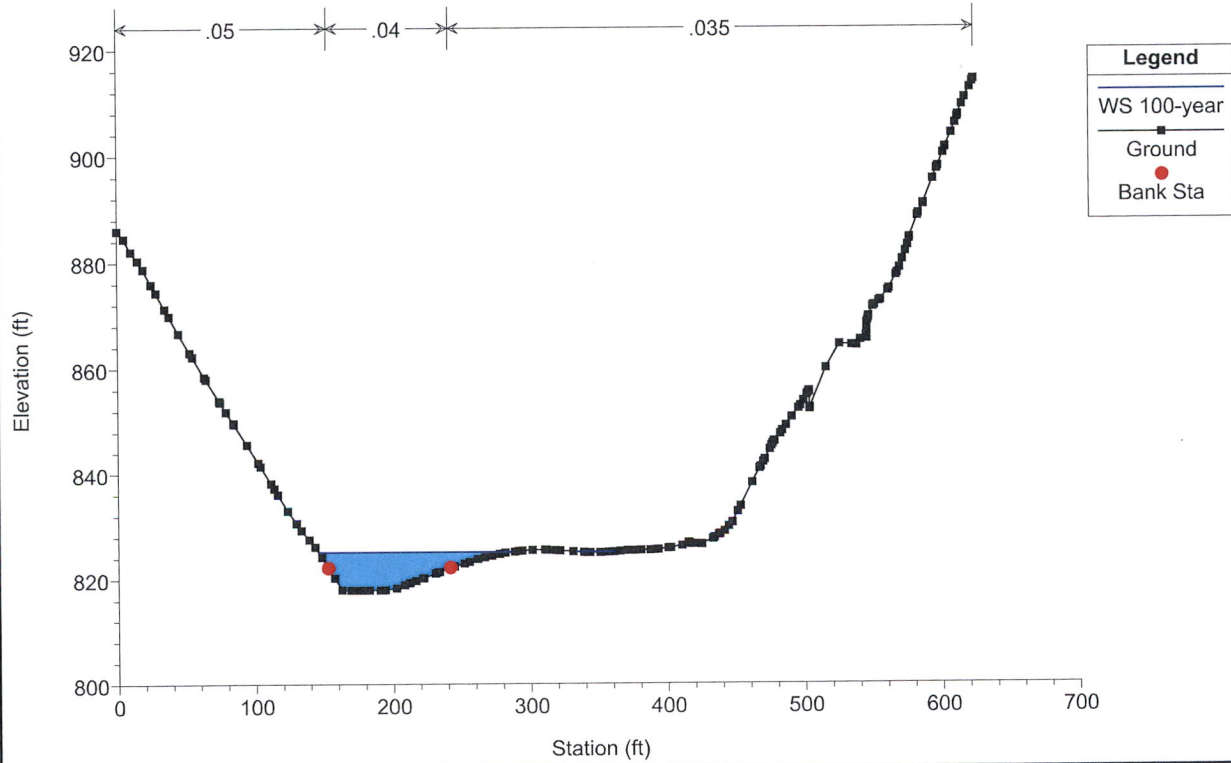
River = Arnolds Creek Reach = 183783-Stream CL RS = 6421.94



183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

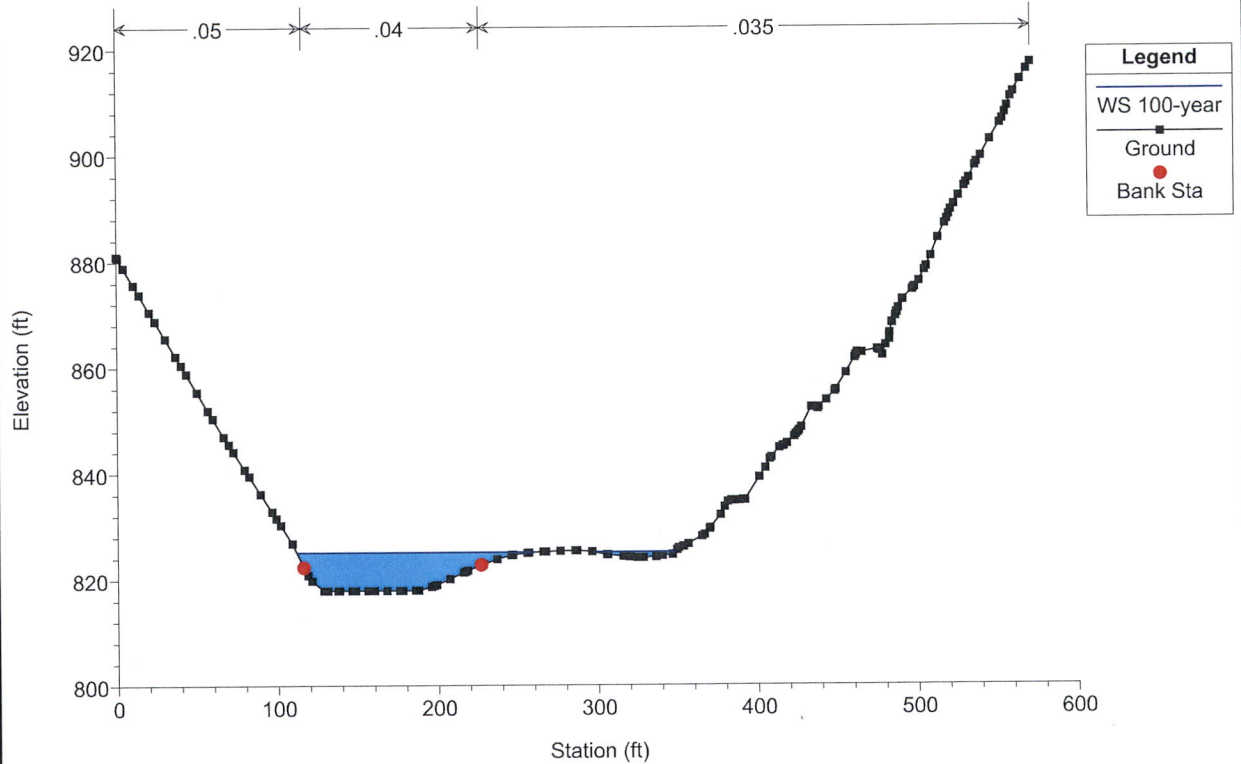
River = Arnolds Creek Reach = 183783-Stream CL RS = 6261.09



183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

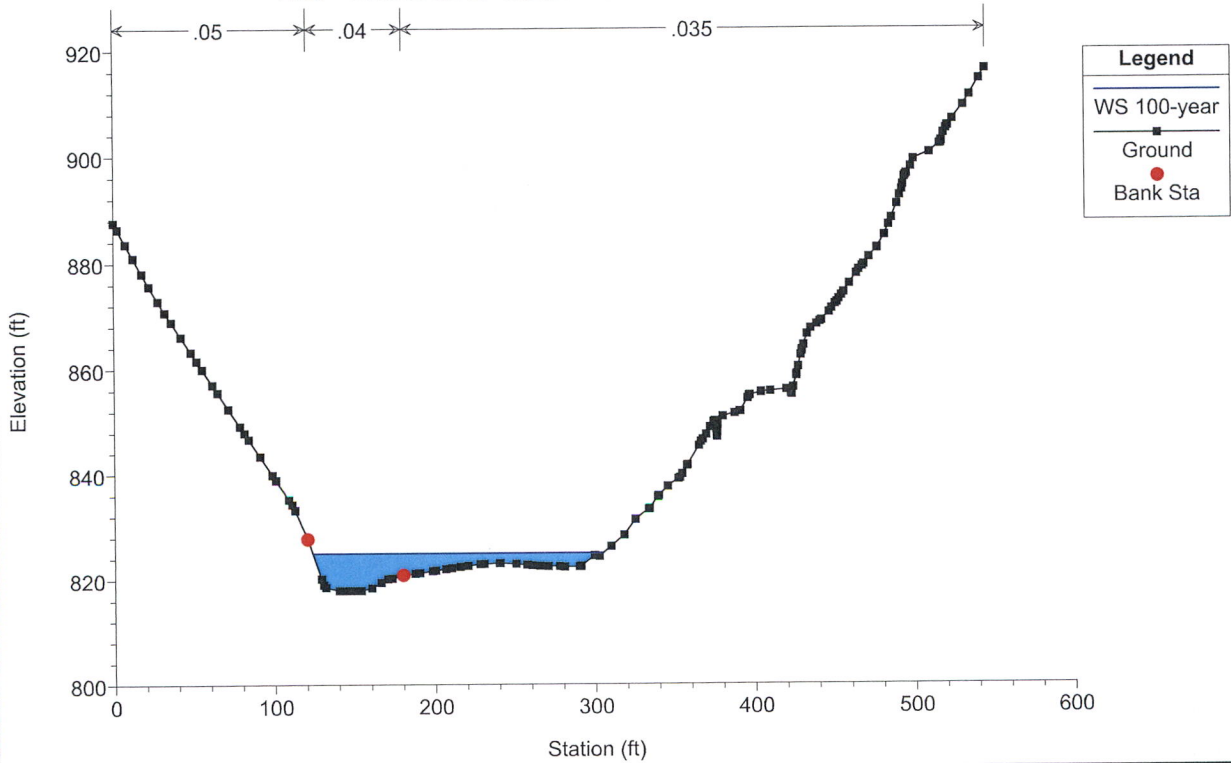
River = Arnolds Creek Reach = 183783-Stream CL RS = 6161.57

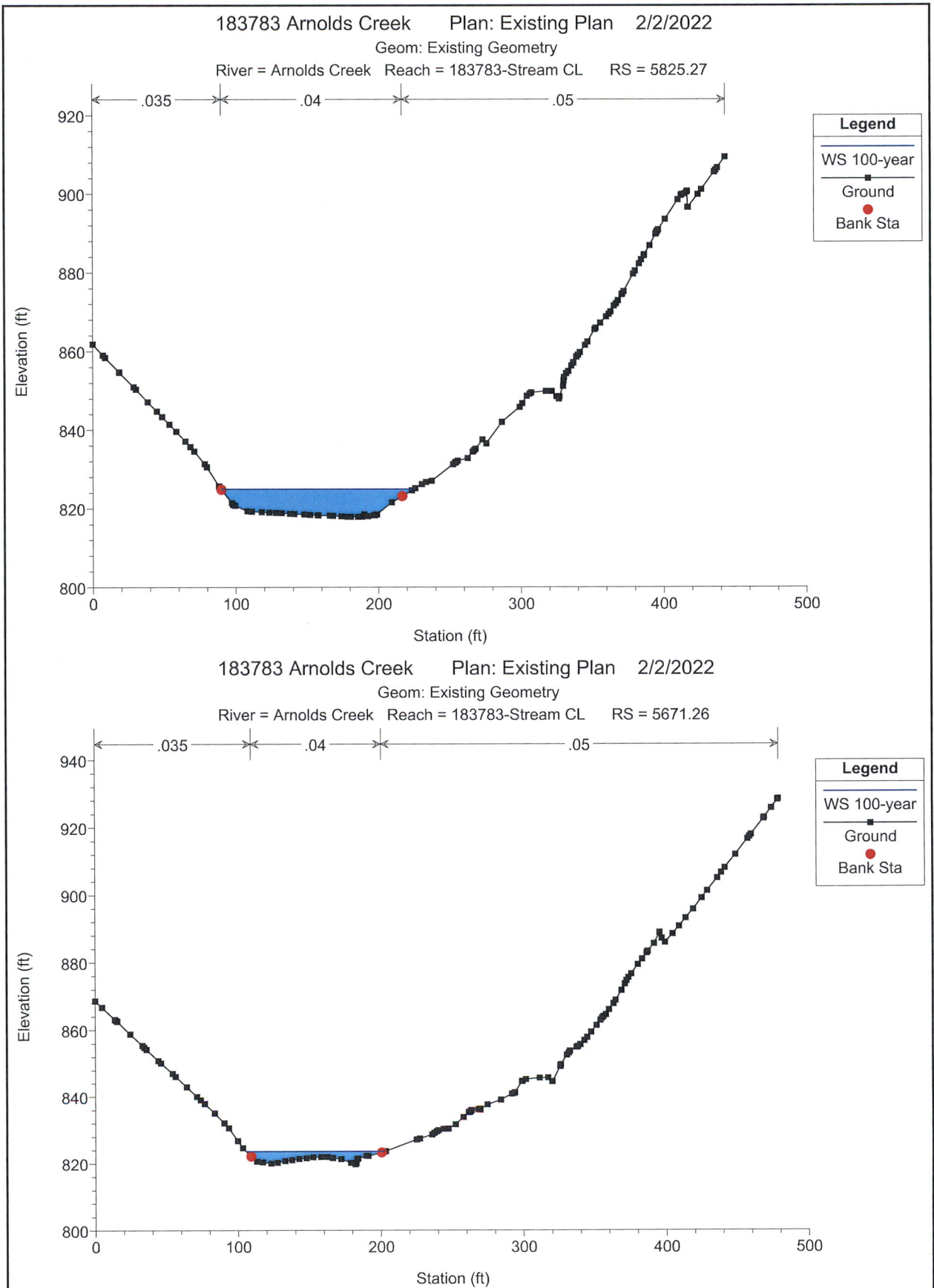


183783 Arnolds Creek Plan: Existing Plan 2/2/2022

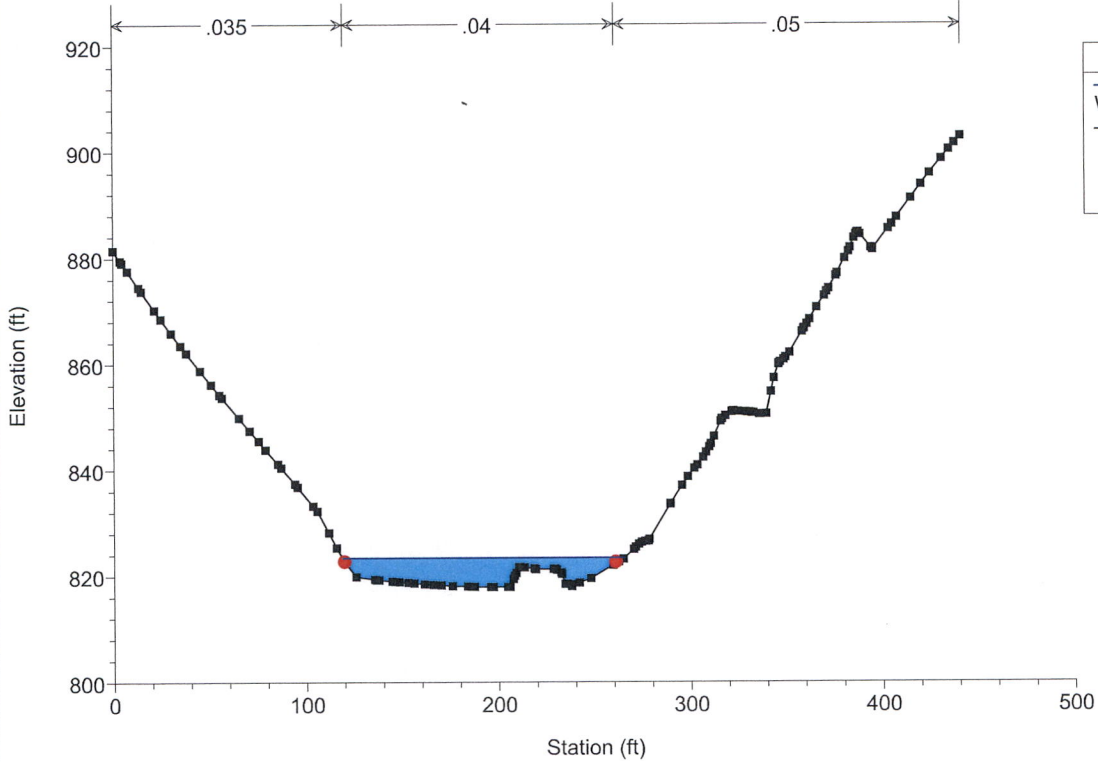
Geom: Existing Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 6029.53



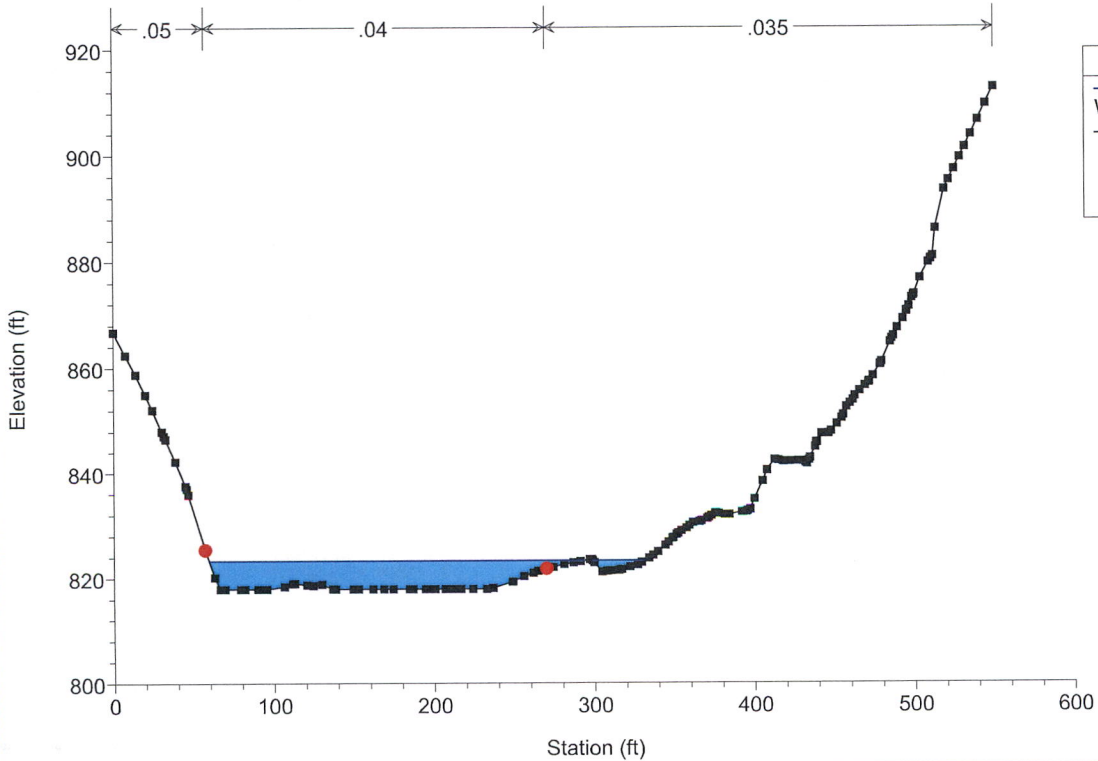


183783 Arnolds Creek Plan: Existing Plan 2/2/2022  
 Geom: Existing Geometry  
 River = Arnolds Creek Reach = 183783-Stream CL RS = 5514.02



Legend	
WS 100-year	—
Ground	■
Bank Sta	●

183783 Arnolds Creek Plan: Existing Plan 2/2/2022  
 Geom: Existing Geometry  
 River = Arnolds Creek Reach = 183783-Stream CL RS = 5117.14

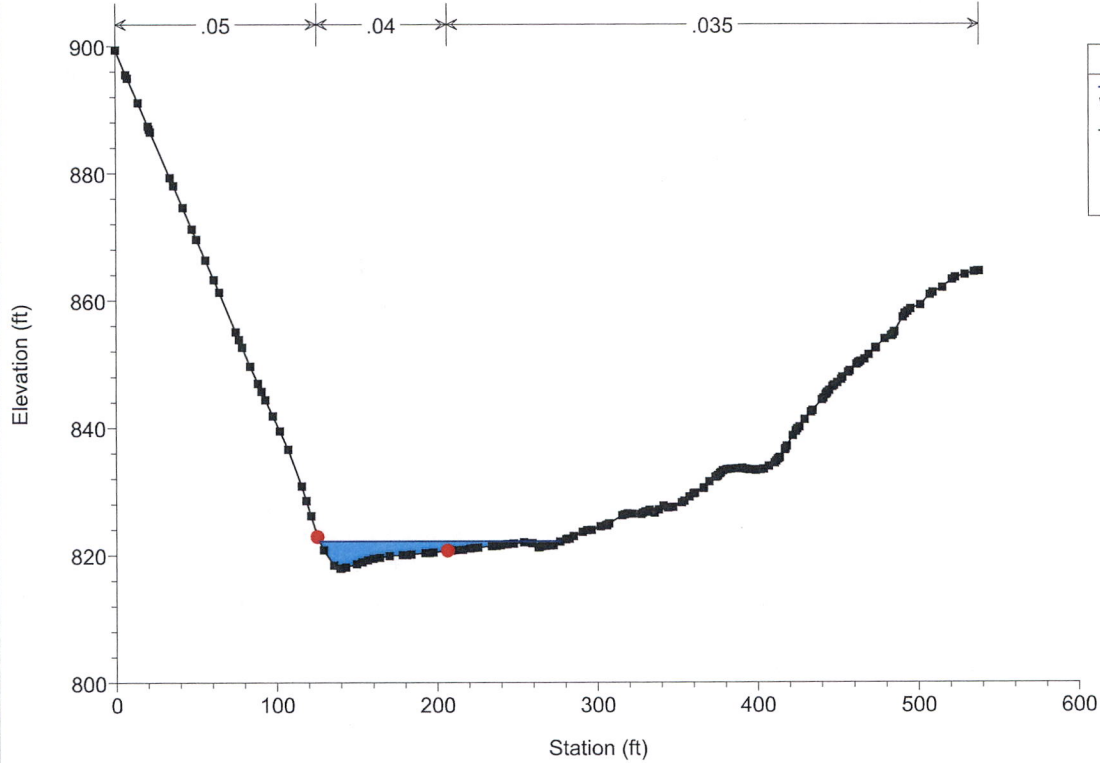


Legend	
WS 100-year	—
Ground	■
Bank Sta	●

183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

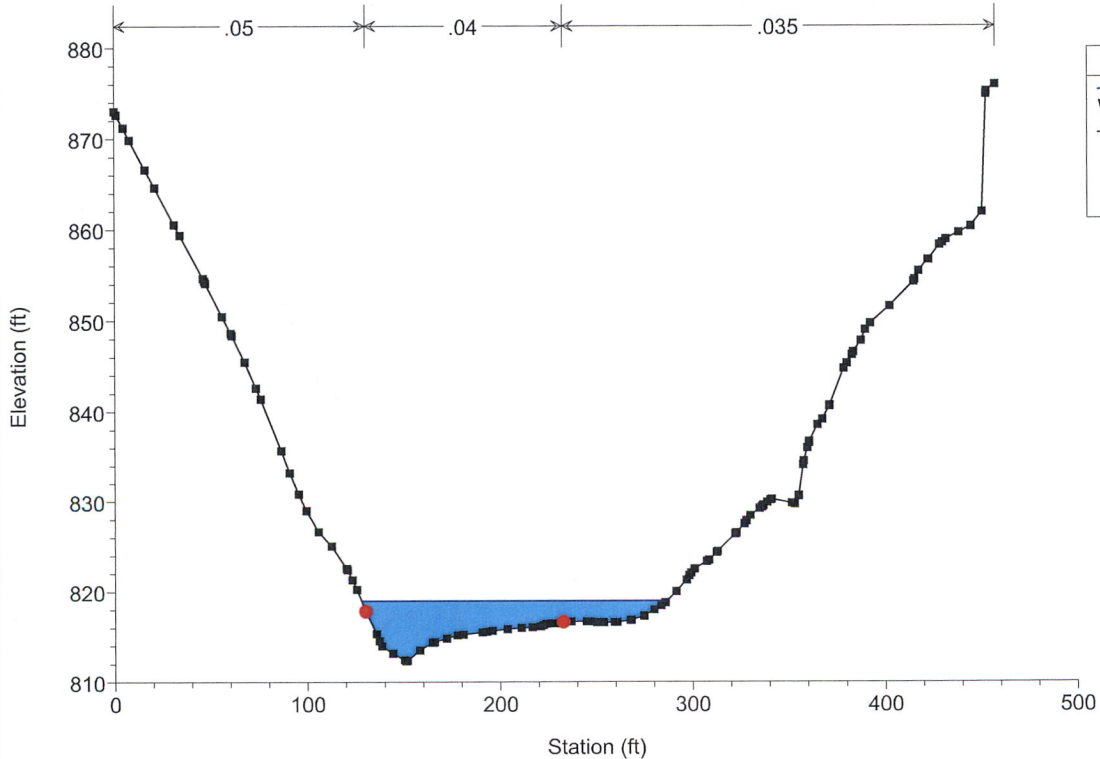
River = Arnolds Creek Reach = 183783-Stream CL RS = 4840.72



183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 4503.97

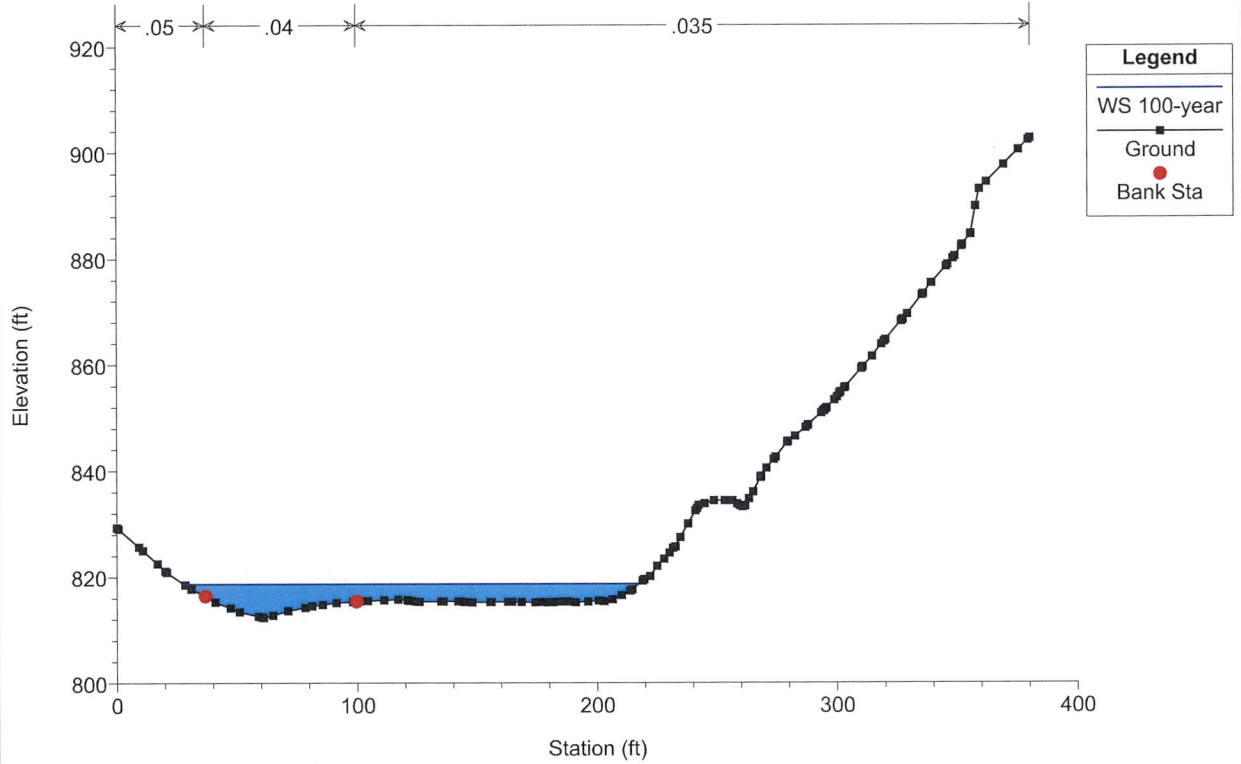




183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

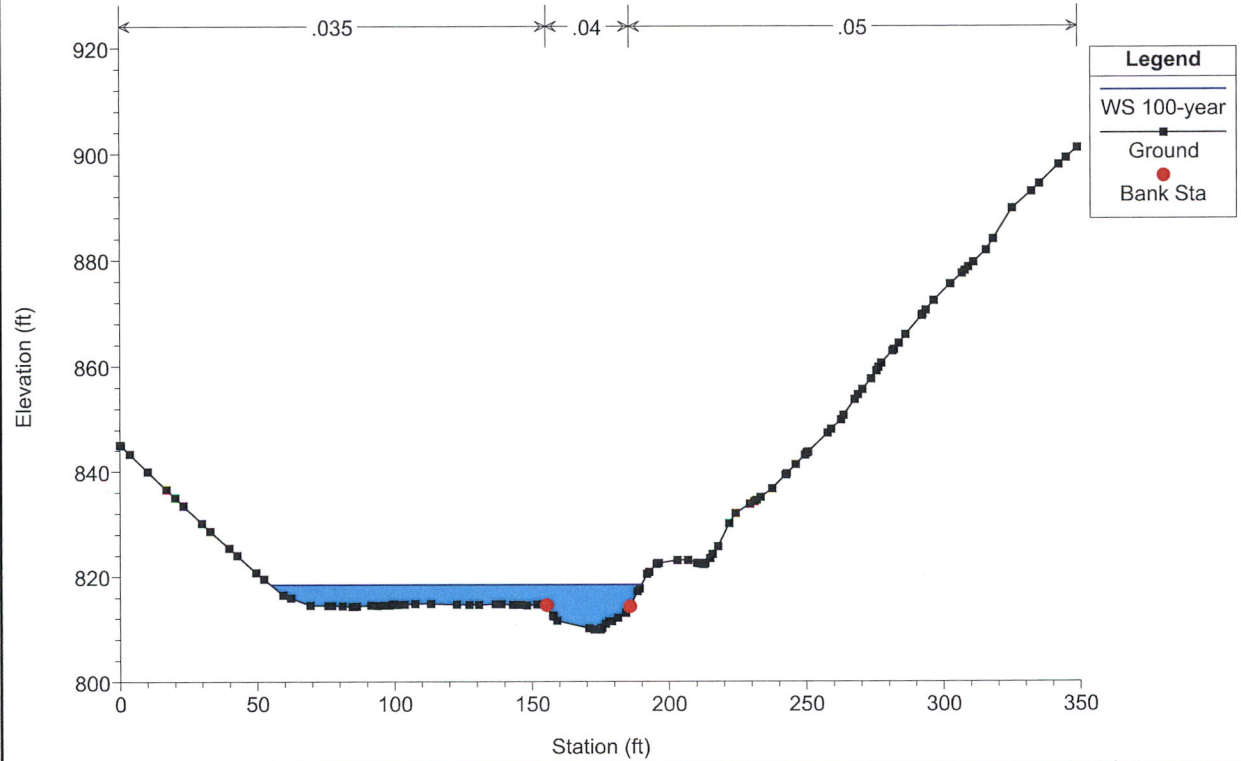
River = Arnolds Creek Reach = 183783-Stream CL RS = 4225.18



183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 3938.58

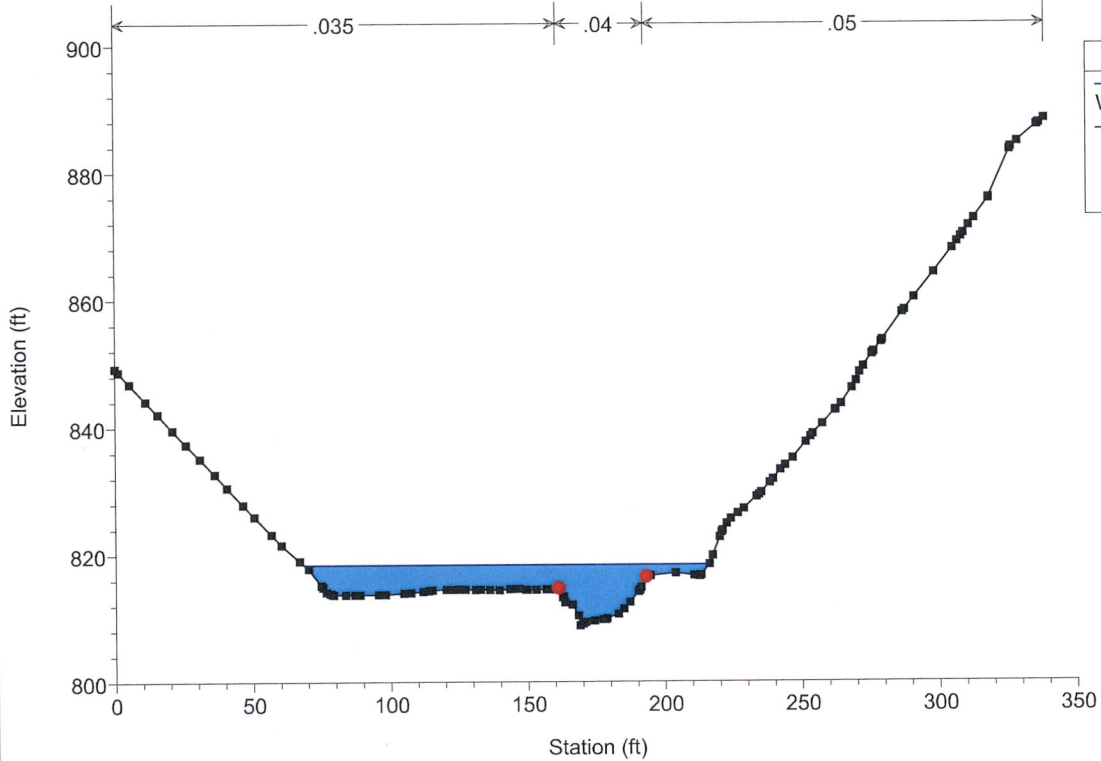




183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

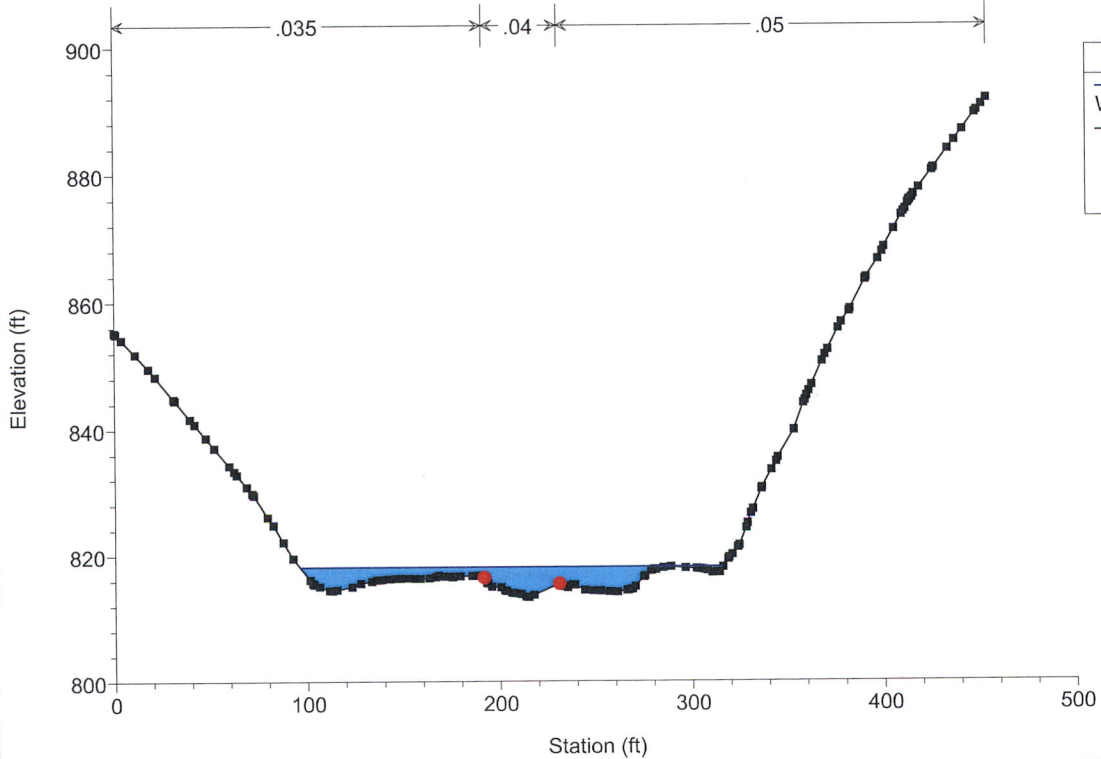
River = Arnolds Creek Reach = 183783-Stream CL RS = 3831.75



183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

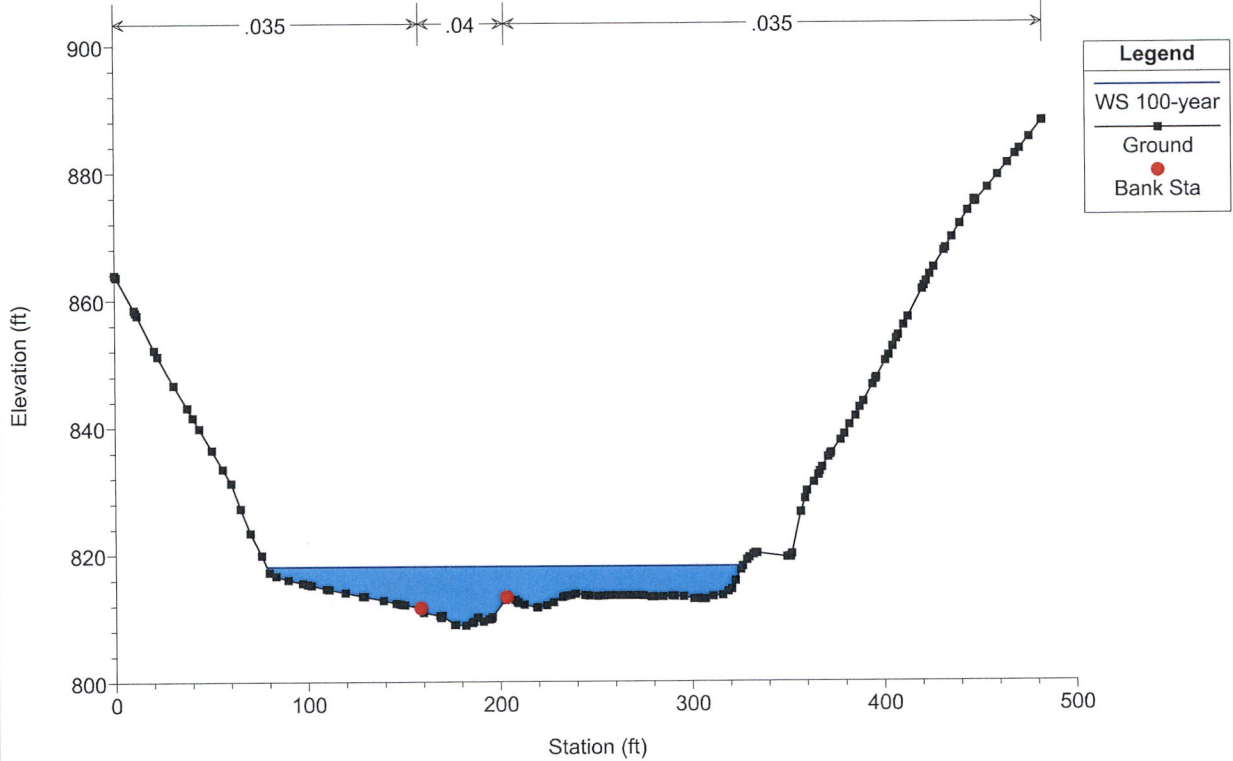
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183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

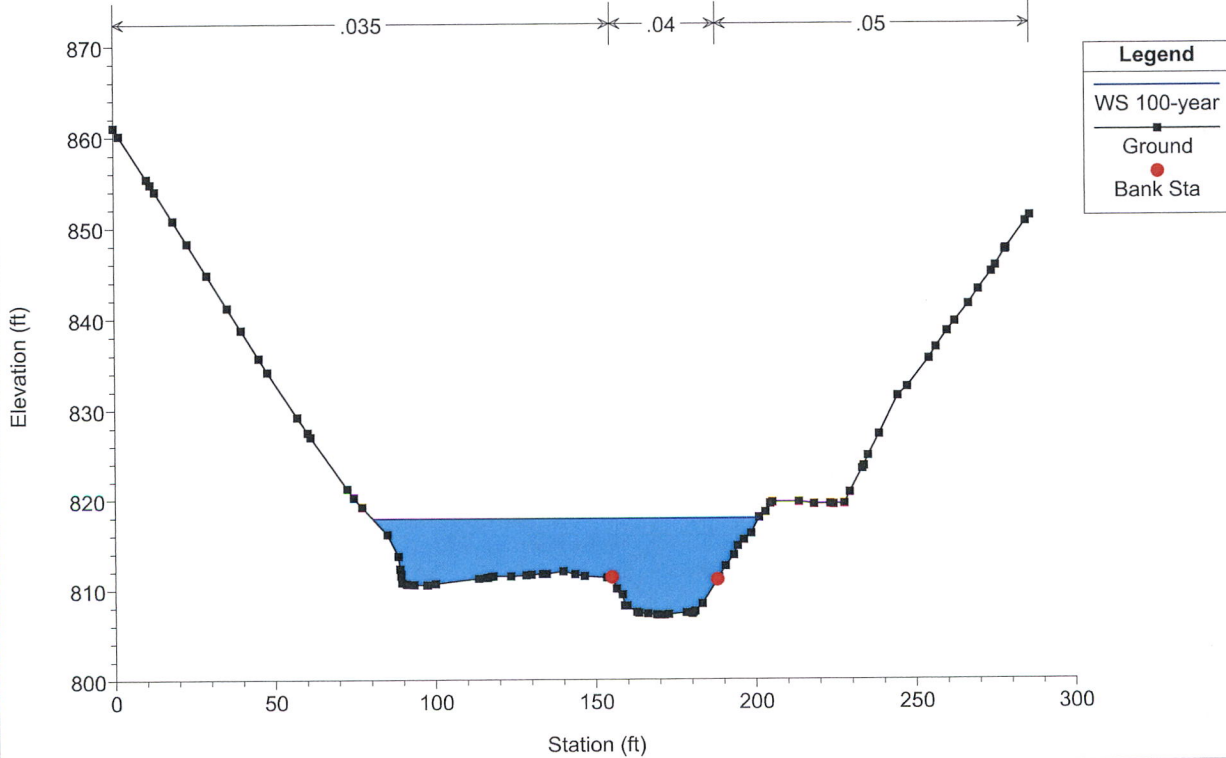
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183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

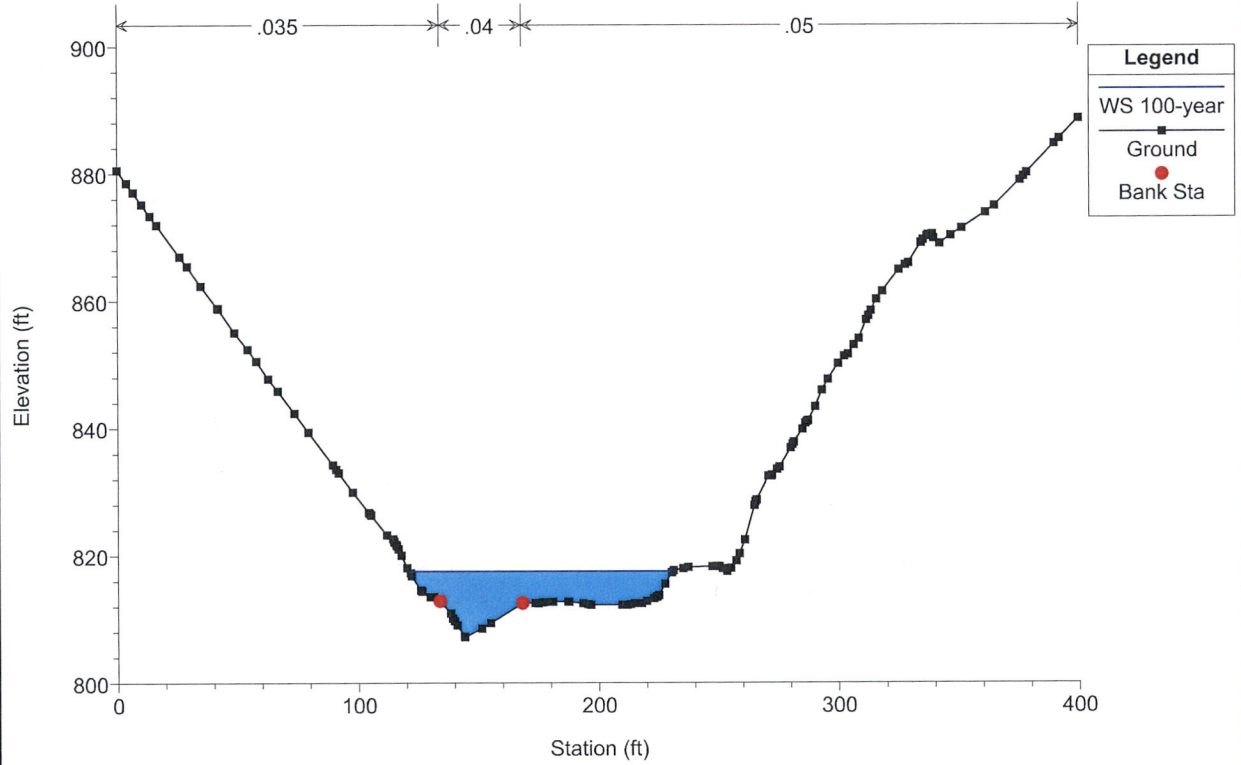
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183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

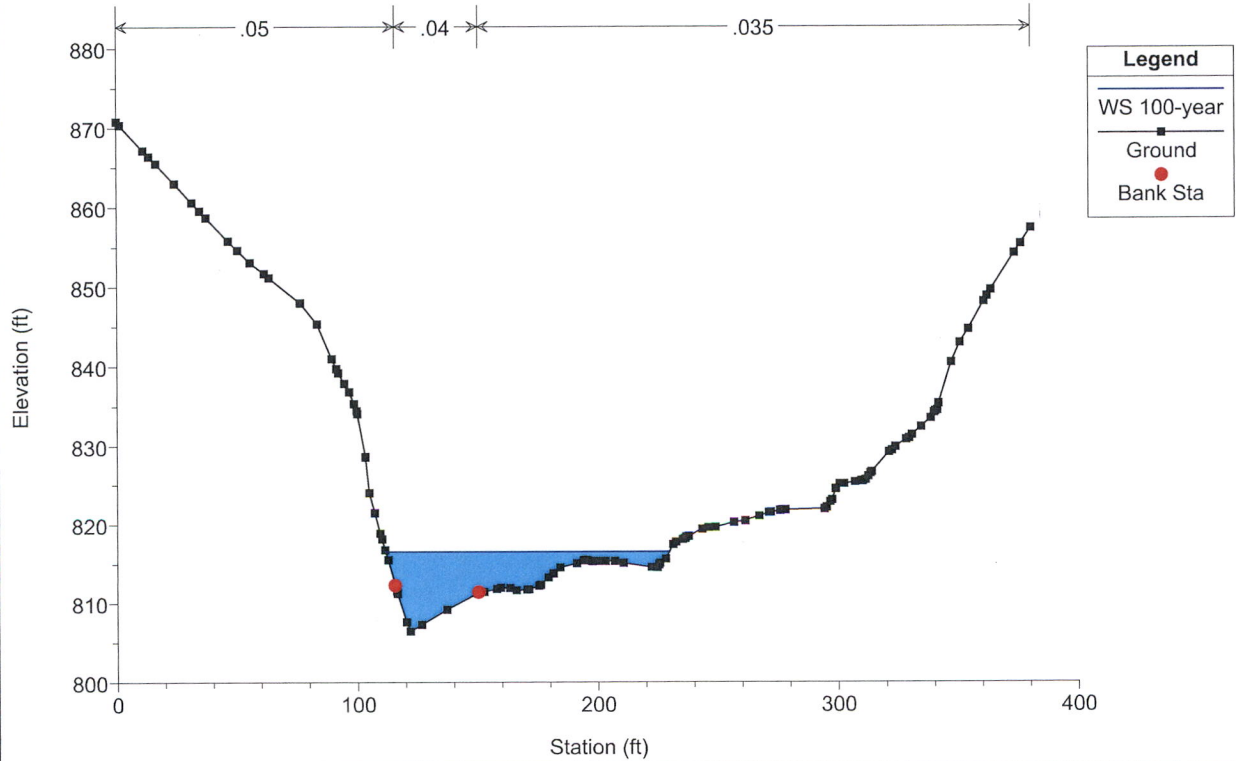
River = Arnolds Creek Reach = 183783-Stream CL RS = 2962.77

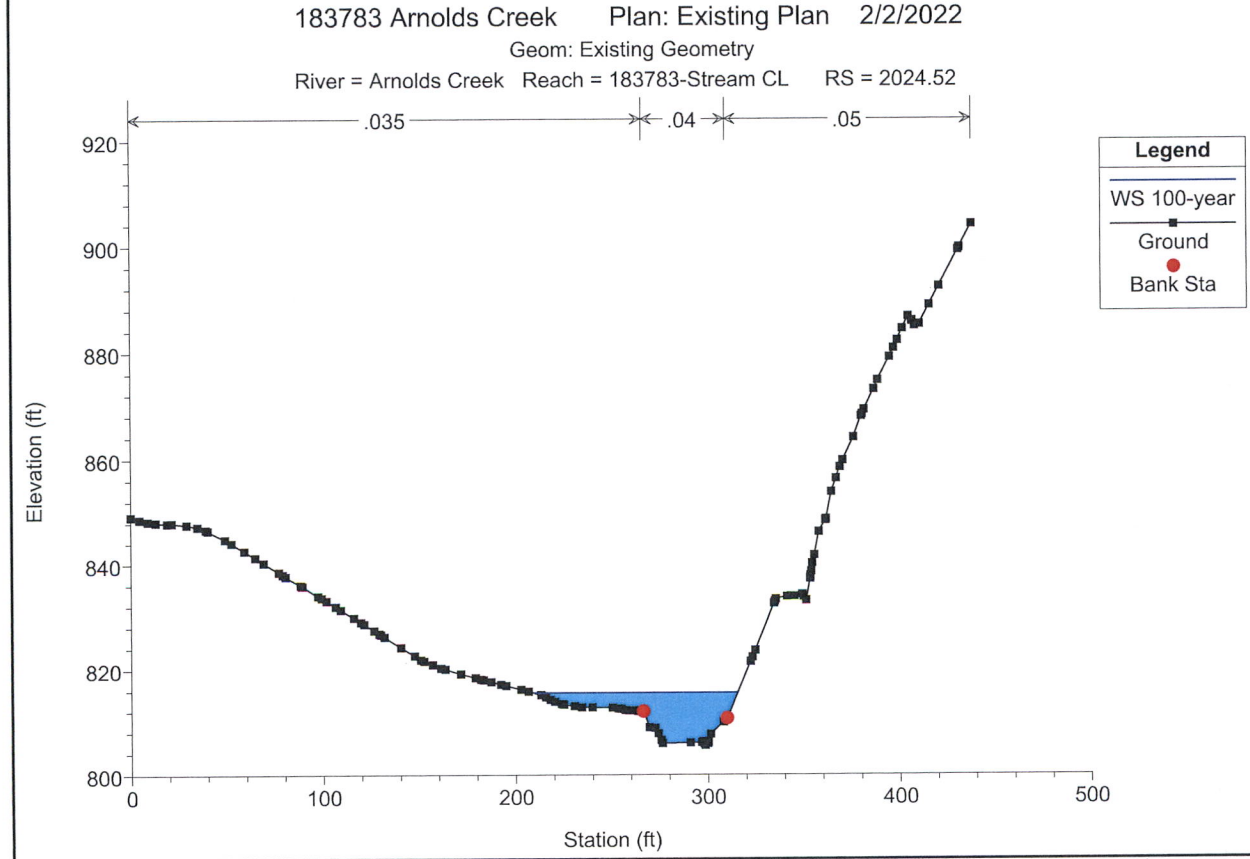
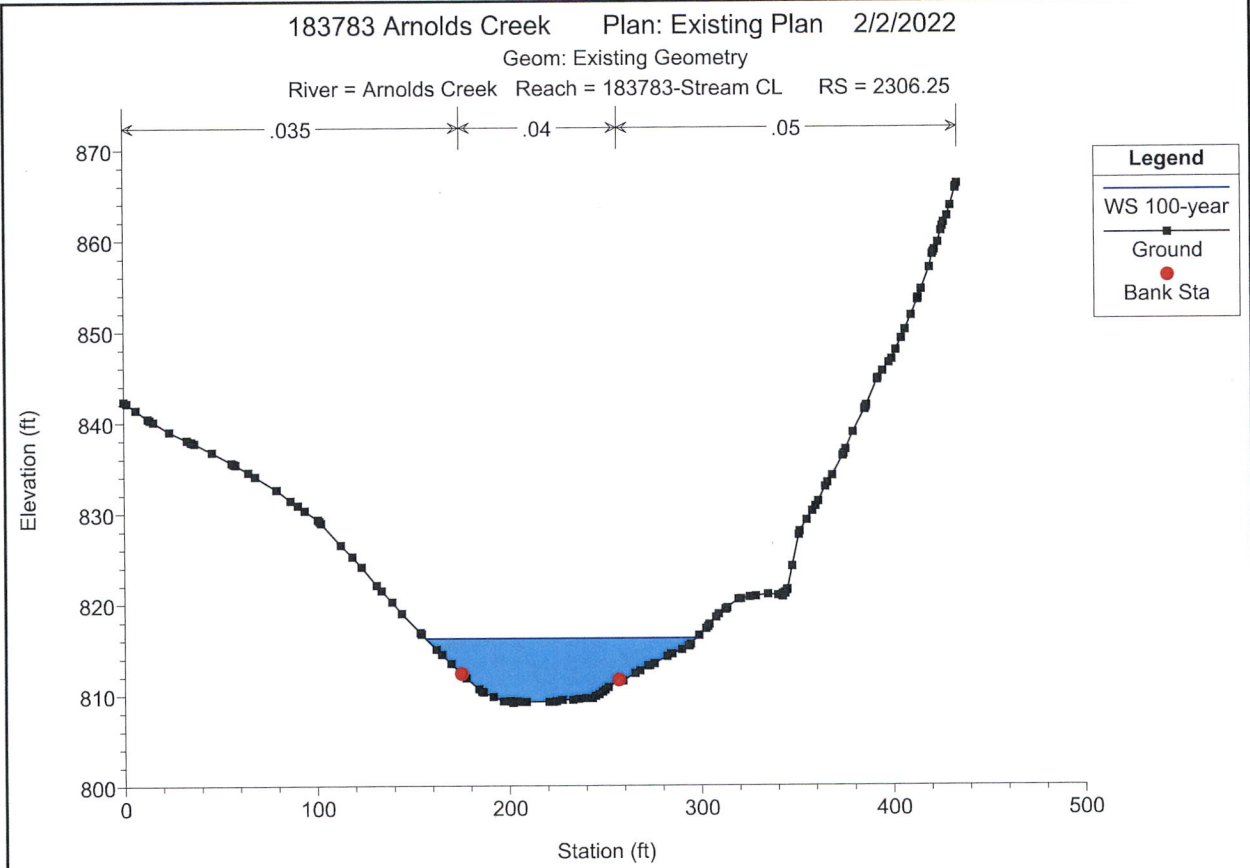


183783 Arnolds Creek Plan: Existing Plan 2/2/2022

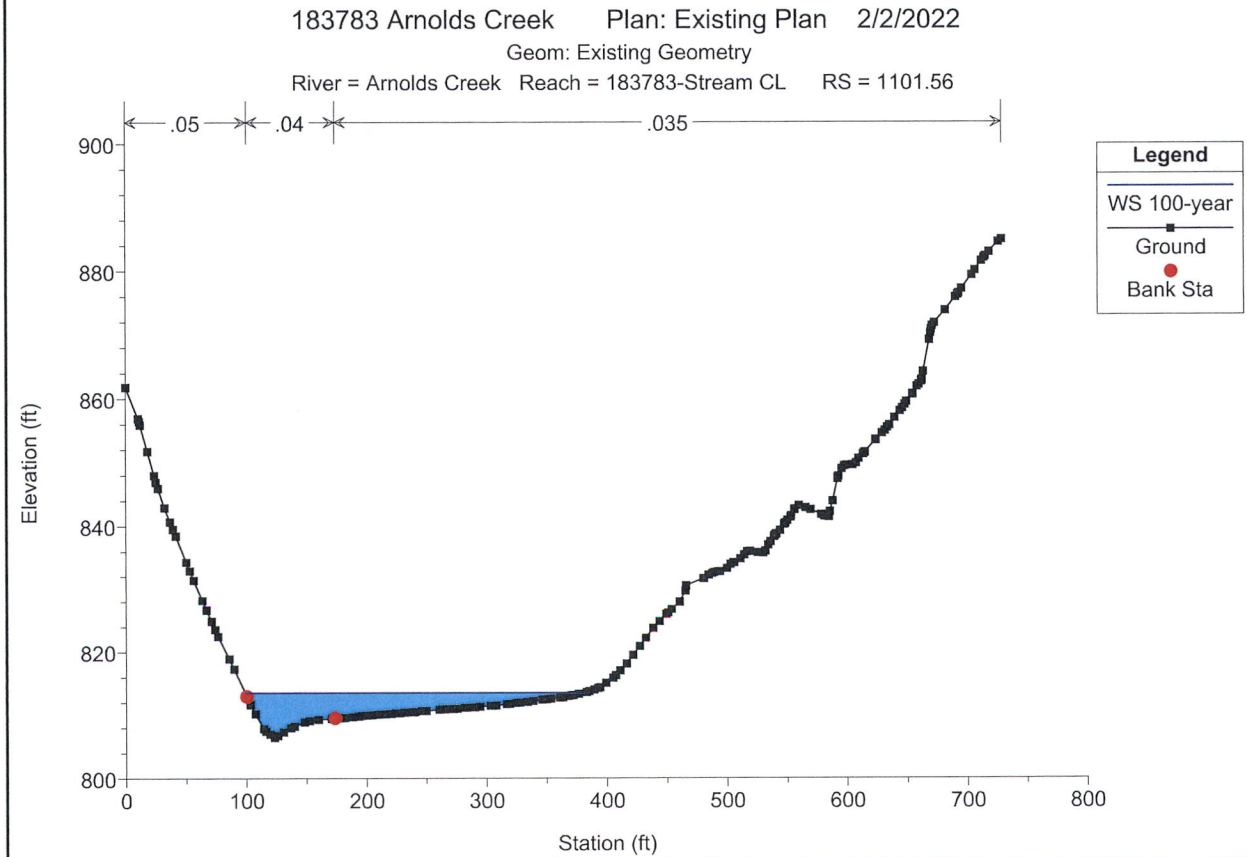
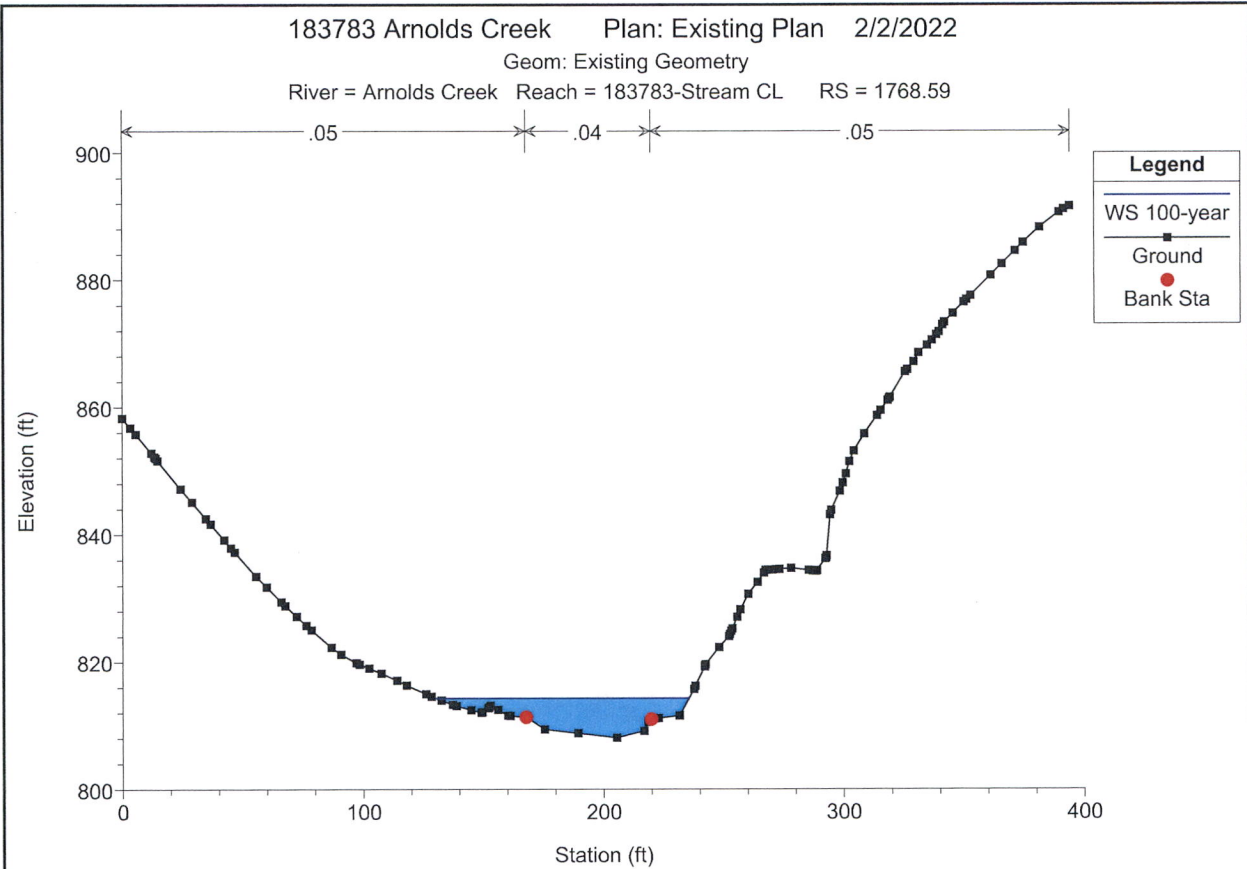
Geom: Existing Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 2586.64

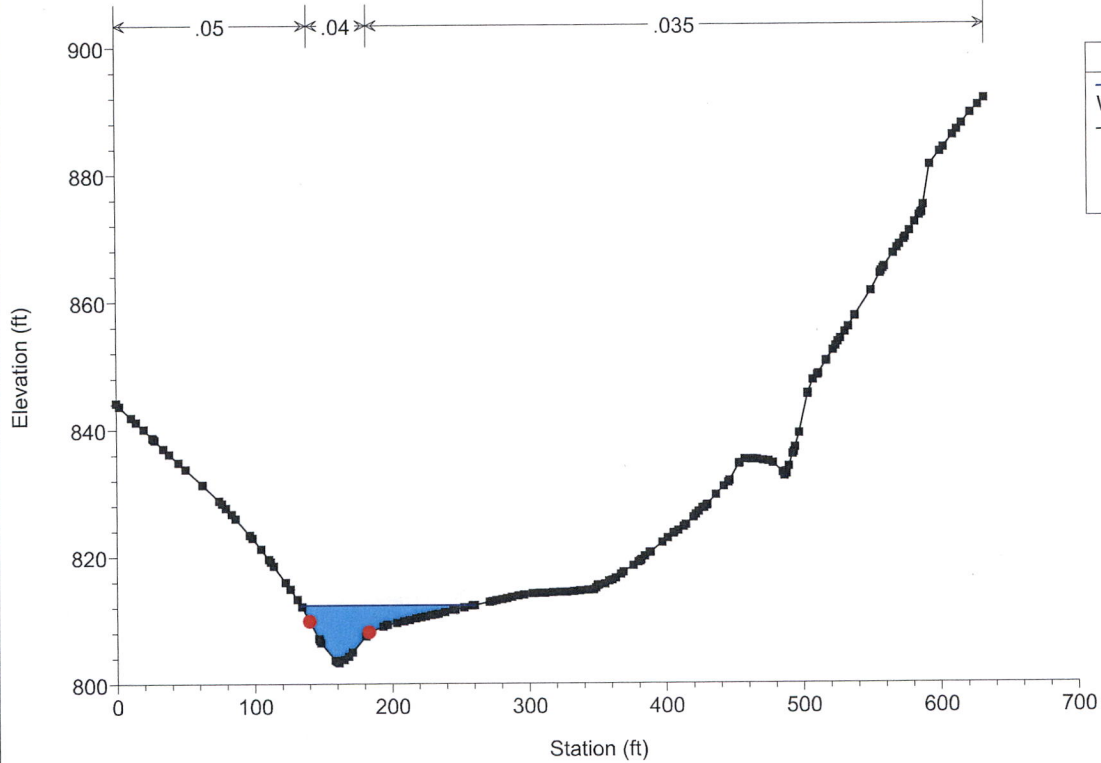






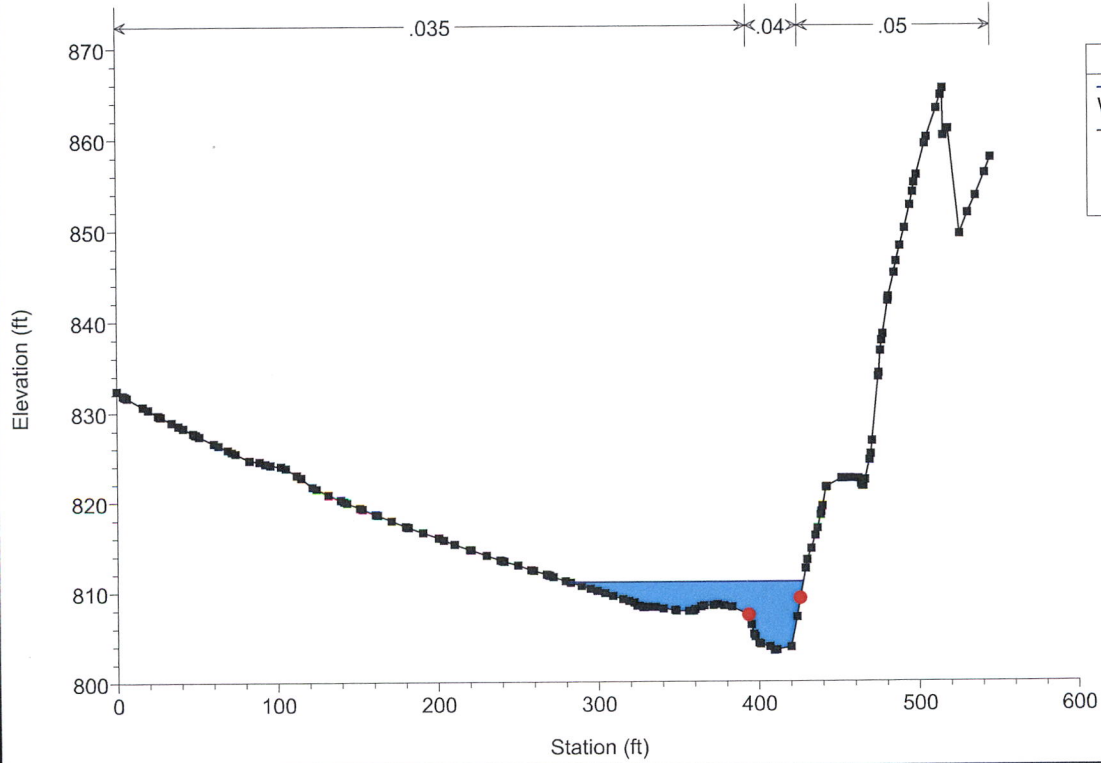


183783 Arnolds Creek Plan: Existing Plan 2/2/2022  
 Geom: Existing Geometry  
 River = Arnolds Creek Reach = 183783-Stream CL RS = 664.04



Legend	
—	WS 100-year
■	Ground
●	Bank Sta

183783 Arnolds Creek Plan: Existing Plan 2/2/2022  
 Geom: Existing Geometry  
 River = Arnolds Creek Reach = 183783-Stream CL RS = 254.7

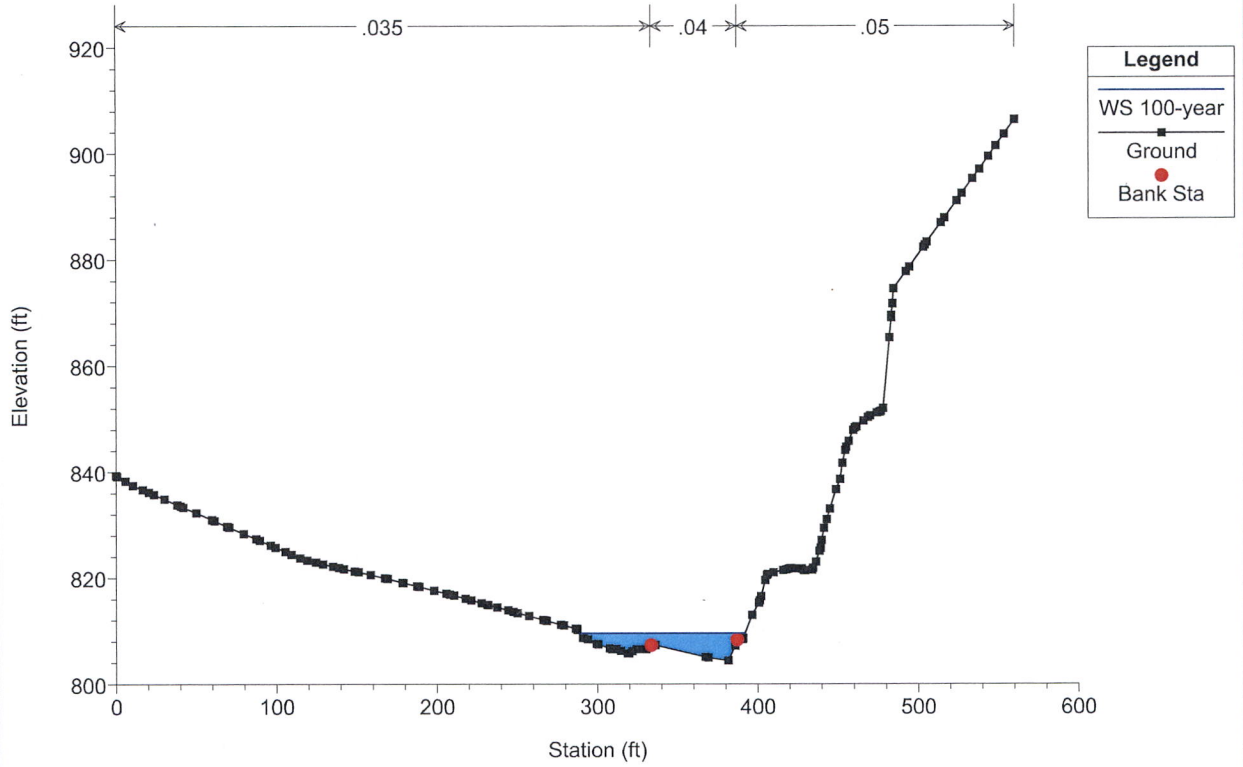


Legend	
—	WS 100-year
■	Ground
●	Bank Sta

183783 Arnolds Creek Plan: Existing Plan 2/2/2022

Geom: Existing Geometry

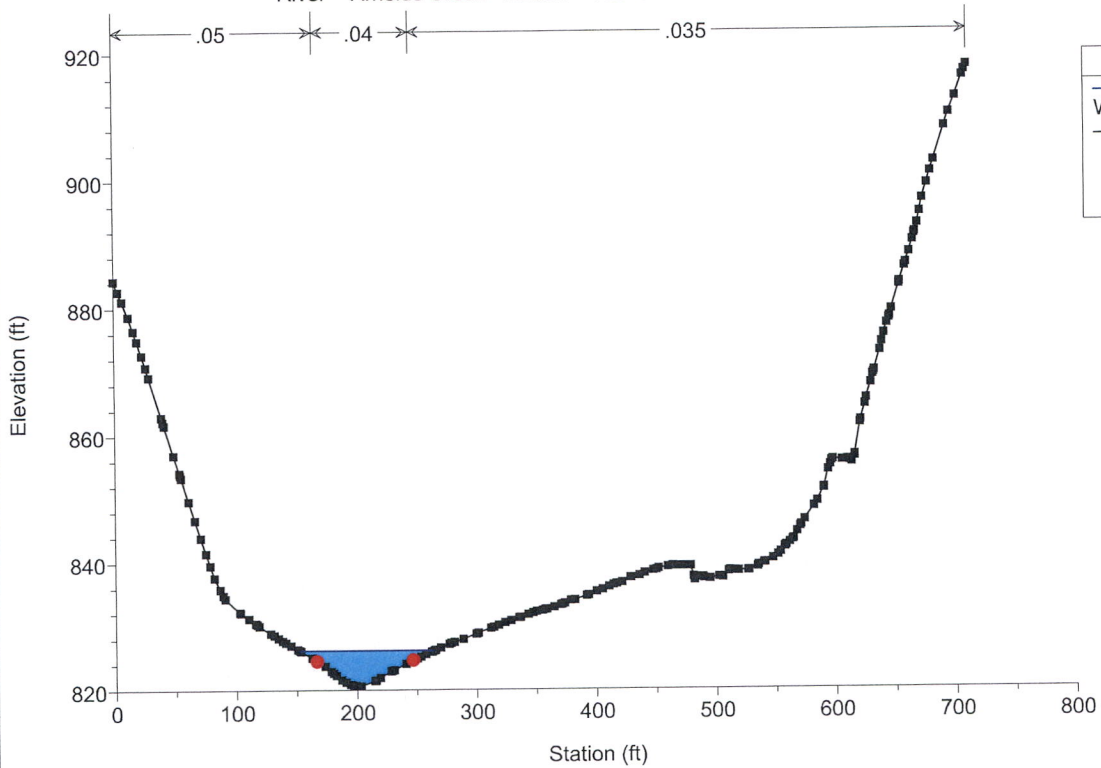
River = Arnolds Creek Reach = 183783-Stream CL RS = 83.62



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 6772.74

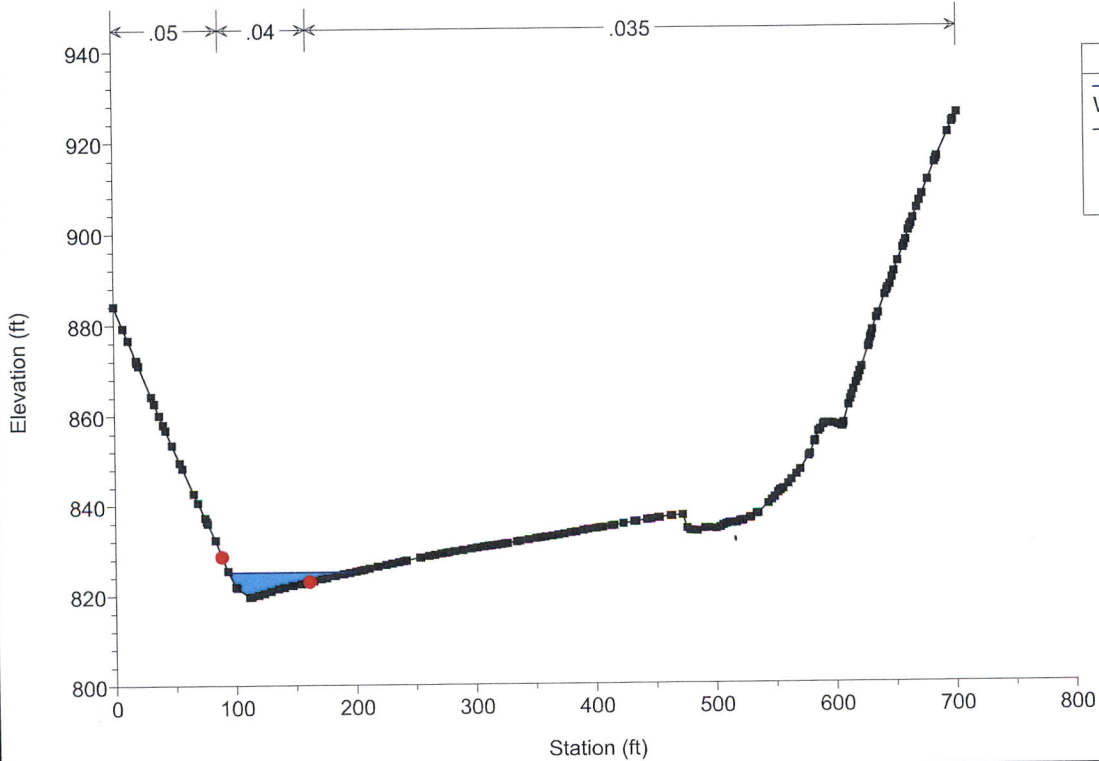


Legend	
WS 100-year	—
Ground	■
Bank Sta	●

183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 6581.4



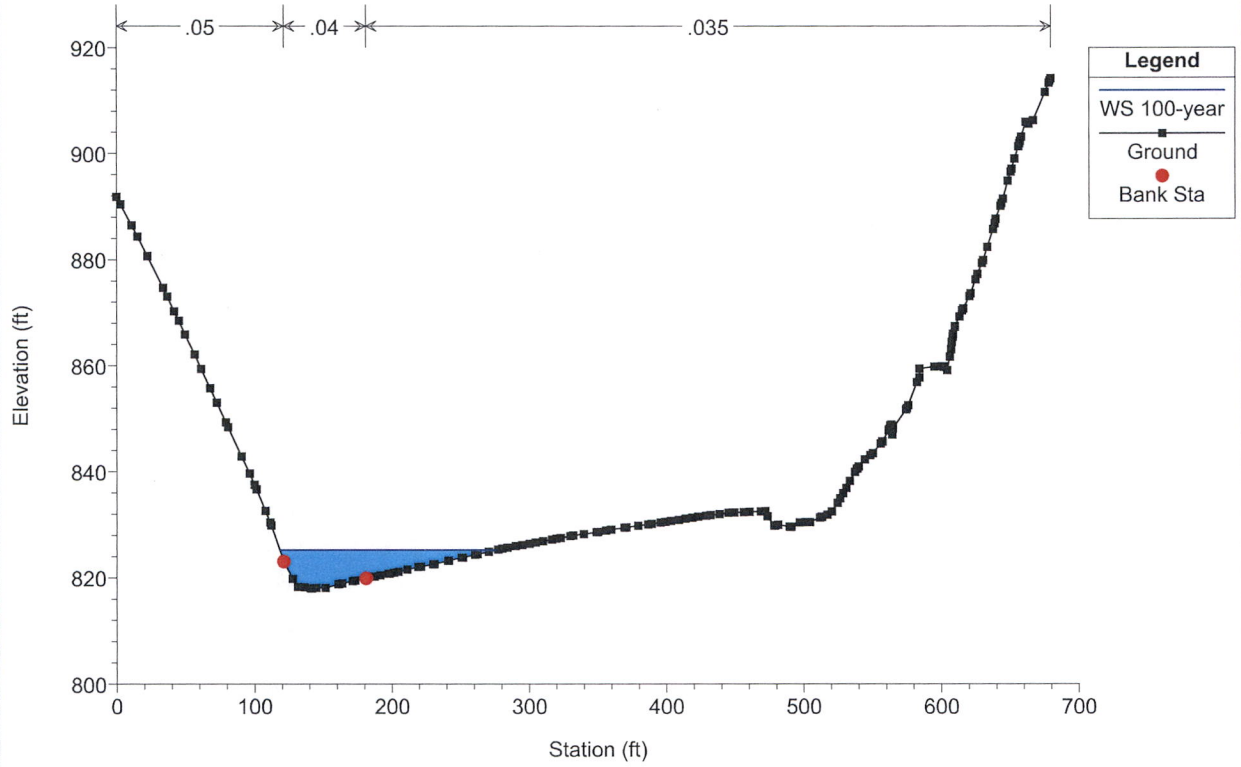
Legend	
WS 100-year	—
Ground	■
Bank Sta	●



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

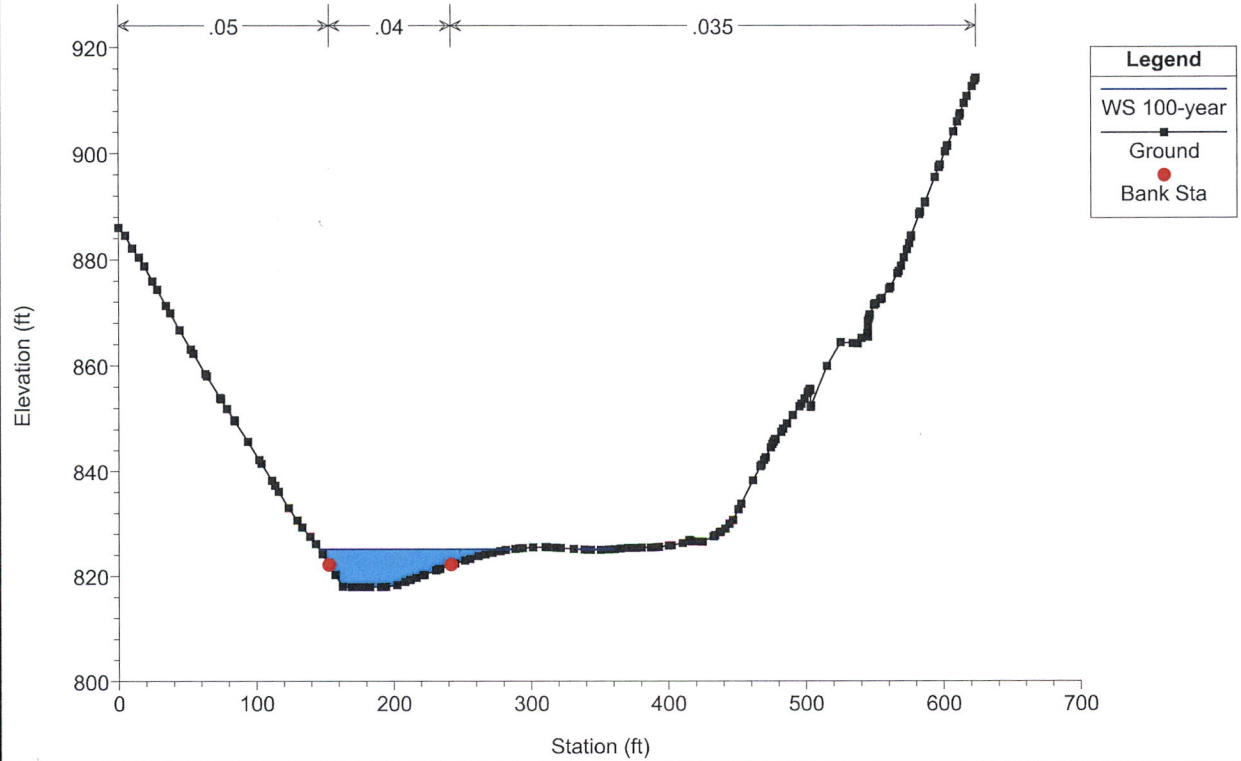
River = Arnolds Creek Reach = 183783-Stream CL RS = 6421.94



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

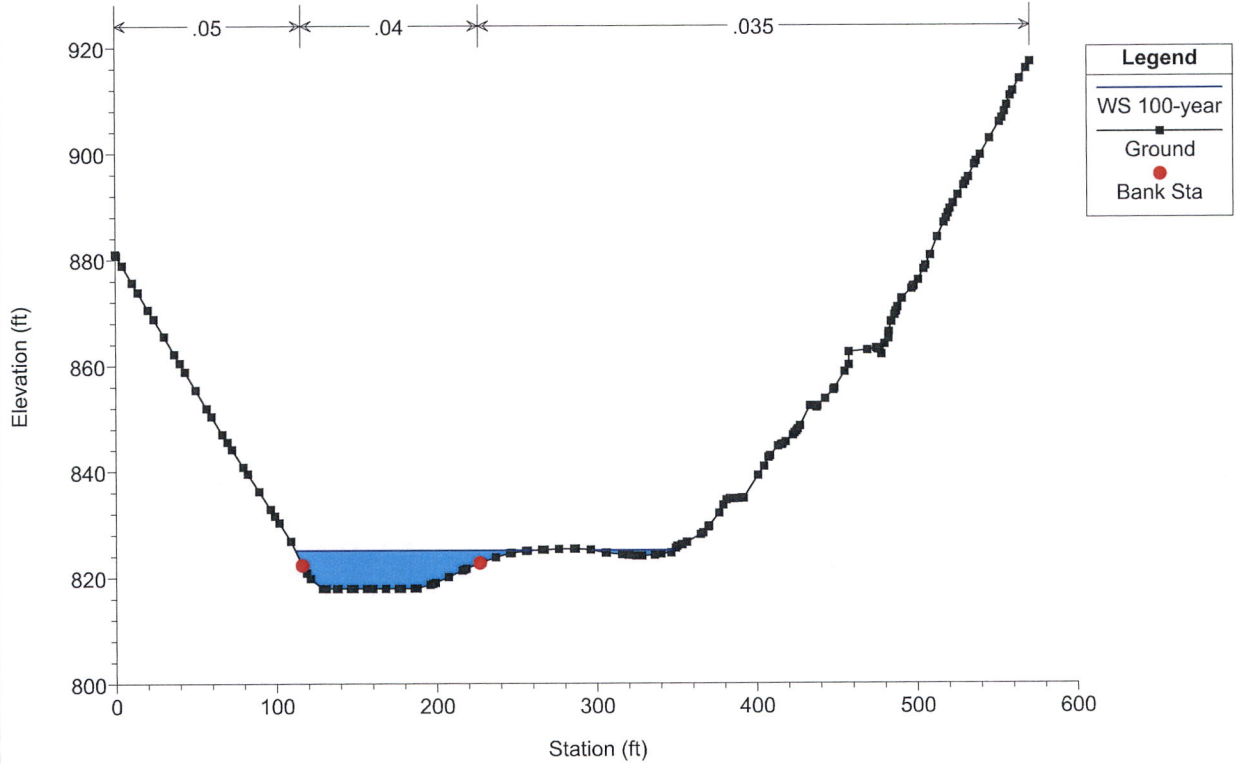
River = Arnolds Creek Reach = 183783-Stream CL RS = 6261.09



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

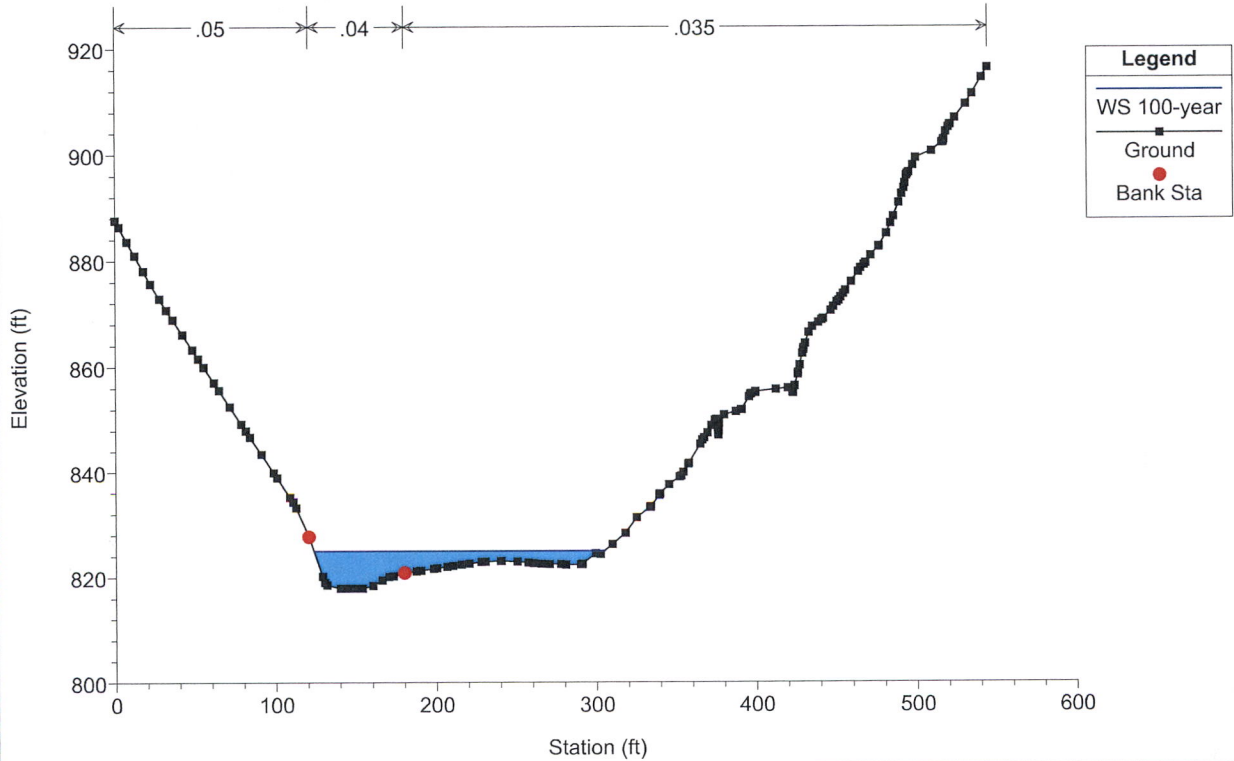
River = Arnolds Creek Reach = 183783-Stream CL RS = 6161.57



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

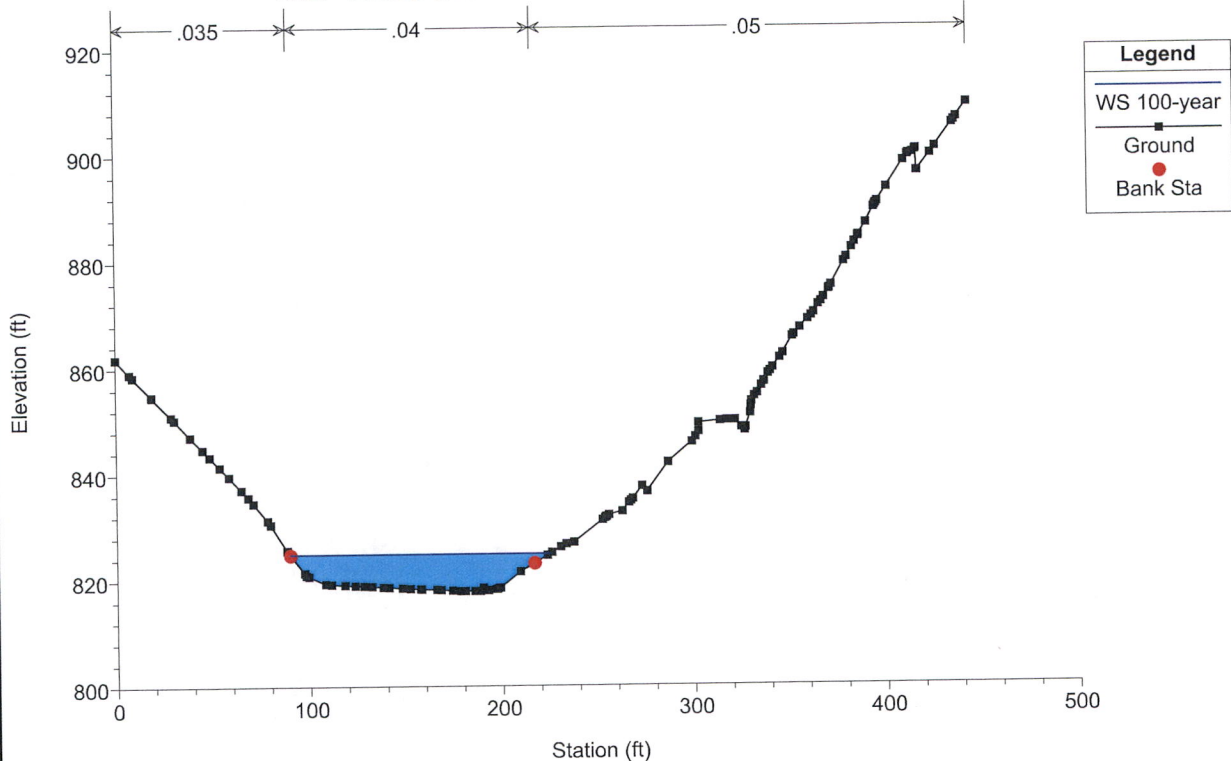
River = Arnolds Creek Reach = 183783-Stream CL RS = 6029.53



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

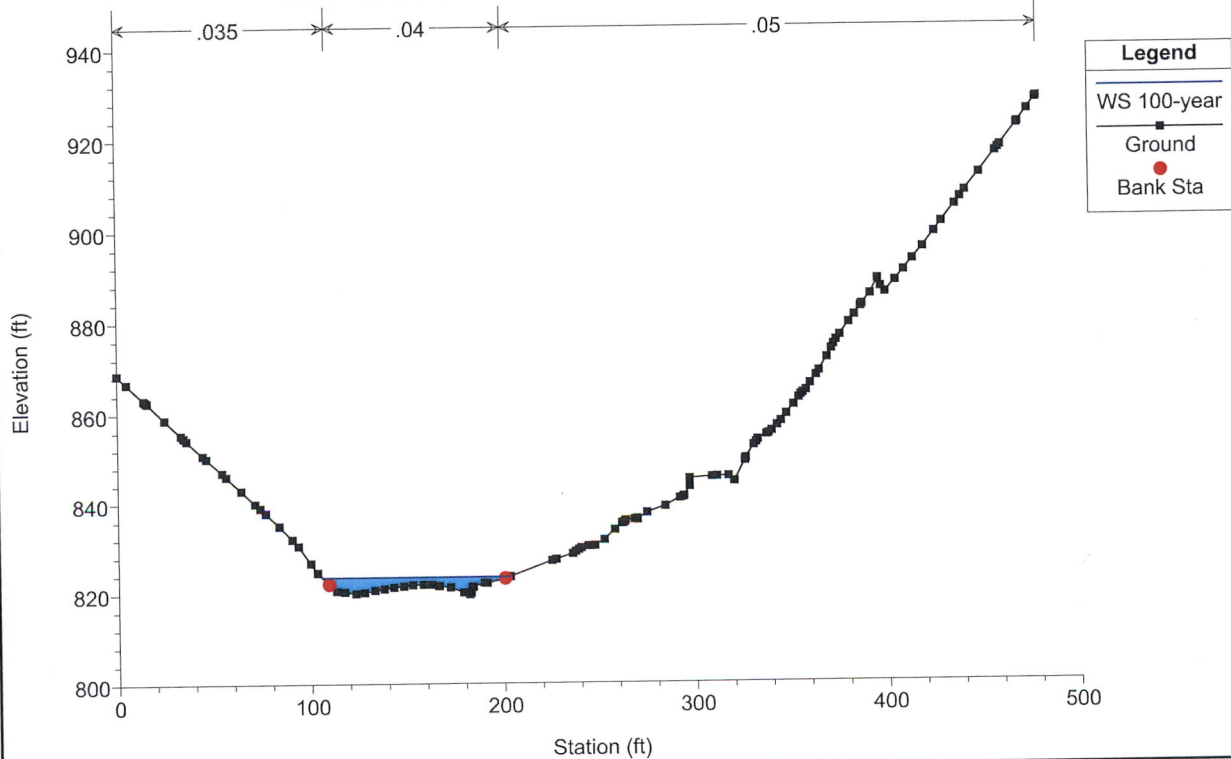
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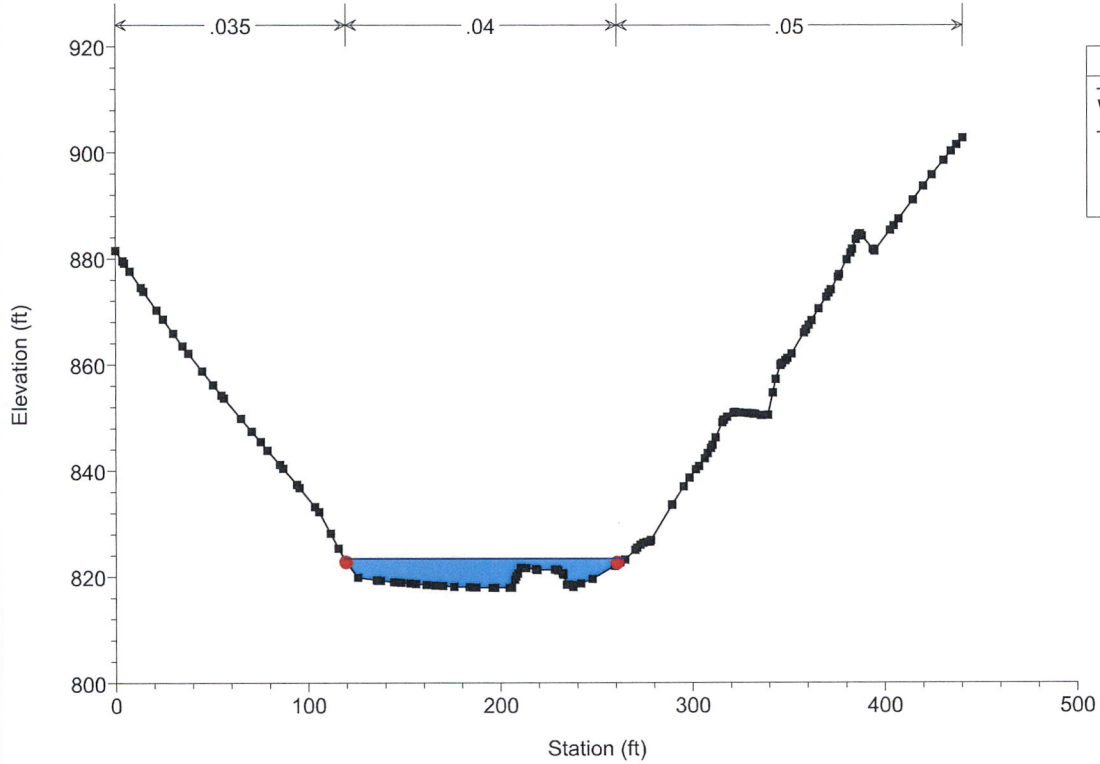
183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 5671.26

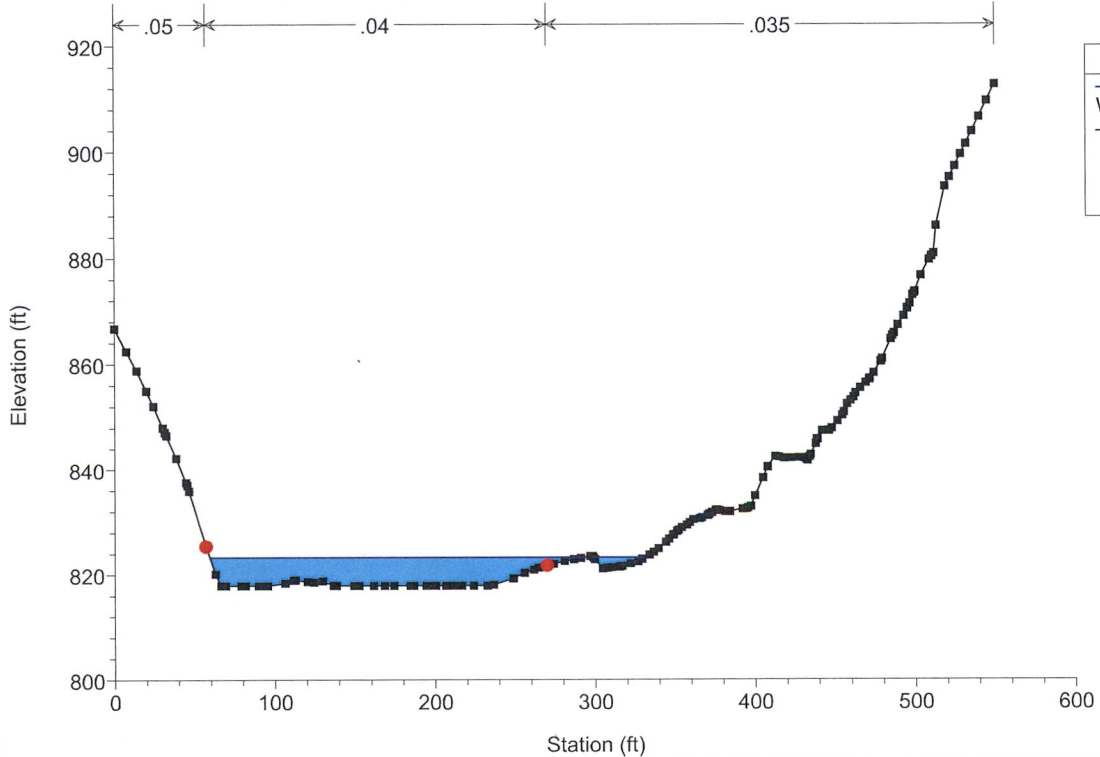


183783 Arnolds Creek Plan: Proposed Plan 2/2/2022  
Geom: Proposed Geometry  
River = Arnolds Creek Reach = 183783-Stream CL RS = 5514.02



Legend	
—	WS 100-year
■	Ground
●	Bank Sta

183783 Arnolds Creek Plan: Proposed Plan 2/2/2022  
Geom: Proposed Geometry  
River = Arnolds Creek Reach = 183783-Stream CL RS = 5117.14



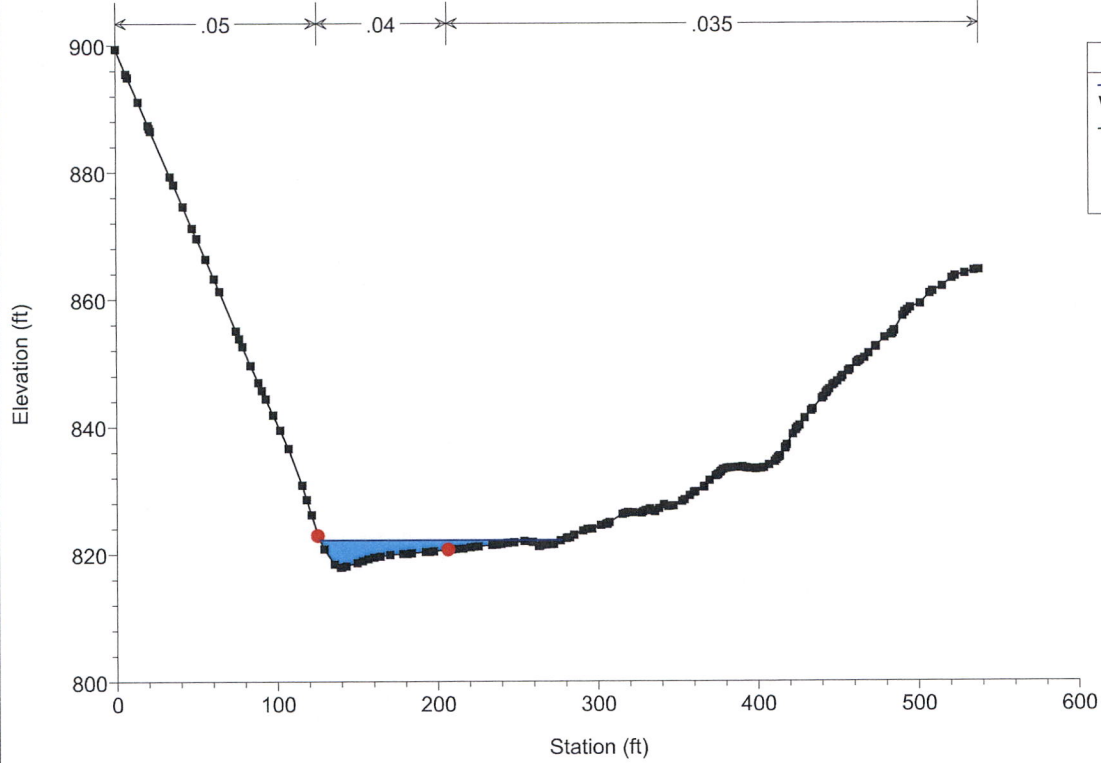
Legend	
—	WS 100-year
■	Ground
●	Bank Sta



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

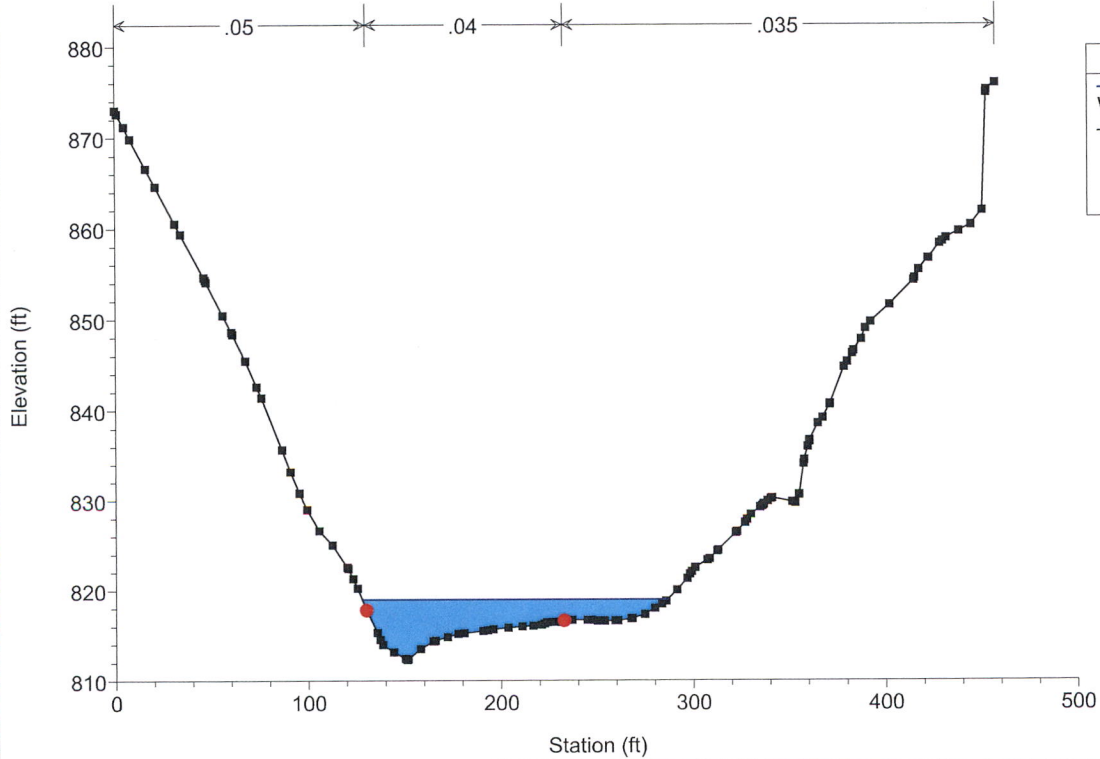
River = Arnolds Creek Reach = 183783-Stream CL RS = 4840.72



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

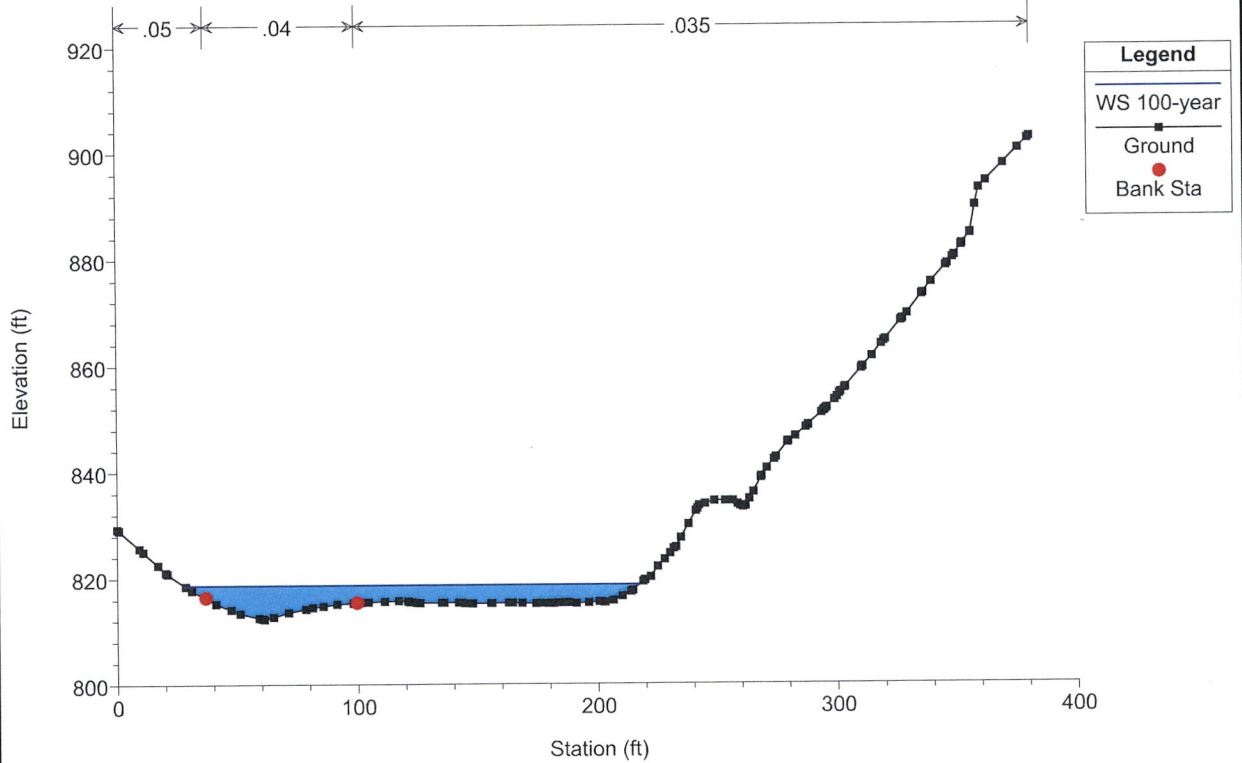
River = Arnolds Creek Reach = 183783-Stream CL RS = 4503.97



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

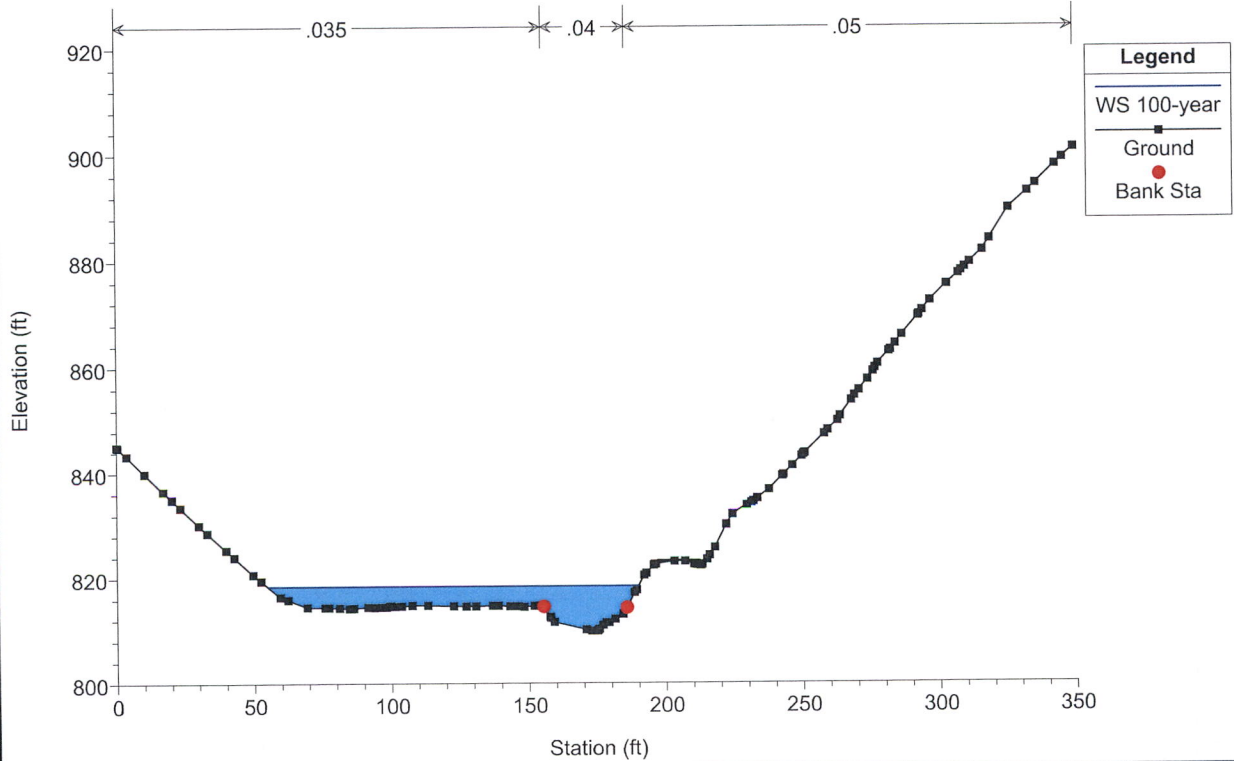
River = Arnolds Creek Reach = 183783-Stream CL RS = 4225.18



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

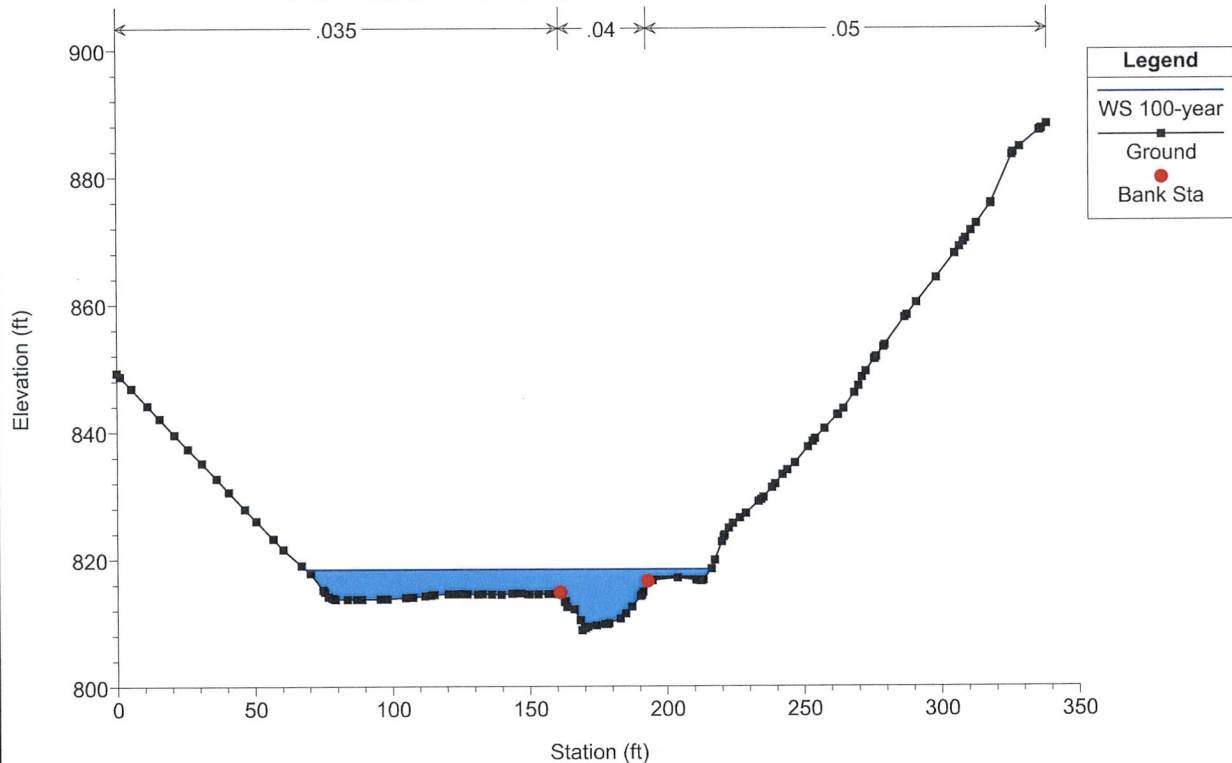
River = Arnolds Creek Reach = 183783-Stream CL RS = 3938.58



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

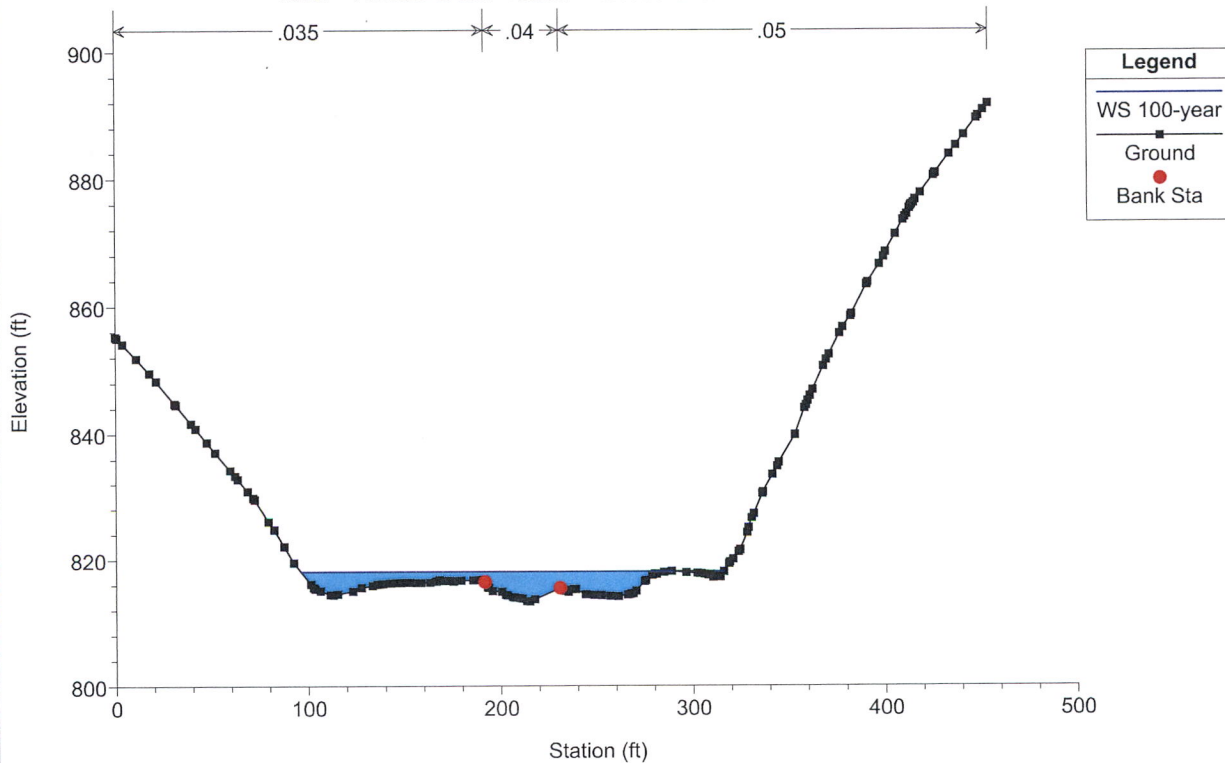
River = Arnolds Creek Reach = 183783-Stream CL RS = 3831.75



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

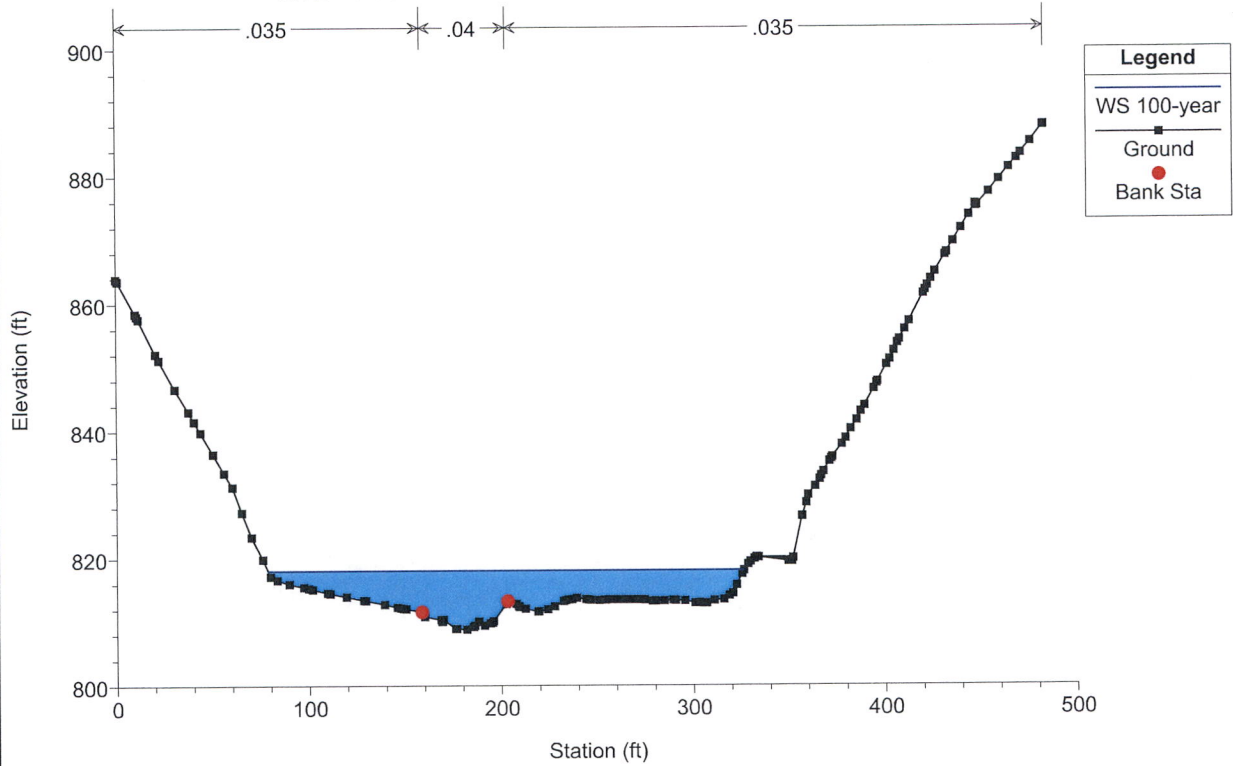
River = Arnolds Creek Reach = 183783-Stream CL RS = 3672.85



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

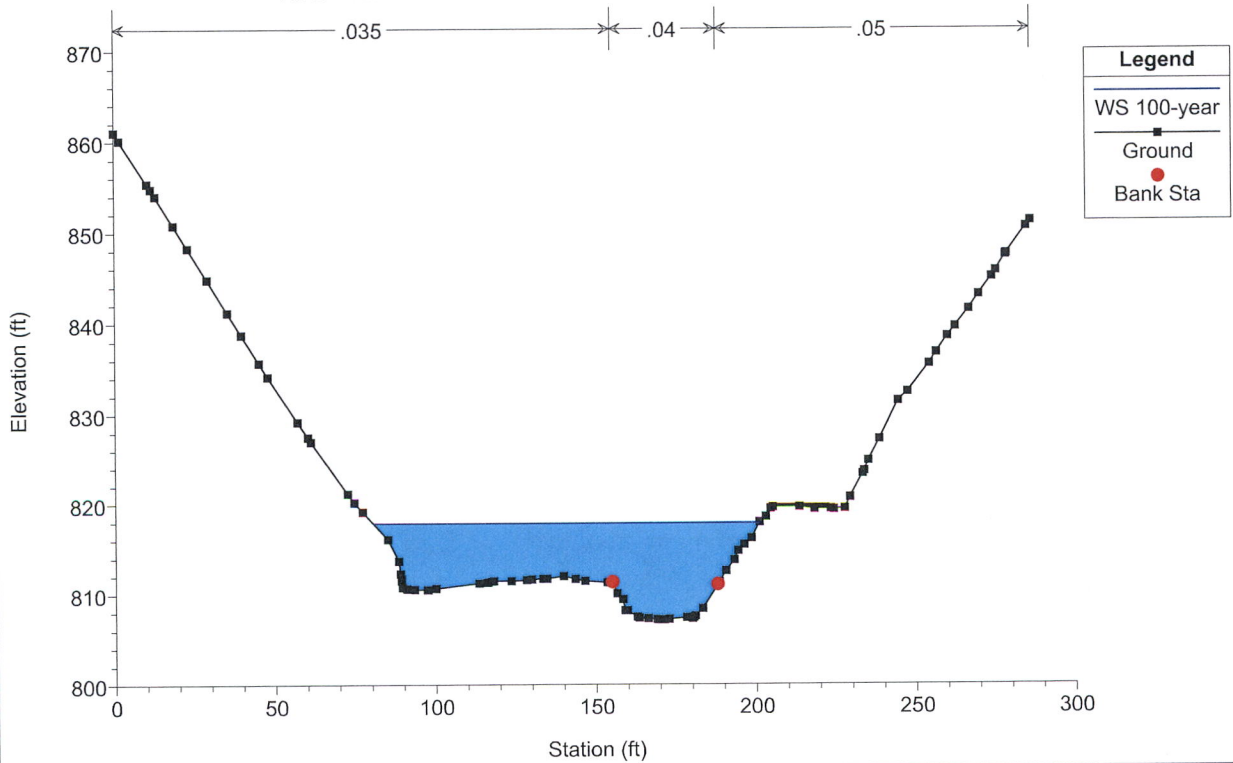
River = Arnolds Creek Reach = 183783-Stream CL RS = 3374.06



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 3128.25

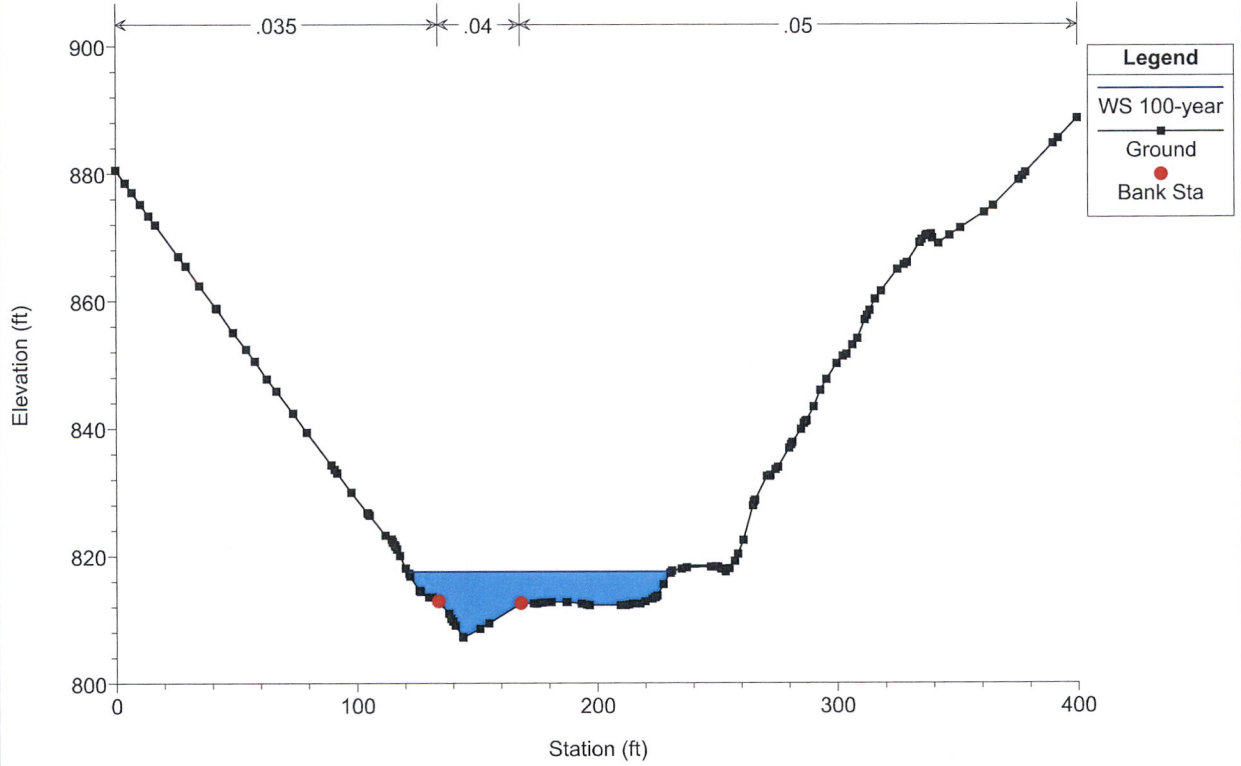




183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

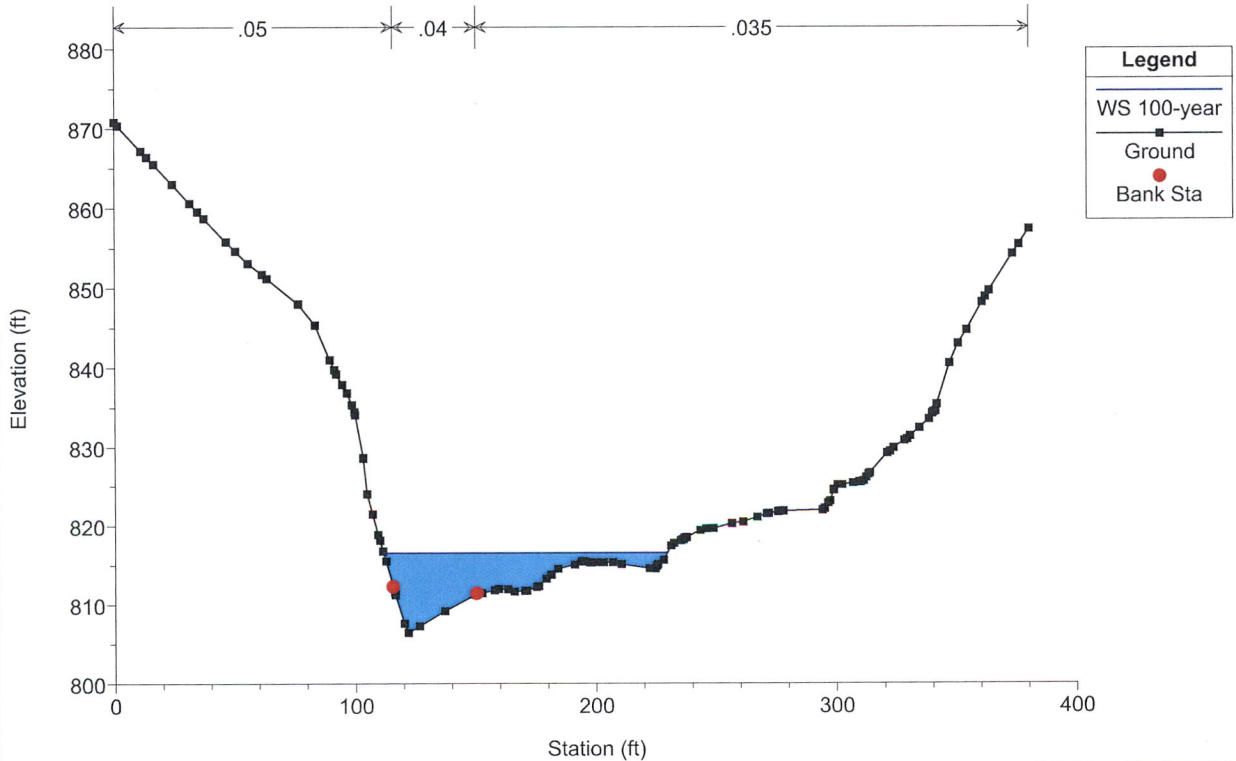
River = Arnolds Creek Reach = 183783-Stream CL RS = 2962.77



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

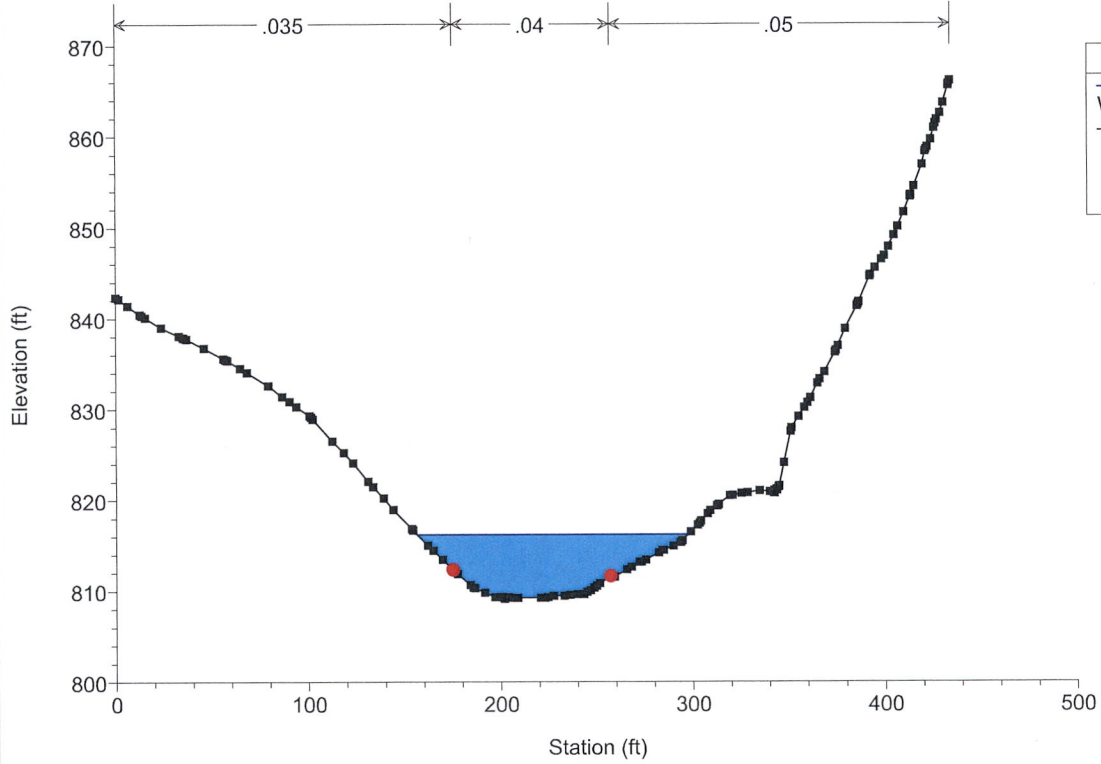
River = Arnolds Creek Reach = 183783-Stream CL RS = 2586.64



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

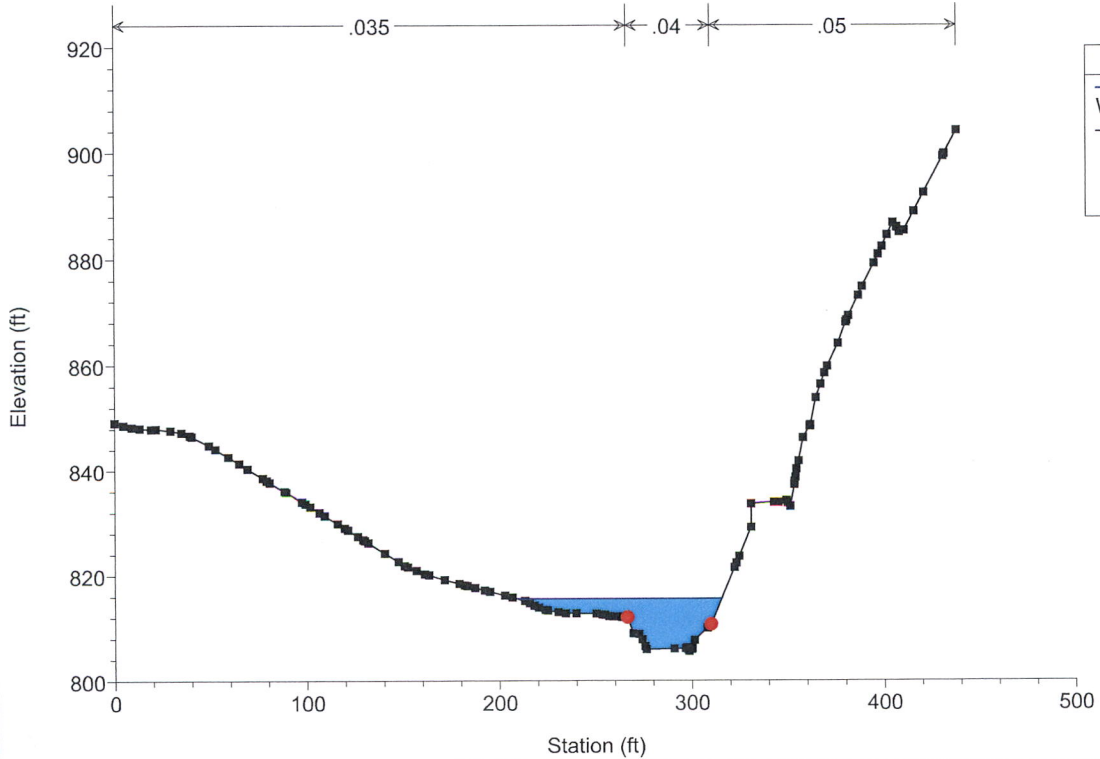
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183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

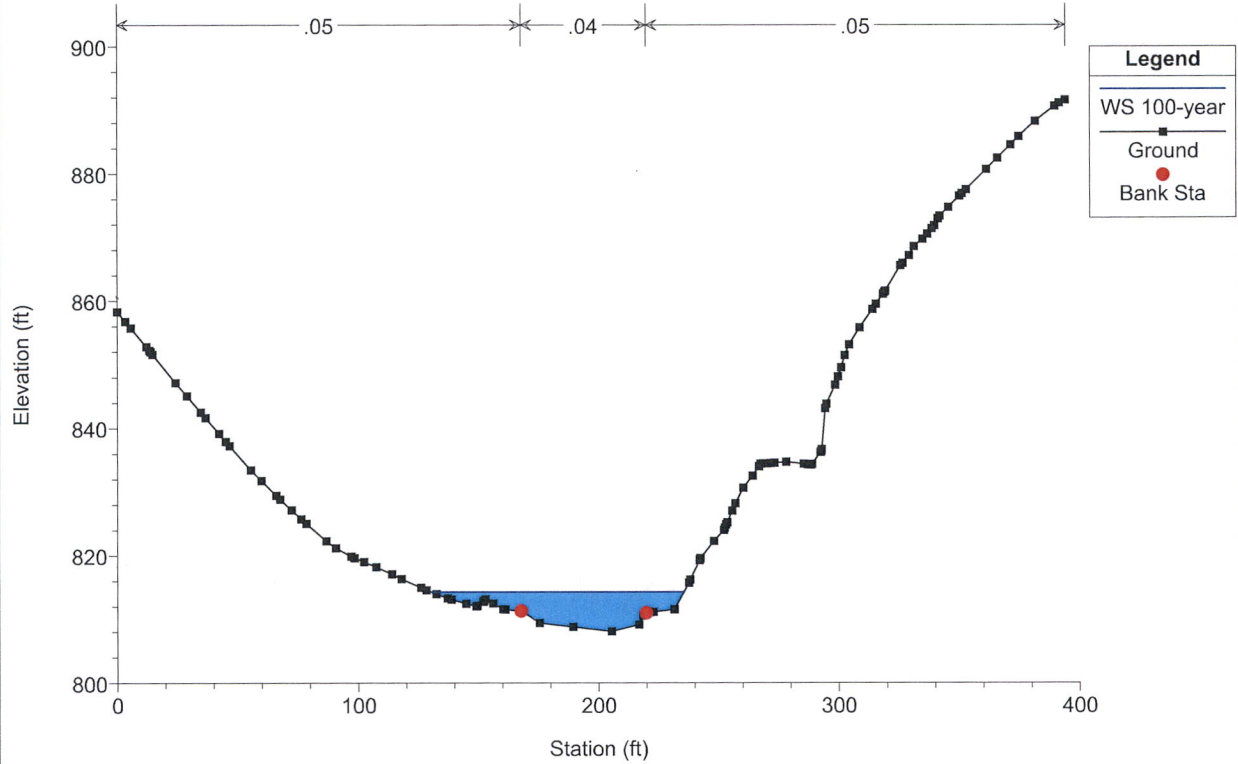
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183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

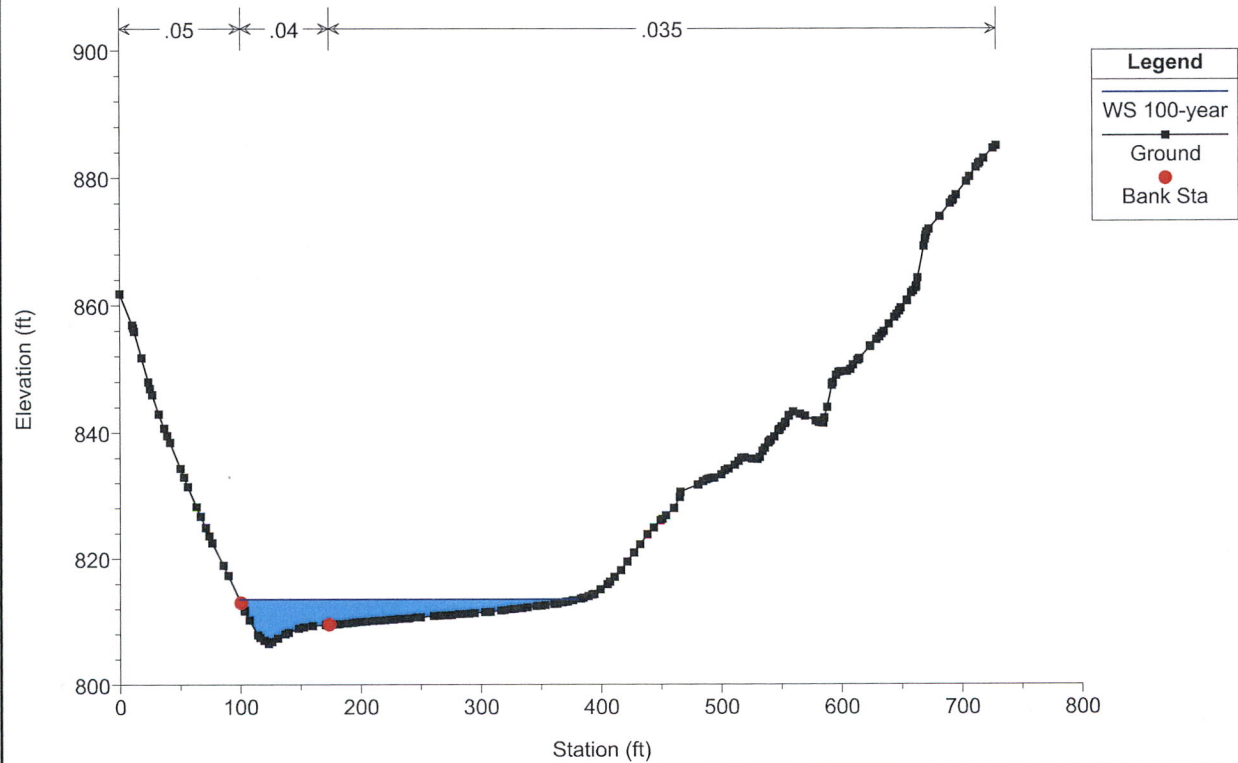
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183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

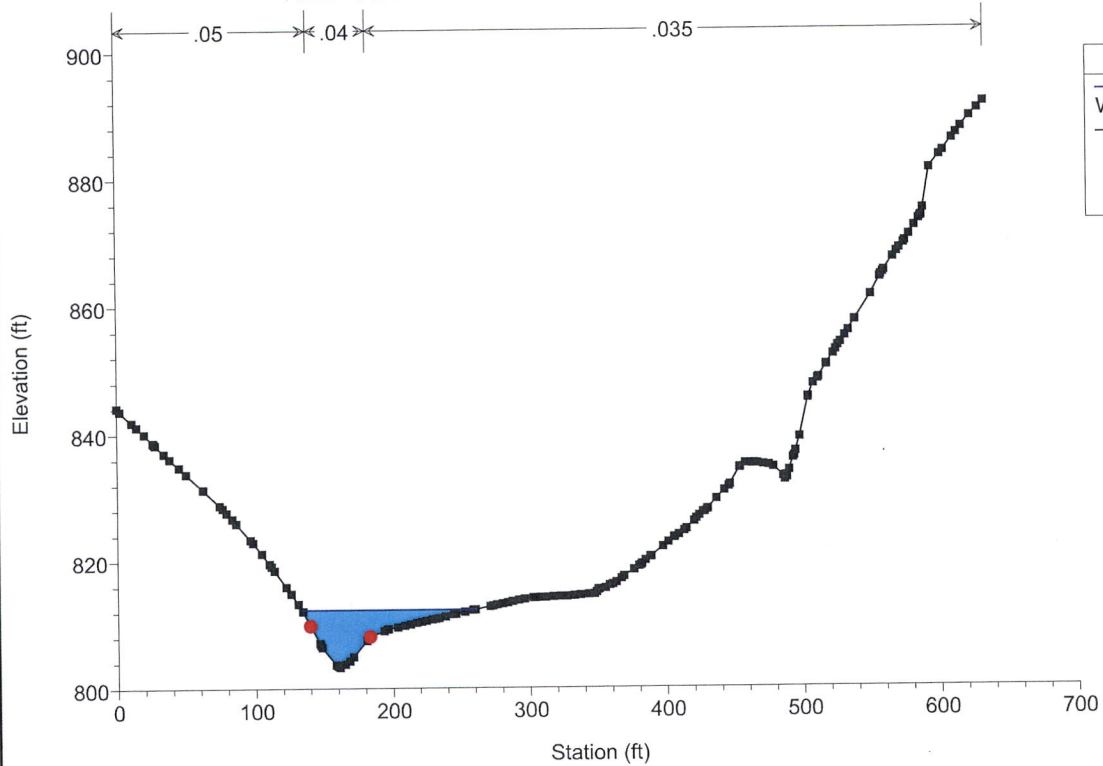
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183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

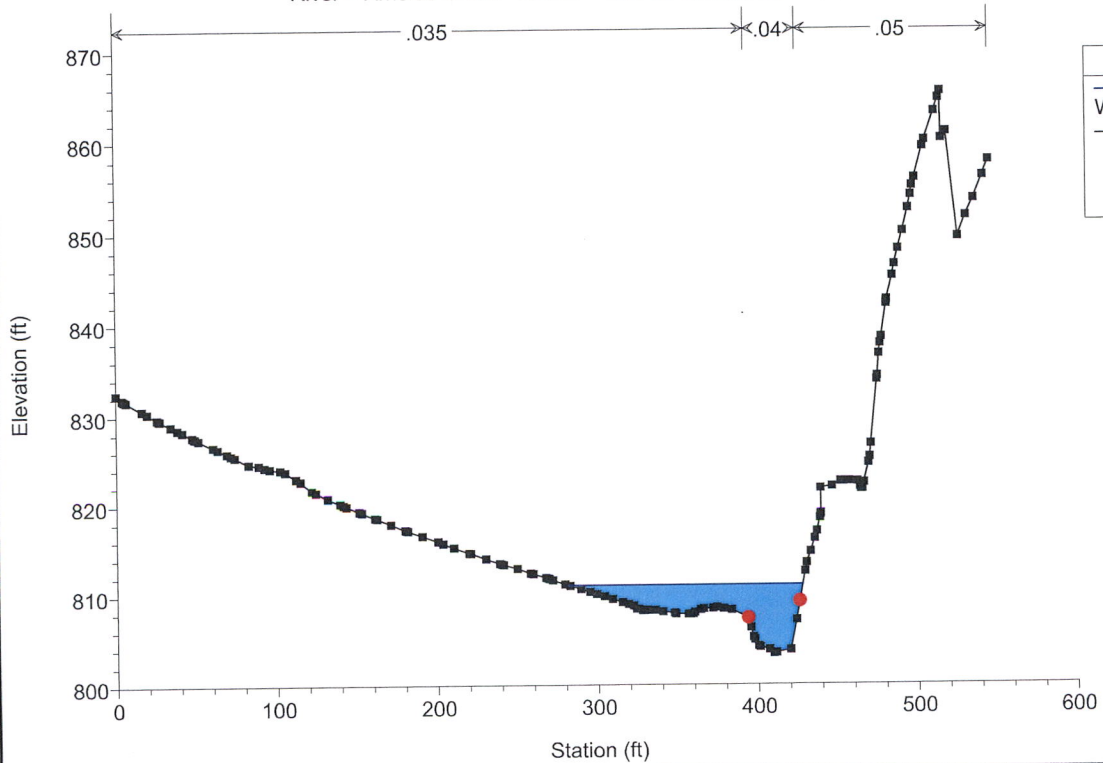
River = Arnolds Creek Reach = 183783-Stream CL RS = 664.04



183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 254.7

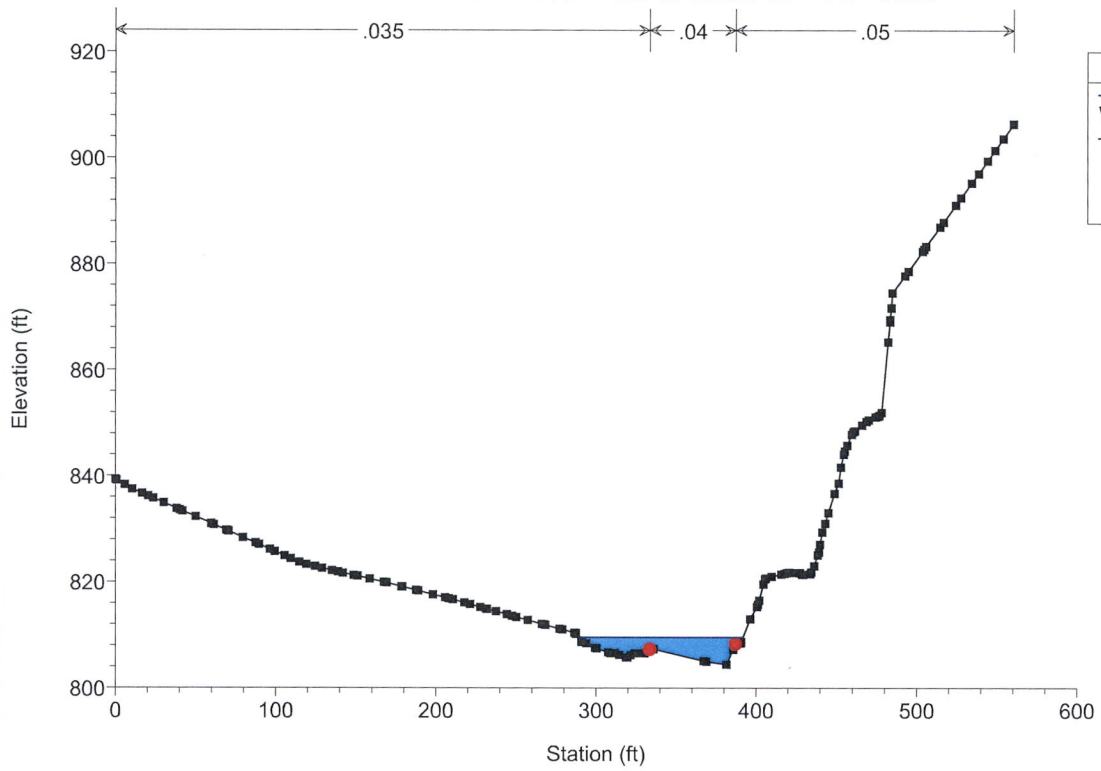




183783 Arnolds Creek Plan: Proposed Plan 2/2/2022

Geom: Proposed Geometry

River = Arnolds Creek Reach = 183783-Stream CL RS = 83.62



Legend	
WS 100-year	—■—
Ground	—
Bank Sta	●

# **ATTACHMENT F**

*HEC-RAS Profile Summary Table*

HEC-RAS River: Arnolds Creek Reach: 183783-Stream CL Profile: 100-year

Reach	River Sta	Profile	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
183783-Stream CL	6772.74	100-year	Ex Plan	1747.00	820.63	826.16		826.64	0.003917	5.62	328.99	111.54	0.51
183783-Stream CL	6772.74	100-year	Pr Plan	1747.00	820.63	826.16		826.64	0.003917	5.62	328.99	111.54	0.51
183783-Stream CL	6581.4	100-year	Ex Plan	1747.00	819.60	825.08		825.73	0.005890	6.65	281.09	103.30	0.62
183783-Stream CL	6581.4	100-year	Pr Plan	1747.00	819.60	825.08		825.73	0.005890	6.65	281.09	103.30	0.62
183783-Stream CL	6421.94	100-year	Ex Plan	1747.00	818.00	825.22		825.35	0.000674	3.22	630.79	157.24	0.23
183783-Stream CL	6421.94	100-year	Pr Plan	1747.00	818.00	825.22		825.35	0.000674	3.22	630.79	157.24	0.23
183783-Stream CL	6261.09	100-year	Ex Plan	1747.00	817.90	825.09		825.24	0.000698	3.18	593.10	168.45	0.23
183783-Stream CL	6261.09	100-year	Pr Plan	1747.00	817.90	825.09		825.24	0.000698	3.18	593.10	168.45	0.23
183783-Stream CL	6161.57	100-year	Ex Plan	1747.00	817.90	825.08		825.17	0.000401	2.48	753.39	198.49	0.18
183783-Stream CL	6161.57	100-year	Pr Plan	1747.00	817.90	825.08		825.17	0.000401	2.48	753.39	198.49	0.18
183783-Stream CL	6029.53	100-year	Ex Plan	1747.00	817.90	824.96		825.09	0.000811	3.31	630.85	181.21	0.24
183783-Stream CL	6029.53	100-year	Pr Plan	1747.00	817.90	824.96		825.09	0.000811	3.31	630.85	181.21	0.24
183783-Stream CL	5825.27	100-year	Ex Plan	1747.00	817.90	824.88		824.97	0.000444	2.45	718.44	134.71	0.18
183783-Stream CL	5825.27	100-year	Pr Plan	1747.00	817.90	824.88		824.97	0.000444	2.45	718.44	134.71	0.18
183783-Stream CL	5671.26	100-year	Ex Plan	1747.00	819.74	823.57	823.57	824.67	0.017862	8.43	208.67	96.99	0.99
183783-Stream CL	5671.26	100-year	Pr Plan	1747.00	819.74	823.57	823.57	824.67	0.017862	8.43	208.67	96.99	0.99
183783-Stream CL	5514.02	100-year	Ex Plan	1747.00	817.90	823.37		823.52	0.001146	3.11	564.31	146.63	0.27
183783-Stream CL	5514.02	100-year	Pr Plan	1747.00	817.90	823.37		823.52	0.001146	3.11	564.31	146.63	0.27
183783-Stream CL	5117.14	100-year	Ex Plan	1747.00	817.90	823.26		823.30	0.000253	1.68	1075.29	266.20	0.13
183783-Stream CL	5117.14	100-year	Pr Plan	1747.00	817.90	823.26		823.30	0.000253	1.68	1075.29	266.20	0.13
183783-Stream CL	4840.72	100-year	Ex Plan	1747.00	817.90	822.19	822.19	823.01	0.012296	7.59	256.02	150.66	0.84
183783-Stream CL	4840.72	100-year	Pr Plan	1747.00	817.90	822.19	822.19	823.01	0.012296	7.59	256.02	150.66	0.84
183783-Stream CL	4503.97	100-year	Ex Plan	1747.00	812.30	818.95		819.14	0.001653	3.70	501.94	158.51	0.33
183783-Stream CL	4503.97	100-year	Pr Plan	1747.00	812.30	818.95		819.14	0.001650	3.70	502.27	158.52	0.33
183783-Stream CL	4225.18	100-year	Ex Plan	1747.00	812.30	818.66		818.77	0.000774	2.81	665.50	189.11	0.23
183783-Stream CL	4225.18	100-year	Pr Plan	1747.00	812.30	818.66		818.77	0.000772	2.81	666.04	189.12	0.23
183783-Stream CL	3938.58	100-year	Ex Plan	1747.00	809.89	818.41		818.56	0.000752	3.57	581.52	135.02	0.24
183783-Stream CL	3938.58	100-year	Pr Plan	1747.00	809.89	818.41		818.56	0.000750	3.56	581.99	135.03	0.24
183783-Stream CL	3831.75	100-year	Ex Plan	1747.00	808.83	818.35		818.48	0.000685	3.23	618.30	147.15	0.22
183783-Stream CL	3831.75	100-year	Pr Plan	1747.00	808.83	818.35		818.48	0.000694	3.25	610.30	147.16	0.22
183783-Stream CL	3672.85	100-year	Ex Plan	1747.00	813.35	818.09		818.30	0.002558	4.41	501.40	219.22	0.41
183783-Stream CL	3672.85	100-year	Pr Plan	1747.00	813.35	818.09		818.30	0.002576	4.43	494.53	197.90	0.41
183783-Stream CL	3374.06	100-year	Ex Plan	2642.00	808.87	818.05		818.12	0.000296	2.49	1250.48	247.72	0.16
183783-Stream CL	3374.06	100-year	Pr Plan	2642.00	808.87	818.05		818.12	0.000296	2.49	1250.48	247.72	0.16
183783-Stream CL	3128.25	100-year	Ex Plan	2642.00	807.15	817.85		818.03	0.000513	3.68	815.89	120.34	0.21
183783-Stream CL	3128.25	100-year	Pr Plan	2642.00	807.15	817.85		818.03	0.000513	3.68	815.89	120.34	0.21
183783-Stream CL	2962.77	100-year	Ex Plan	2642.00	807.20	817.49		817.87	0.001778	5.81	587.83	109.46	0.37
183783-Stream CL	2962.77	100-year	Pr Plan	2642.00	807.20	817.49		817.87	0.001778	5.81	587.83	109.46	0.37
183783-Stream CL	2586.64	100-year	Ex Plan	2642.00	806.43	816.50		817.07	0.002543	6.82	478.04	117.94	0.44
183783-Stream CL	2586.64	100-year	Pr Plan	2642.00	806.43	816.50		817.07	0.002543	6.82	478.04	117.94	0.44
183783-Stream CL	2306.25	100-year	Ex Plan	2642.00	809.15	816.20		816.49	0.001306	4.56	654.45	140.75	0.32
183783-Stream CL	2306.25	100-year	Pr Plan	2642.00	809.15	816.20		816.49	0.001306	4.56	654.45	140.75	0.32
183783-Stream CL	2024.52	100-year	Ex Plan	2642.00	805.59	815.54		816.05	0.001835	6.10	505.78	105.80	0.38
183783-Stream CL	2024.52	100-year	Pr Plan	2642.00	805.59	815.54		816.05	0.001835	6.10	505.78	105.80	0.38
183783-Stream CL	1768.59	100-year	Ex Plan	2642.00	808.11	814.27		815.24	0.005754	8.38	375.69	104.94	0.65
183783-Stream CL	1768.59	100-year	Pr Plan	2642.00	808.11	814.27		815.24	0.005754	8.38	375.69	104.94	0.65
183783-Stream CL	1101.56	100-year	Ex Plan	2642.00	806.48	813.54		813.71	0.001300	3.79	837.61	282.04	0.30
183783-Stream CL	1101.56	100-year	Pr Plan	2642.00	806.48	813.54		813.71	0.001300	3.79	837.61	282.04	0.30
183783-Stream CL	664.04	100-year	Ex Plan	2642.00	803.30	812.32		813.02	0.003284	7.30	438.95	126.69	0.50
183783-Stream CL	664.04	100-year	Pr Plan	2642.00	803.30	812.32		813.02	0.003284	7.30	438.95	126.69	0.50
183783-Stream CL	254.7	100-year	Ex Plan	2642.00	803.42	811.04	810.11	811.66	0.003714	7.39	459.20	145.61	0.51
183783-Stream CL	254.7	100-year	Pr Plan	2642.00	803.42	811.04	810.11	811.66	0.003714	7.39	459.20	145.61	0.51
183783-Stream CL	83.62	100-year	Ex Plan	2642.00	804.41	809.55	809.24	810.67	0.010308	8.82	313.83	102.90	0.81
183783-Stream CL	83.62	100-year	Pr Plan	2642.00	804.41	809.55	809.24	810.67	0.010308	8.82	313.83	102.90	0.81



ATTACHMENT F  
PERMITTING & COORDINATION



## Permitting and Coordination

Permitting Agency	Permit/Coordination Required	Submitted	Received (Anticipated)	Status
USACE <sup>1</sup>	Nationwide Permit (NWP) 14	12/20/2019	3/18/2020	Approved
	NWP 14 Modification	To Be Submitted	To Be Submitted	To Be Submitted
USFWS <sup>2</sup>	Threatened and Endangered Species Coordination	12/20/2019	01/10/2020	Approved
WVSHPO <sup>3</sup>	Section 106 Consultation	Cultural Resources Assessment Included in this Nationwide Permit Submittal (Attachment E)		Approved via NWP Authorization
WVDNR-OLS <sup>4</sup>	Stream Activity Application	12/20/2019	1/31/2020	Approved
WVDNR-OLS	Spawning Waiver	12/20/2019	2/5/2020	Approved
WVDNR-WRS <sup>5</sup>	State Lands Threatened and Endangered Species Coordination	12/20/2019	1/6/2020	Approved
Doddridge County Floodplain Manager	Original Floodplain Permit	02/19/2020	03/23/2020	Approved
	Floodplain Permit Associated with 7 LOD Segments	02/09/2022	(03/07/2022)	Pending
WVDEP <sup>6</sup>	401 WQC Program Notification	12/20/2019	1/6/2020	Approved
WVDEP	Construction Stormwater General Permit	1/8/2020	3/9/2020	Approved

- 1 United States Army Corps of Engineers
- 2 United States Fish and Wildlife Service
- 3 West Virginia Division of Culture and History, State Historic Preservation Office
- 4 West Virginia Division of Natural Resources - Office of Land and Streams
- 5 West Virginia Division of Natural Resources – Wildlife Resource Section
- 6 West Virginia Department of Environmental Protection



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
HUNTINGTON DISTRICT, CORPS OF ENGINEERS  
502 EIGHTH STREET  
HUNTINGTON, WEST VIRGINIA 25701-2070

March 18, 2020

Regulatory Division  
Energy Resource Branch  
LRH-2020-42-OHR-Arnold Creek

**NATIONWIDE PERMIT NO. 14 VERIFICATION**

Mr. Tyler Streb  
Environmental Specialist  
Antero Resources Corporation (Antero)  
1615 Wynkoop Street  
Denver, CO 80202

Dear Mr. Streb:

I refer to the pre-construction notification (PCN) received in this office on December 23, 2019, requesting a Department of the Army (DA) authorization to discharge dredged and/or fill material into waters of the United States (U.S.) associated with the Arnold Creek Road Improvements. The proposed road improvements are located approximately 2.3 miles southwest of West Union, in Doddridge County, West Virginia (39.265231°N, 80.800857°W). Onsite waters flow into Arnold Creek, an indirect tributary of the Ohio River, a traditional navigable water of the U.S. This project has been assigned the following file number: LRH-2020-42-OHR-Arnold Creek. Please reference this file number on all future correspondence related to this proposed project.

The U.S. Army Corps of Engineers' (Corps) authority to regulate waters of the U.S. is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a DA permit be obtained prior to discharging dredged or fill material into waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

Each proposed single and complete project, as described in the submitted information, has been reviewed in accordance with Section 404 and Section 10. Based on your description of the proposed work, and other information available to us, it has been determined that each proposed single and complete project will not involve activities subject to the requirements of Section 10. However, each proposed single and complete project will include the discharge of dredged and/or fill material into waters of the U.S. subject to the requirements of Section 404.

In the submitted PCN, you have requested DA authorization for the temporary discharge of dredged and/or fill material into approximately 153 linear feet (lf) of ten (10) streams, and the permanent discharge of dredged and/or fill material into approximately 235 lf of five (5) streams

at nine single and complete project locations associated with the Arnold Creek Road Improvements. The proposed discharge of dredged and/or fill material into waters of the U.S. is described in the enclosed Table 1. Upon completion of the project, the temporarily affected waters of the U.S. will be restored to their pre-disturbance conditions.

Based on the provided information, it has been determined each proposed single and complete project meets the criteria for Nationwide Permit (NWP) No. 14 (enclosed) under the January 6, 2017 Federal Register, Issuance and Reissuance of NWPs (82 FR 1860) provided you comply with all terms and conditions of the enclosed material, the enclosed special conditions, and the Section 401 Water Quality Certification (401 WQC), issued by the West Virginia Department of Environmental Protection (WVDEP). A copy of this NWP can be found on our website at <http://www.lrh.usace.army.mil/Missions/Regulatory.aspx>.

This verification is valid until the expiration date of the NWPs, unless the NWP authorization is modified, suspended, or revoked. The verification will remain valid if the NWP authorization is reissued without modification or the activity complies with any subsequent modification of the NWP authorization. All of the existing NWPs are scheduled to be modified, reissued, or revoked on March 18, 2022. Prior to this date, it is not necessary to contact this office for re-verification of your project unless the plans for the proposed activity are modified. Furthermore, if you commence or under contract to commence this activity before March 18, 2022, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

Please be aware this NWP verification does not obviate the requirement to obtain other Federal, state or local authorizations required by law. A copy of this NWP and verification letter must be supplied to your project engineer responsible for construction activities. A copy of the verification letter must be kept at the site during construction.

Upon completion of the work associated with this project, the attached certification must be signed and returned to this office. If you have any questions concerning the above, please contact Emma K. Kist of the Energy Resource Branch at 304-399-6900 or by email at [emma.k.kist@usace.army.mil](mailto:emma.k.kist@usace.army.mil).

Sincerely,



Kimberly D. Courts-Brown  
Regulatory Project Manager  
Energy Resource Branch

Enclosure(s)

cc (letter only; via email):

Ms. Tiernan Lennon  
U.S. Fish and Wildlife Service  
West Virginia Field Office  
90 Vance Drive  
Elkins, WV 26241  
[tiernan\\_lennon@fws.gov](mailto:tiernan_lennon@fws.gov)



Table 1. Authorized Discharges of Dredged and/or Fill Materials into Waters of the U.S. in association with the Arnold Creek Road Improvements, LRH-2020-42-OHR-Arnold Creek.

Single and Complete Project	Aquatic Resource ID	Fill Length (lf)	Fill Area (ac)	Duration of Fill	Description of the Regulated Activity
1	Cardno Stream WB 16 – Crossing 1	38	0.0013	Permanent	Culvert Replacement and Inlet/Outlet Protection
	Cardno Stream WB 16 – Crossing 2	14	0.0005	Temporary	Temporary erosion and sediment controls
Total		52	0.0018		
2	Cardno Stream WB 12 – Crossing 1	154	0.0071	Permanent	Culvert Replacement, Outlet Protection, and Stream Relocation
	Cardno Stream WB 21 – Crossing 1	3	0.0001	Permanent	Stream Relocation, grading and riprap
	Cardno Stream WB 21 – Crossing 2	3	0.0001	Temporary	Temporary erosion and sediment controls
Total		160	0.0073		
3	Cardno Stream WB 22 – Crossing 1	7	0.0006	Permanent	Culvert Installation and Inlet Protection
	Cardno Stream WB 22 – Crossing 2	9	0.0008	Temporary	Temporary erosion and sediment controls
	Cardno Stream WB 12 – Crossing 2	12	0.0006	Temporary	Temporary erosion and sediment controls
Total		28	0.0020		
4	KLF Stream 3 – Crossing 1	33	0.0023	Permanent	Culvert Replacement and Inlet/Outlet Protection
	KLF Stream 3 – Crossing 2	17	0.0012	Temporary	Temporary erosion and sediment controls
Total		50	0.0035		
5	Cardno Stream WB 6	29	0.0033	Temporary	Temporary erosion and sediment controls
Total		29	0.0033		
6	KLF Stream 2	5	0.0002	Temporary	Temporary erosion and sediment controls
Total		5	0.0002		
7	KLF Stream 1	4	0.0003	Temporary	Temporary erosion and sediment controls
Total		4	0.0003		

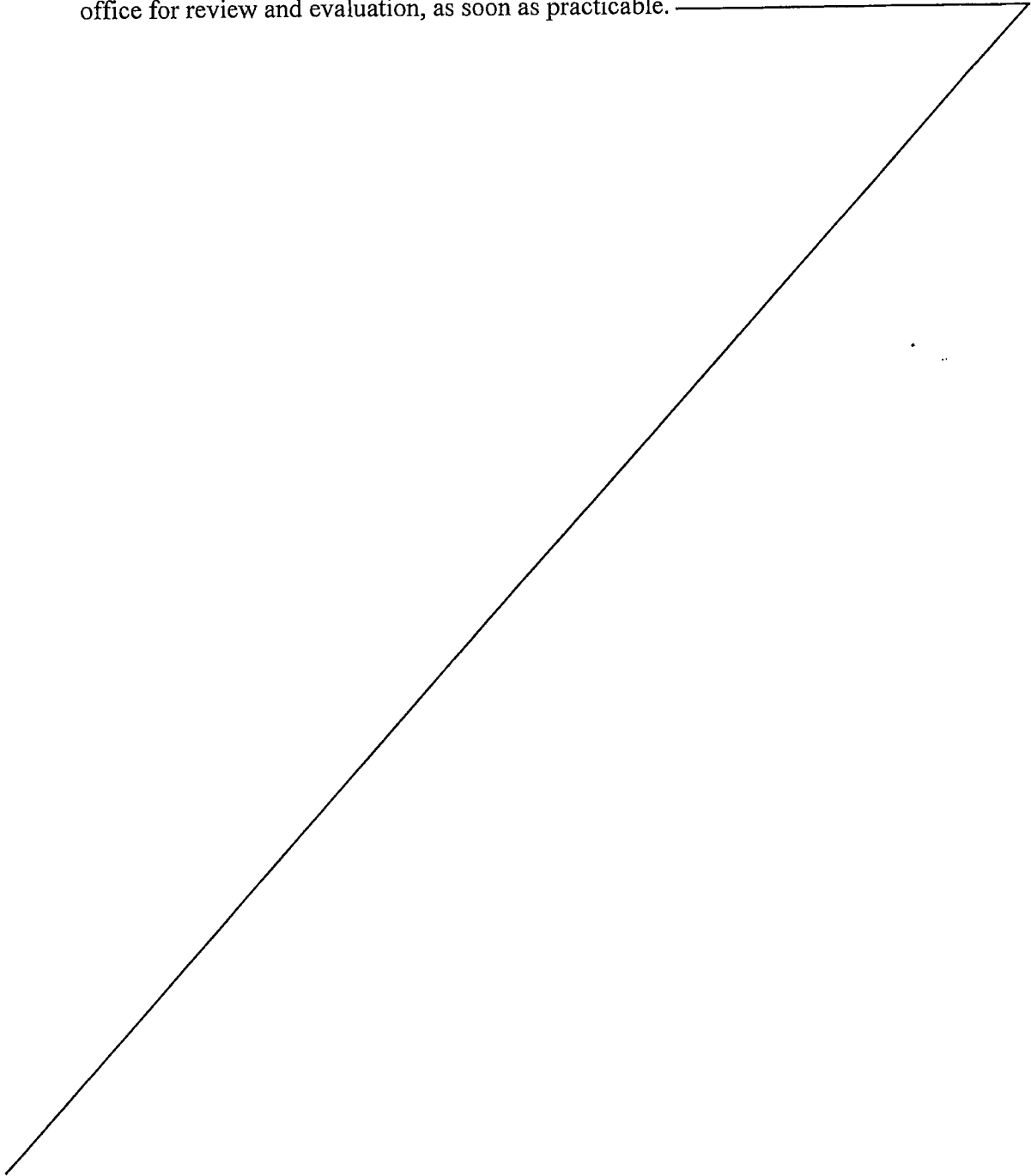
8	Cardno Stream WB 3	30	0.0007	Temporary	Temporary erosion and sediment controls
Total		30	0.0007		
9	Cardno Stream WB 5	30	0.0014	Temporary	Temporary erosion and sediment controls
Total		30	0.0014		

**Nationwide Permit 14 Verification Special Conditions**  
**Arnold Creek Road Improvements**  
**LRH-2020-42-OHR-Arnold Creek**  
**Page 1 of 2**

1. All work shall be conducted in accordance with the pre-construction notification dated December 20, 2019 provided by Kleinfelder, Inc., on behalf of Antero Resources Corporation, received in this office on December 23, 2019.
2. Enclosed is a copy of Nationwide Permit 14, which will be kept at the site during construction. A copy of the nationwide permit verification, special conditions, and the attached construction plans must be kept at the site during construction. The permittee will supply a copy of these documents to their project engineer responsible for construction activities.
3. Construction activities will be performed during low flow conditions to the maximum extent practicable. Appropriate site specific best management practices for sediment and erosion control will be fully implemented during construction activities at the site.
4. Upon completion of the activity authorized by this nationwide permit verification, the enclosed certification must be signed and returned to this office along with as-built drawings showing the location and configuration, as well as all pertinent dimensions and elevations of the activity authorized under this nationwide permit verification.
5. No area for which grading has been completed will be unseeded or unmulched for longer than 14 days. All disturbed areas will be seeded and/or revegetated with native species and approved seed mixes (where practicable) after completion of construction activities for stabilization and to help preclude the establishment of non-native invasive species.
6. In the event any previously unknown historic or archaeological sites or human remains are uncovered while accomplishing the activity authorized by this nationwide permit authorization, the permittee must cease all work in waters of the United States immediately and contact local, state and county law enforcement offices (only contact law enforcement on findings of human remains), the Corps at 304-399-5210 and West Virginia State Historic Preservation Office at 304-558-0220. The Corps will initiate the Federal, state and tribal coordination required to comply with the National Historic Preservation Act and applicable state and local laws and regulations. Federally recognized tribes are afforded a government-to-government status as sovereign nations and consultation is required under Executive Order 13175 and 36 CFR Part 800.
7. Section 7 obligations under Endangered Species Act (Section 7) must be reconsidered if new information reveals impacts of the project that may affect federally listed species or critical habitat in a manner not previously considered, the proposed project is subsequently modified to include activities which were not considered during Section 7 consultation with the United States Fish and Wildlife Service, or new species are listed or critical habitat designated that might be affected by the subject project.

**Nationwide Permit 14 Verification Special Conditions  
Arnold Creek Road Improvements  
LRH-2020-42-OHR-Arnold Creek  
Page 2 of 2**

8. Should new information regarding the scope and/or impacts of the project become available that was not submitted to this office during our review of the proposal, the permittee will submit written information concerning proposed modification(s) to this office for review and evaluation, as soon as practicable.







# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

West Virginia Field Office  
90 Vance Drive  
Elkins, West Virginia 26241

Contact Name: Tyler Streb

Email Address or Fax Number: tstreb@anteroresources.com

FWS File # 2020-I-0367 **All future correspondence should clearly reference this FWS File #.**

Project: Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements Project, Doddridge County, WV

Date of Letter Request: December 20, 2019

This is in response to your letter requesting threatened and endangered species information in regard to the proposed project listed above. These comments are provided pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U. S. C. 1531 *et seq.*).

Two federally listed species could occur in the project area: the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (*Myotis septentrionalis*) (NLEB).

The Indiana bat and NLEB may use the project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. In West Virginia, the U.S. Fish and Wildlife Service (Service) considers all forested habitat containing trees greater than or equal to 5 inches in diameter at breast height to be potentially suitable as summer roosting and foraging habitat for the Indiana bat.

Indiana bats feed on emerged aquatic and terrestrial flying insects. Moths, caddisflies, flies, mosquitoes, and midges are major prey items. Aquatic insects that have concentrated emergences or that form large mating aggregations above or near water appear to be preferred prey items. As a result, streams, wetlands, and associated riparian forests are often preferred foraging habitats for pregnant and lactating Indiana bats. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. Increased erosion and sedimentation of streams reduces diversity and biomass of benthic invertebrates, i.e. insects. Some projects propose impacts to aquatic features such as streams or wetlands, which could result in a decrease in insects available to both bat species for foraging.

Similar to the Indiana bat, NLEB foraging habitat includes forested hillsides and ridges, and small ponds or streams. NLEB are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by Indiana bats. NLEB seem to be flexible in selecting roosts. They choose roost trees based on suitability to retain bark or provide cavities or crevices, and this species is known to use a wider variety of roost types than the Indiana bat. Males and non-reproductive females may also roost in cooler places like caves and mines. Although rare, this bat has also been found roosting in structures like barns and sheds.

Indiana bats and NLEB use caves or mine portals for winter hibernation between November 15 and March 31. These species also use the hibernacula and the areas around them for fall-swarming and spring-staging activity (August 15 to November 14 and April 1 to May 14, respectively). Some males have been known to stay close to the hibernacula during the summer and may use the hibernacula as summer roosts. There may be other landscape features being used as hibernacula by NLEB during the winter that have yet to be documented.

The Service has reviewed the number of acres of potentially suitable foraging and roosting habitat on the West Virginia landscape available to each Indiana bat, versus the total acreage of forest. On that basis, we have determined that small projects, more than 10 miles from a known priority 1 or 2 Indiana bat hibernaculum, more than 5 miles from a known priority 3 or 4 Indiana bat hibernaculum, or more than 2.5 miles from any known maternity roost, or more than 5 miles from summer detection sites where no roosts were identified, that affect less than 17 acres of forested habitat, and will not affect any potential hibernacula, will have a very small chance of resulting in direct or indirect effects to the Indiana bat, and therefore these effects are considered discountable. **Please note that the Service may review and update this assessment at any time as new information becomes available.**

The Service does not anticipate that this project is likely to adversely affect the Indiana bat because your project: 1) will affect less than 17 acres of potential Indiana bat foraging or roosting habitat; 2) is not within any of the Indiana bat hibernacula or summer use buffers described above; 3) will not affect any potential caves or mines that could be used as hibernacula for this species; and 4) effects to aquatic features used for foraging habitat will be insignificant.

The NLEB may occur within the range of the proposed project, and may be affected by the proposed construction and operation of this project. Any take of NLEB occurring in conjunction with these activities that complies with the conservation measures (as outlined in the 4(d) rule), as necessary, is exempted from section 9 prohibitions by the 4(d) rule and does not require site specific incidental take authorization. Note that the 4(d) rule does not exempt take that may occur as a result of adverse effects to hibernacula and that no conservation measures are required as part of the 4(d) rule unless the proposed project: 1) involves tree removal within 0.25 miles of known NLEB hibernacula; or 2) cuts or destroys known, occupied maternity roost trees or any other trees within a 150-foot radius around known, occupied maternity tree during the pup season (June 1 to July 31). This proposed project is not located within any of these radii around known hibernacula or roost trees and will not affect any known NLEB hibernacula, therefore any take of NLEB associated with this project is exempted under the 4(d) rule and no conservation measures are required.

This letter provides technical assistance only and does not serve as a completed section 7 consultation document. If there is a Federal nexus for the project (e.g., Federal funding provided, Federal permits required to construct), no tree clearing or any project construction activities on any portion of the parcel should occur until consultation under section 7 of the ESA, between the Service and the Federal action agency, is completed. Section 7 consultation is not complete until the Federal action agency submits a determination of effects to this office, the Service concurs with the Federal action agency's determination, and the Federal action agency agrees to limit tree clearing to under 17 acres as a mandatory condition for any permit decision rendered for this project. All measures must be implemented as proposed. If there is no Federal nexus associated with this project, then no further coordination with this office is required.

Should project plans change or amendments be proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species become listed or critical habitat is designated, this assessment may be reconsidered.

If you have any questions regarding these comments, please contact the biologist listed below at (304) 636-6586 or at the letterhead address.

*Tieman Lennor*

Date: 1/10/2020

Biologist

*Barbara Douglas*

Acting

Date: 1/10/2020

Field Supervisor



**DIVISION OF NATURAL RESOURCES**  
324 4th Avenue, Room 342  
South Charleston, West Virginia 25303-1228  
Telephone 304-558-2754  
Fax 304-558-2768  
TDD 304-558-1439  
TDD 800-354-6087

**Stephen S. McDaniel**  
Director

January 31, 2020

Division of Natural Resources  
Office of Land and Streams  
**LICENSE and RIGHT of ENTRY**

**Re: LS-20-VI/09-204**

Antero Resources Corporation  
Tyler Streb  
c/o Kleinfelder, Inc.  
Attention: John Lewis  
51 Dutilh Road  
Cranberry Township, PA 16066

Dear Mr. Streb:

The West Virginia Division of Natural Resources (WVDNR) hereby grants to you for a term of ten (10) years, from the date hereof, a License and Right of Entry to install and maintain culverts in the streambeds with inlet/outlet protection and installing additional erosion and sediment control of various lengths (see Exhibit A) at four (4) separate locations (Arnolds Creek Road (CR 11) Punkin Center Road (CR 11/4) Roadway Improvements) along unnamed tributaries of Left Fork Arnold Creek, near West Union in Doddridge County, West Virginia.

The issuance of this License and Right of Entry by the WVDNR does not preclude the necessity to obtain permits from the U.S. Army Corps of Engineers (USACE), W.V. Department of Environmental Protection (WVDEP), or the W.V. Division of Homeland Security and Emergency Management (WVDHSEM). The Right of Entry does not negate the need to comply with the West Virginia Water Pollution Control Act and/or the State Environmental Quality Board's administrative regulations.

The applicant must contact the following agencies and abide by the following conditions:

1. The USACE may require either an Individual Clean Water Act 404 permit or a Nationwide Permit. Contact the Huntington District (304-399-5210) or the Pittsburgh District (412-395-7155) from more information. Information can also be found at <http://www.lrh.usace.army.mil/Missions/Regulatory.aspx>
2. The WVDEP (304-926-0499) may require the following permits:
  - a. A Clean Water Act Section 401 Water Quality Certification  
<http://www.dep.wv.gov/WWE/Programs/Pages/401Certification.aspx>

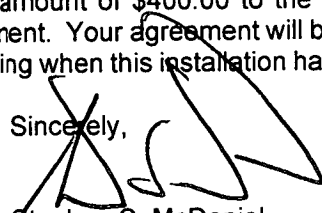


- b. Construction Stormwater Site Registration and Notice of Intent. Not needed if disturbance less than 1-acre  
[http://dep.wv.gov/WWE/Programs/stormwater/Pages/sw\\_home.aspx](http://dep.wv.gov/WWE/Programs/stormwater/Pages/sw_home.aspx)
3. The WVDEP Erosion and Sediment Control Best Management Practice Manual, Revised 2016, must be followed. Copies of those guidelines are available from the Division of Water and Waste Management, (304) 926-0495 or at  
[http://www.dep.wv.gov/WWE/Programs/stormwater/csw/Pages/ESC\\_BMP.aspx](http://www.dep.wv.gov/WWE/Programs/stormwater/csw/Pages/ESC_BMP.aspx)
  4. The WVDHSEM may require a Floodplain Permit. WVDHSEM can be contacted at: (304) 957-2571
  5. No in-stream work during the cold water and warm water fish spawning seasons (September 15-March 31 and April 1- June 30, respectively). If in-stream impacts cannot be avoided during the applicable fish spawning season, contact the WVDNR Environmental Coordination Unit at (304) 637-0245.
  6. Threatened or Endangered aquatic species identified by the U.S. Fish and Wildlife Service are listed in Appendix A of the 2017 USACE Nationwide Permits. The U.S. Fish and Wildlife Service Field Office should be contacted (304) 636-6568 for any activity in waterways listed in Appendix A.  
<http://www.lrp.usace.army.mil/Portals/72/docs/regulatory/2017%20Public%20Notices/West%20Virginia%20-%20NWP%20March%202017%20PN.pdf?ver=2017-03-22-095505-870>
  7. Survey requirements for streams with mussel populations are described in the West Virginia Mussel Survey Protocols. Contact the WVDNR Environmental Coordination Unit for information concerning mussels at (304) 637-0245.  
<http://www.wvdnr.gov/Mussels/West%20Virginia%20Mussel%20Survey%20Protocols%20APR2016.pdf>

Additionally, this Right of Entry does not provide for the applicant to work outside the requested boundaries. The State does not assume any liability for the applicant's/landowner's construction activities. By accepting this Right of Entry, the applicant/landowner assumes liability for any/all damages caused by this activity to both upstream and downstream landowners. This License and Right of Entry does not grant any rights or privileges, or permission to enter upon, or to cross the property of any other person, nor is permission granted to remove any material that lies upon the property of any other persons. Work should be completed in as brief a period as possible and within one year from the date of this letter. **In the event the applicant fails or refuses to comply with any of the terms or conditions herein, this License and Right of Entry will be canceled and considered null and void and the WVDNR may reject further applications.**

Your payment is now due and payable in the amount of \$400.00 to the Division of Natural Resources covering the first year's annual fee of this agreement. Your agreement will be effective upon receipt of your payment in full. You must notify this office in writing when this installation has been transferred or removed.

Sincerely,

  
Stephen S. McDaniel  
Director

SSM:cb

Antero Resources Corporation

LS-20-VI/09-204

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January 31, 2020

cc: Office of Land and Streams  
DNR Fish Biologist  
Jeremy Bandy, Environmental Enforcement  
Natural Resources Police Officer  
Danielle Elliott, WV DNR Coordination Unit

Table 1: Arnolds Creek Road (CR 11) Punkin Center Road (CR 11/14) Roadway Improvements: Crossings of WVDNR-OLS Regulated Jurisdictional Waters in the LOD

Stream ID	Local Waterway	Stream Regime	County	Nearest City/Town	Latitude	Longitude	Temporary or Permanent	Proposed Date of Impact	Duration of the Stream Impacts (Working Days)	Purpose of Impact	Linear Feet of Impact	WHICH EVER APPLIES Line 11 Feet of Bank Work, Culvert Bridge Width and Length Pipeline Size	Description of Crossing	Comments
Streams														
* Cardio_Stream_WB-18 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.258473	-80.792586	Permanent	March 2020	3	Structure	38	Proposed Culvert: High Density Polyethylene (HDPE), Diameter 24", Length 27'	<ul style="list-style-type: none"> <li>Culvert Replacement Impact 27' - High Density Polyethylene (HDPE), Diameter 24", Length 27'</li> <li>Inlet Protection Impact 3' - Rip-Rap Installation</li> <li>Outlet Protection Impact 8' - Rip-Rap Installation</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: Corrugated Metal Pipe (CMP), Diameter 18", Length 19'</li> <li>Culvert Replacement Length will Extend 4' Past Each Side of Existing Culvert</li> </ul>
							Temporary	March 2020	3	Right of Entry	14	14	<ul style="list-style-type: none"> <li>Temporary Erosion and Sediment (EAS) Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor and Based on Current Field Conditions</li> </ul>
* Cardio_Stream_WB-22 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.262997	-80.796589	Permanent	March 2020	3	Structure	7	Proposed Culvert Installation: HDPE, Diameter 24", Length 24'	<ul style="list-style-type: none"> <li>Culvert Installation Impact 4' - HDPE, Diameter 24", Length 24'</li> <li>Inlet Protection Impact 3' - Rip-Rap Installation</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: N/A</li> <li>Culvert Replacement to occur on Cardio_Stream_WB-12, which extends into the Confluence of this Stream (Cardio_Stream_WB-22)</li> </ul>
							Temporary	March 2020	3	Right of Entry	9	9	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor and Based on Current Field Conditions</li> </ul>
* Cardio_Stream_WB-12 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.262957	-80.796625	Permanent	March 2020	3	Structure	154	Proposed Culvert Replacement: HDPE, Diameter 24", Length 24'	<ul style="list-style-type: none"> <li>Culvert Replacement Impact 20' - HDPE, Diameter 24", Length 24'</li> <li>Outlet Protection Impact 8' - Rip-Rap Installation</li> <li>Stream Relocation Impact 126' - Grading &amp; Rip-Rap Stabilization of Stream Channel Captured within Ditch Line</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: CMP Diameter 24", Length 20'</li> <li>Culvert Replacement to occur on Cardio_Stream_WB-22</li> <li>Existing Stream Channel Captured in Ditch Line to be Relocated due to Road Widening</li> </ul>
							Temporary	March 2020	3	Right of Entry	12	12	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor and Based on Current Field Conditions</li> </ul>
Cardio_Stream_WB-21 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.263253	-80.798867	Permanent	March 2020	3	Right of Entry	3		<ul style="list-style-type: none"> <li>Stream Relocation Impact 3' - Grading &amp; Rip-Rap Stabilization of Stream Channel Captured within Ditch Line</li> </ul>	<ul style="list-style-type: none"> <li>Stream Confluence with Cardio_Stream_WB-12 to be Graded and Stabilized</li> </ul>
							Temporary	March 2020	3	Right of Entry	3	3	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> </ul>
* KLF_Stream03 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.270684	-80.804081	Permanent	March 2020	3	Structure	33	Proposed Culvert Replacement: HDPE, Diameter 18", Length 22'	<ul style="list-style-type: none"> <li>Culvert Replacement Impact 22' - HDPE, Diameter 18", Length 22'</li> <li>Inlet Protection Impact 3' - Rip-Rap Installation</li> <li>Outlet Protection Impact 6' - Rip-Rap Installation</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: CMP, Diameter 18", Length 18'</li> <li>Culvert Replacement Length will Extend 3' Past Each Side of Existing Culvert</li> </ul>
							Temporary	March 2020	3	Right of Entry	17	17	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor, Based on Current Field Conditions</li> </ul>
KLF_Stream02 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.271124	-80.806565	Temporary	March 2020	3	Right of Entry	5	5	<ul style="list-style-type: none"> <li>Temporary EAS - Perimeter Controls for Construction Activity</li> <li>Stream Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> </ul>
Cardio_Stream_WB-06 (INT)	UNT to Arnolds Creek	Intermittent	Doddridge	West Union	39.272208	-80.80775	Temporary	March 2020	3	Right of Entry	29	29	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> <li>Stream &amp; Culvert Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> </ul>
KLF_Stream01 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.273028	-80.808709	Temporary	March 2020	3	Right of Entry	4	4	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> <li>Stream Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> </ul>
Cardio_Stream_WB-03 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.274309	-80.811084	Temporary	March 2020	3	Right of Entry	30	30	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> <li>Stream &amp; Culvert Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> </ul>
Cardio_Stream_WB-05 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.275257	-80.811246	Temporary	March 2020	3	Right of Entry	30	30	<ul style="list-style-type: none"> <li>Temporary EAS Perimeter Controls for Construction Activity</li> <li>Stream &amp; Culvert Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and EAS Controls to Protect Aquatic Features</li> </ul>



**DIVISION OF NATURAL RESOURCES**  
324 4th Avenue, Room 342  
South Charleston, West Virginia 25303-1228  
Telephone 304-558-2754  
Fax 304-558-2768  
TDD 304-558-1439  
TDD 800-354-6087

**Stephen S. McDaniel**  
Director

January 31, 2020

Division of Natural Resources  
Office of Land and Streams  
**LICENSE and RIGHT of ENTRY**

Re: R-20-VI/09-205

Antero Resources Corporation  
Tyler Streb  
c/o Kleinfelder, Inc.  
Attention: John Lewis  
51 Dutilh Road  
Cranberry Township, PA 16066

Dear Mr. Streb:

The West Virginia Division of Natural Resources (WVDNR) hereby grants to you for a term of one (1) years, from the date hereof, a License and Right of Entry for the purpose of relocating the stream, stabilizing the stream banks and installing erosion and sediment control for three feet (3') at one (1) location and cleaning out the stream and installing erosion and sediment controls for various lengths (see Exhibit A) at five (5) separate locations (Arnolds Creek Road (CR 11) Punkin Center Road (CR 11/4) Roadway Improvements) along an unnamed tributary of Left Fork Arnold Creek and unnamed tributaries of Arnold Creek near West Union in Doddridge County, West Virginia.

The issuance of this License and Right of Entry by the WVDNR does not preclude the necessity to obtain permits from the U.S. Army Corps of Engineers (USACE), W.V. Department of Environmental Protection (WVDEP), or the W.V. Division of Homeland Security and Emergency Management (WVDHSEM). The Right of Entry does not negate the need to comply with the West Virginia Water Pollution Control Act and/or the State Environmental Quality Board's administrative regulations.

The applicant must contact the following agencies and abide by the following conditions:

1. The USACE may require either an Individual Clean Water Act 404 permit or a Nationwide Permit. Contact the Huntington District (304-399-5210) or the Pittsburgh District (412-395-7155) from more information. Information can also be found at <http://www.lrh.usace.army.mil/Missions/Regulatory.aspx>

2. The WVDEP (304-926-0499) may require the following permits:
  - a. A Clean Water Act Section 401 Water Quality Certification  
<http://www.dep.wv.gov/WWE/Programs/Pages/401Certification.aspx>
  - b. Construction Stormwater Site Registration and Notice of Intent. Not needed if disturbance less than 1-acre  
[http://dep.wv.gov/WWE/Programs/stormwater/Pages/sw\\_home.aspx](http://dep.wv.gov/WWE/Programs/stormwater/Pages/sw_home.aspx)
3. The WVDEP Erosion and Sediment Control Best Management Practice Manual, Revised 2016, must be followed. Copies of those guidelines are available from the Division of Water and Waste Management, (304) 926-0495 or at  
[http://www.dep.wv.gov/WWE/Programs/stormwater/csw/Pages/ESC\\_BMP.aspx](http://www.dep.wv.gov/WWE/Programs/stormwater/csw/Pages/ESC_BMP.aspx)
4. The WVDHSEM may require a Floodplain Permit. WVDHSEM can be contacted at: (304) 957-2571
5. No in-stream work during the cold water and warm water fish spawning seasons (September 15-March 31 and April 1- June 30, respectively). If in-stream impacts cannot be avoided during the applicable fish spawning season, contact the WVDNR Environmental Coordination Unit at (304) 637-0245.
6. Threatened or Endangered aquatic species identified by the U.S. Fish and Wildlife Service are listed in Appendix A of the 2017 USACE Nationwide Permits. The U.S. Fish and Wildlife Service Field Office should be contacted (304) 636-6568 for any activity in waterways listed in Appendix A.  
<http://www.lrp.usace.army.mil/Portals/72/docs/regulatory/2017%20Public%20Notices/West%20Virginia%20-%20NWP%20March%202017%20PN.pdf?ver=2017-03-22-095505-870>
7. Survey requirements for streams with mussel populations are described in the West Virginia Mussel Survey Protocols. Contact the WVDNR Environmental Coordination Unit for information concerning mussels at (304) 637-0245.  
<http://www.wvdnr.gov/Mussels/West%20Virginia%20Mussel%20Survey%20Protocols%20APR2016.pdf>

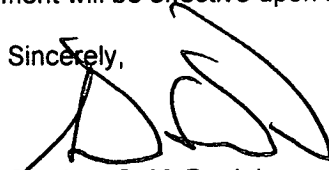
Additionally, this Right of Entry does not provide for the applicant to work outside the requested boundaries. The State does not assume any liability for the applicant's/landowner's construction activities. By accepting this Right of Entry, the applicant/landowner assumes liability for any/all damages caused by this activity to both upstream and downstream landowners. This License and Right of Entry does not grant any rights or privileges, or permission to enter upon, or to cross the property of any other person, nor is permission granted to remove any material that lies upon the property of any other persons. Work should be completed in as brief a period as possible and within one year from the date of this letter. **In the event the applicant fails or refuses to comply with any of the terms or conditions herein, this License and Right of Entry will be canceled and considered null and void and the WVDNR may reject further applications.**



Antero Resources Corporation  
R-20-VI/09-205  
Page 3  
January 31, 2020

Your check in the amount of \$600.00 is now due and payable to the Division of Natural Resources covering the one-time fee for this agreement. Your agreement will be effective upon receipt of your payment in full.

Sincerely,



Stephen S. McDaniel  
Director

SSM:cb

cc: Office of Land and Streams  
DNR Fish Biologist  
Jeremy Bandy, Environmental Enforcement  
Natural Resources Police Officer  
Danielle Elliot, WV DNR Coordination Unit

Table 1: Arnolds Creek Road (CR 11) Punkin Center Road (CR 11/14) Roadway Improvements: Crossings of WBDNR-OLS Regulated Jurisdictional Waters in the LOD

Stream ID	Location	Stream Reach	County	Section	Project ID	Project Name	Structure	Structure Length	Structure Width	Structure Height	Structure Material	Structure Type	Structure Status	Structure Start Date	Structure End Date	Structure Notes	Structure Comments
Cardno_Stream_WB-16 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.258473	-80.792560	Permanent	March 2020	3	Structure	30	Proposed Culvert: High Density Polyethylene (HDPE), Diameter 24", Length 27"	<ul style="list-style-type: none"> <li>Culvert Replacement Impact 27" - High Density Polyethylene (HDPE), Diameter 24", Length 27"</li> <li>Inlet Protection Impact 3" - Rip-Rap Installation</li> <li>Outlet Protection Impact 8" - Rip-Rap Installation</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: Corrugated Metal Pipe (CMP), Diameter 18", Length 10"</li> <li>Culvert Replacement Length will Extend 4' Past Each Side of Existing Culvert</li> </ul>			
							Temporary	March 2020	3	Right of Entry	14	14	<ul style="list-style-type: none"> <li>Temporary Erosion and Sediment (E&amp;S) Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor and Based on Current Field Conditions</li> </ul>			
Cardno_Stream_WB-22 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.262997	-80.796560	Permanent	March 2020	3	Structure	7	Proposed Culvert Installation: HDPE, Diameter 24", Length 24"	<ul style="list-style-type: none"> <li>Culvert Installation Impact 4" - HDPE, Diameter 24", Length 24"</li> <li>Inlet Protection Impact 3" - Rip-Rap Installation</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: N/A</li> <li>Culvert Replacement to Occur on Cardno_Stream_WB-12, which extends into the Confluence of this Stream (Cardno_Stream_WB-22)</li> </ul>			
							Temporary	March 2020	3	Right of Entry	9	9	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor and Based on Current Field Conditions</li> </ul>			
Cardno_Stream_WB-12 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.262967	-80.796625	Permanent	March 2020	3	Structure	154	Proposed Culvert Replacement: HDPE, Diameter 24", Length 24"	<ul style="list-style-type: none"> <li>Culvert Replacement Impact 20" - HDPE, Diameter 24", Length 24"</li> <li>Outlet Protection Impact 8" - Rip-Rap Installation</li> <li>Stream Relocation Impact 120" - Grading &amp; Rip-Rap Stabilization of Stream Channel Captured within Ditch Line</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: CMP Diameter 24", Length 20"</li> <li>Culvert Replacement to extend into the Confluence of Cardno_Stream_WB-22</li> <li>Existing Stream Channel Captured in Ditch Line to be Relocated due to Road Widening</li> </ul>			
							Temporary	March 2020	3	Right of Entry	12	12	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor and Based on Current Field Conditions</li> </ul>			
Cardno_Stream_WB-21 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.263253	-80.796667	Permanent	March 2020	3	Right of Entry	3	3	<ul style="list-style-type: none"> <li>Stream Relocation Impact 3" - Grading &amp; Rip-Rap Stabilization of Stream Channel Captured within Ditch Line</li> </ul>	<ul style="list-style-type: none"> <li>Stream Confluence with Cardno_Stream_WB-12 to be Graded and Stabilized</li> </ul>			
							Temporary	March 2020	3	Right of Entry	3	3	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> </ul>			
KLF_Stream03 (EPH)	UNT to Left Fork Arnolds Creek	Ephemeral	Doddridge	West Union	39.270664	-80.804061	Permanent	March 2020	3	Structure	33	Proposed Culvert Replacement: HDPE, Diameter 18", Length 22"	<ul style="list-style-type: none"> <li>Culvert Replacement Impact 22" - HDPE, Diameter 18", Length 22"</li> <li>Inlet Protection Impact 3" - Rip-Rap Installation</li> <li>Outlet Protection Impact 8" - Rip-Rap Installation</li> </ul>	<ul style="list-style-type: none"> <li>Existing Culvert: CMP, Diameter 18", Length 10"</li> <li>Culvert Replacement Length will Extend 3' Past Each Side of Existing Culvert</li> </ul>			
							Temporary	March 2020	3	Right of Entry	17	17	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> <li>The Culvert Replacement may Utilize Temporary Ditch Checks, Filter Fabric, and/or Sand Bags, at the Discretion of the Contractor, Based on Current Field Conditions</li> </ul>			
KLF_Stream02 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.271124	-80.806565	Temporary	March 2020	3	Right of Entry	5	5	<ul style="list-style-type: none"> <li>Temporary E&amp;S - Perimeter Controls for Construction Activity</li> <li>Stream Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> </ul>			
Cardno_Stream_WB-06 (INT)	UNT to Arnolds Creek	Intermittent	Doddridge	West Union	39.272206	-80.80775	Temporary	March 2020	3	Right of Entry	29	29	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> <li>Stream &amp; Culvert Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> </ul>			
KLF_Stream01 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.273026	-80.808766	Temporary	March 2020	3	Right of Entry	4	4	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> <li>Stream Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> </ul>			
Cardno_Stream_WB-03 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.274309	-80.811094	Temporary	March 2020	3	Right of Entry	30	30	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> <li>Stream &amp; Culvert Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> </ul>			
Cardno_Stream_WB-05 (EPH)	UNT to Arnolds Creek	Ephemeral	Doddridge	West Union	39.275267	-80.811246	Temporary	March 2020	3	Right of Entry	30	30	<ul style="list-style-type: none"> <li>Temporary E&amp;S Perimeter Controls for Construction Activity</li> <li>Stream &amp; Culvert Cleaning - Remove Debris and Accumulated Sediment</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Workspace and E&amp;S Controls to Protect Aquatic Features</li> </ul>			

**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:

**Lisa Maxwell Meyer**  
**282 Van Bunt Street, Apt. 2**  
**Brooklyn, NY 11231**



9590 9402 4868 9032 9570 18

2. Article Number (Transfer from service label)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  Addressee

B. Received by (Printed Name) Jan M... [Signature] C. Date of Delivery

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

3. Service Type
- Adult Signature
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PS Form 3811, July 2015 PSN 7530-02-000-9053

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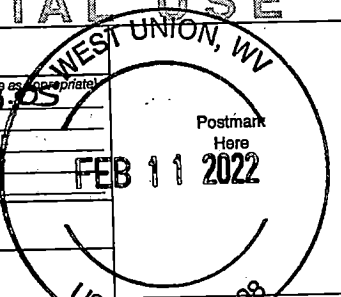
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Sent To Lorenk. & Larry Smith  
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 City, State, ZIP+4® West Union, WV 26456-22-611

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



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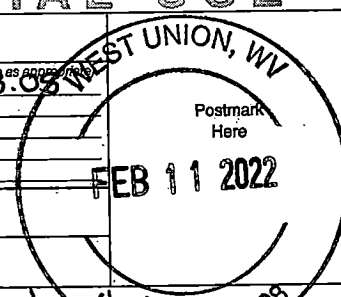
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Sent To Shirley Cutright  
 Street and Apt. No., or PO Box No. 50 Hummingbird Dr.  
 City, State, ZIP+4® West Union, WV 26456-22-611

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



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## John Lewis

---

**From:** Elliott, Danielle A <Danielle.A.Elliott@wv.gov>  
**Sent:** Wednesday, February 5, 2020 3:41 PM  
**To:** John Lewis  
**Cc:** Matthew Albright; Tyler Streb; Taylor, Nate D; Wakeford, Anne M; Bennett, Danny A; Scott, Mark T  
**Subject:** RE: [External] Antero Resources Corporation: Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements - 2020 Fish Spawning Season Waiver Request  
**Attachments:** 20191220\_Arnolds Creek Rd (CR11) Punkin Center Rd (CR11-4) Roadway Imp\_F....pdf

### External Email.

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Hello John,  
WVDNR has approved your fish spawning waiver for the subject project. This email will serve as your approval, as I did not receive a fillable Excel version.

Also, for future waiver requests, please contact Anne Wakeford, who is CC'ed here. Please let me know if you have any questions or concerns.

Thank you,

### Danielle A. Elliott

West Virginia Division of Natural Resources  
Wildlife Resources Section  
Coordination Unit  
Office: 304-637-0245  
Mobile: 304-550-5057

---

**From:** John Lewis [mailto:JALewis@kleinfelder.com]  
**Sent:** Friday, December 20, 2019 5:26 PM  
**To:** Elliott, Danielle A  
**Cc:** Matthew Albright; Tyler Streb  
**Subject:** [External] Antero Resources Corporation: Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements - 2020 Fish Spawning Season Waiver Request

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

Hi Danielle,

On behalf of Antero Resources Corporation (Antero), Kleinfelder, Inc. is submitting the attached Fish Spawning Waiver Request for the 2020 spawning season for an intermittent stream crossing associated with the Arnolds Creek Road (CR11) Punkin Center Road (CR11/4) Roadway Improvements for your review. Please address your response to Tyler Streb of Antero. He is cc'd on the email and his contact information is located below.

Tyler Streb  
Environmental Specialist  
Antero Resources Corporation  
1615 Wynkoop Street

Denver, CO 80202  
(303) 357-7377  
[tstreb@anteroresources.com](mailto:tstreb@anteroresources.com)

Thanks!

**John A. Lewis**  
Project Professional

51 Dutilh Rd., Suite 240  
Cranberry Township, PA 16066  
d| 724.200.7512  
o| 724.772.7072  
m| 412.848.7376



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**DIVISION OF NATURAL RESOURCES**

**Wildlife Resources Section  
Elkins Operations Center  
738 Ward Rd., PO Box 67  
Elkins, WV 26241  
Telephone 304-637-0245  
Fax 304-637-0250**

**Stephen S. McDaniel  
Director**

**January 6, 2020**

Mr. Tyler Streb  
Antero Resources Corporation  
1615 Wynkoop Street  
Denver, CO 80202

Dear Mr. Streb:

We have reviewed Natural Heritage Program files for information on rare, threatened and endangered (RTE) species and sensitive habitats for the area of the proposed Arnolds Creek Road (CR 11) – Punkin Center Road (CR 11/4) Roadway Improvements project in Doddridge County, WV.

We have no known records of any RTE species or sensitive habitats within the project area. The Wildlife Resources Section knows of no surveys that have been conducted in the area for rare species or rare species habitat. Consequently, this response is based on information currently available and should not be considered a comprehensive survey of the area under review. This response is valid for two years.

The information provided above is the product of a database search and retrieval. This information does not satisfy other consultation or permitting requirements for disturbances to the natural resources of the state, and further consultation may be required. Additionally, any concurrence requirements for federally listed species must come from the US Fish and Wildlife Service.

Thank you for your inquiry, and should you have any questions please feel free to contact me at the above number, or [barbara.d.sargent@wv.gov](mailto:barbara.d.sargent@wv.gov). Enclosed please find an invoice.

Sincerely,

Barbara Sargent  
Environmental Resources Specialist  
Environmental Coordination  
Operations Unit

cc: John Lewis - Kleinfelder

enclosure

S:\Monthly\BSargent\Invoices\Antero.doc

**John Lewis**

---

**From:** Dickson, Nancy J <Nancy.J.Dickson@wv.gov>  
**Sent:** Monday, January 6, 2020 3:44 PM  
**To:** Matthew Albright  
**Cc:** Tyler Thigpen  
**Subject:** Arnolds Creek and Punkin Center Roads PCN

**External Email.**

---

Mr. Albright,

The West Virginia Department of Environmental Protection-Division of Water and Waste Management has received the pre-construction notification for the following project:

**Company:** Antero Resources Corporation  
**Project:** Arnolds Creek Road (CR 11) Punkin Center Road (CR 11/4) Roadway Improvements  
**County:** Doddridge

This fulfills the requirement of Standard Condition 1 for prior written notification for these nationwide permits. All other applicable standard conditions for nationwide permits remain in force until the project is complete.

Feel free to contact me should you have any additional questions or concerns.

Thank you,

**Nancy J. Dickson**  
Environmental Resources Specialist 3  
West Virginia Department of Environmental Protection  
Division of Water and Waste Management  
401 Certification Program

601 57th Street, SE  
Charleston, WV 25304  
Telephone: (304) 926-0499 ext.1715  
Email: [Nancy.J.Dickson@wv.gov](mailto:Nancy.J.Dickson@wv.gov)



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west virginia department of environmental protection

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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

March 9, 2020

ANTERO MIDSTREAM LLC  
SETH YOHO  
535 WHITE OAKS BLVD  
BRIDGEPORT, WV 26330

Re: General Permit Registration No.  
WVR311474, Doddridge County  
Arnolds Creek Rd & Punkin Center Rd  
Improvements  
Acres (8.09)

Dear Permittee:

You are now authorized to operate under General Permit No. WV0116815 to discharge stormwater associated with Oil and Gas related 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 G.4 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 SWPPP and install appropriate sediment and/or control devices in accordance with Section G.4.c. of this permit and the application instructions

Promoting a healthy environment.

4. Permit coverage expires on April 30th, 2021. If you wish to continue an activity authorized by this permit after the expiration date of the permit, provisions for coverage will be made during the public notice process for any new General Permit to be issued at that time.

5. Final stabilization means disturbed areas shall be covered by the appropriate permanent protection. Final stabilization includes: pavement; 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. Please be advised that a pro-rated annual permit fee may be assessed upon the completion date and proper stabilization.

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.

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.

Your efforts toward preventing the degradation of our natural resources are greatly appreciated. If you have any questions, please contact **Joseph Cochran** at (304) 926-0499 Ext. **43793** or by email at [joseph.w.cochran@wv.gov](mailto:joseph.w.cochran@wv.gov).

Katheryn Emery  
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

STATE of WEST VIRGINIA;  
COUNTY OF DODDRIDGE, TO WIT:

I, Tamela B. Beamer, Editor of THE HERALD RECORD, a certified weekly newspaper published regularly in Doddridge County, West Virginia, DO Hereby Certify Upon Oath that the accompanying Legal Notice entitled:

Doddridge County Floodplain Permits  
(Week of FEBRUARY 14, 2022)

Please take notice that on the (9TH) of (FEBRUARY), 2022, (ANTERO RESOURCES) filed an application for a Floodplain Permit (#22-611) to develop land located at or about (ARNOLDS CREEK/PUNKIN CENTER RD); Coordinates: 39.270421,-80.805330. 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 (MARCH 7, 2022) (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 A RENEWAL OF PERMIT 21-565 ROAD IMPROVEMENT  
George C. Eidel, CFM  
Doddridge County Floodplain Manager

2/16x2XB

Floodplain Permit Application

22 -# 611

was published in said paper for 2 successive weeks beginning with the issue of 2/16, 2022 and ending with the issue of 2/23, 2022 that contains 184 word space at .115 cents per word and amounts to the sum of \$ 21.26 FOR THE FIRST PUBLICATION.

SECOND PUBLICATION IS 75% OF THE FIRST PUBLICATION and each other publication thereafter \$ 15.87 for the TOTAL OF: \$ 37.05.

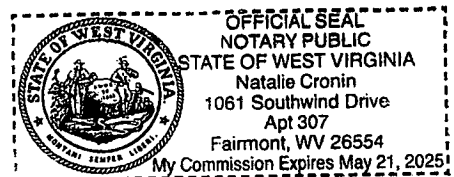
Editor,

Tamela B. Beamer

SWORN TO AND SUBSCRIBED BEFORE ME THIS  
THE 23<sup>rd</sup> day of February,  
2022

NOTARY PUBLIC

Natalie Cronin





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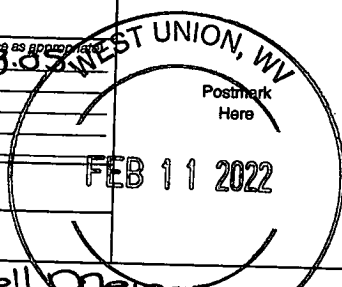
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Total Postage and Fees \$ 7.33

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488 Van Brunt St. Apt 2 26456-9998  
 City, State, ZIP+4® Brooklyn, NY 11231 22-611

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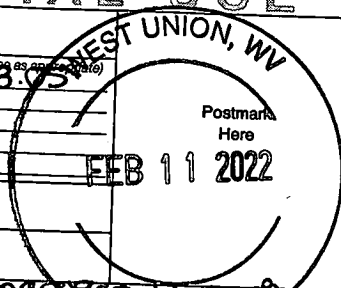
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Equitrans Mainstream 26456-9998  
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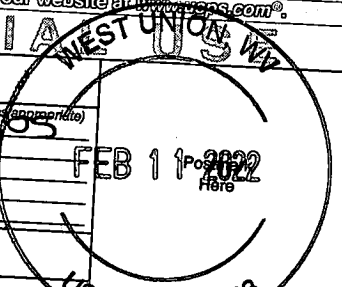
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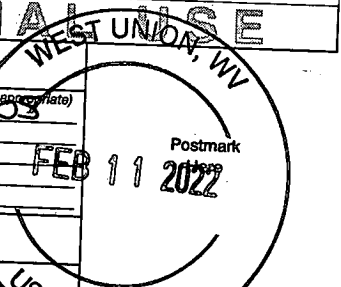
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Postage \$ .53

Total Postage and Fees \$ 7.33

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 Street and Apt. No., or PO Box No. P.O. Box 213  
Smithburg, WV 26436 22-611

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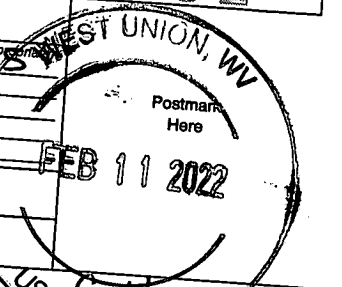
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