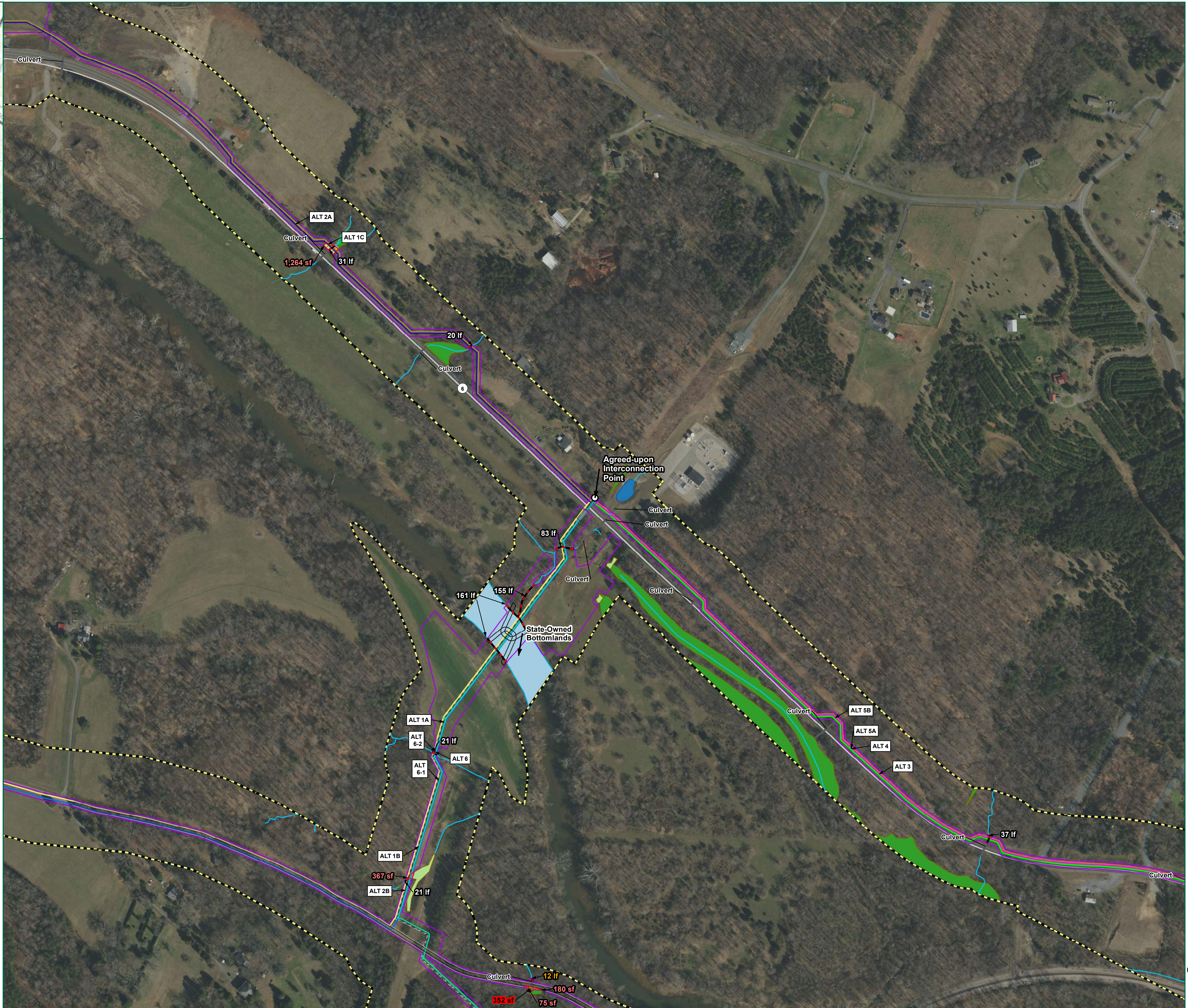


**Legend**

- Study Area
- Limits of Disturbance
- Temporary Stream Impact
- Permanent Stream Impact
- Temporary Wetland Impact
- Permanent Conversion Wetland Impact
- Permanent Wetland Impact
- Temporary Stream Impact
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PROJECT NAME & LOCATION  
**JAMES RIVER WATER AUTHORITY**  
 FLUVANNA COUNTY,  
 VIRGINIA

DATE	03/12/2020
PROJECT NUMBER	33927
PROJECT NAME	JRWA
DESIGNED BY / DRAWN BY	C. CHAPPELL

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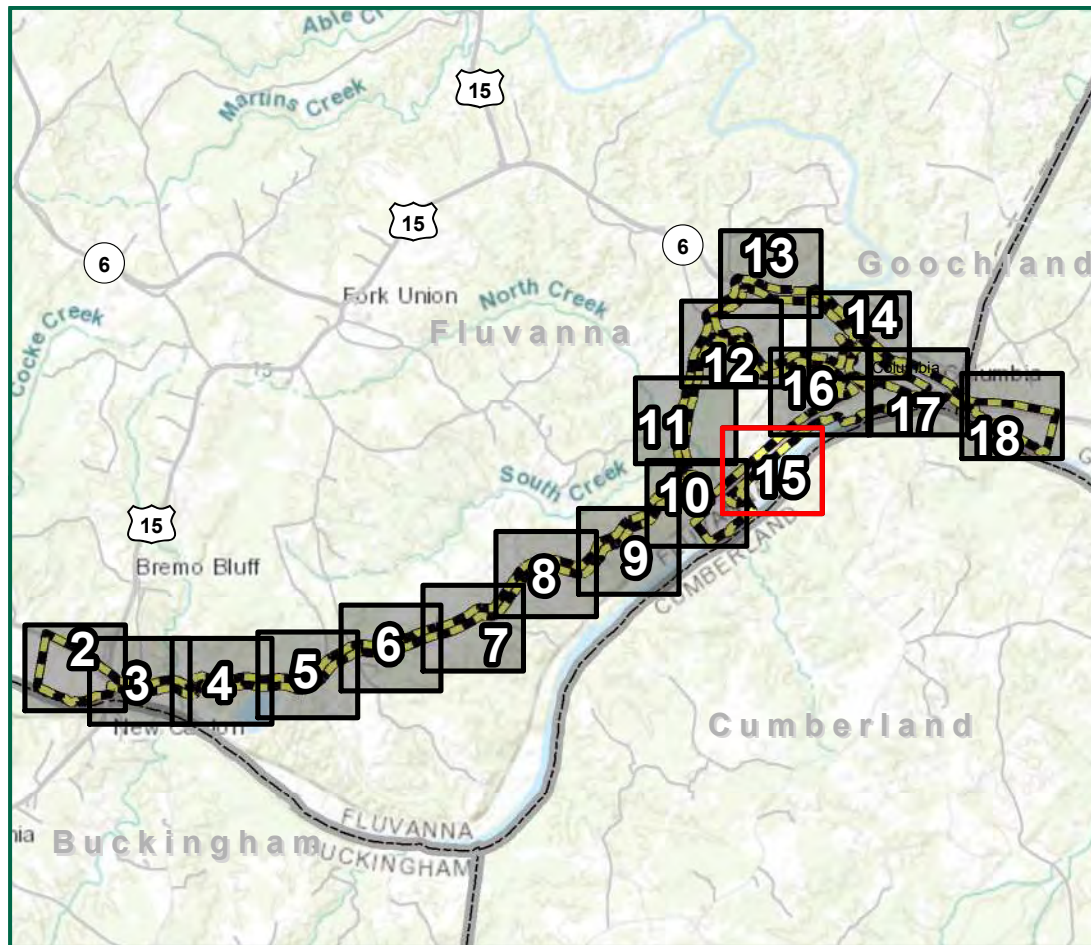
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REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**

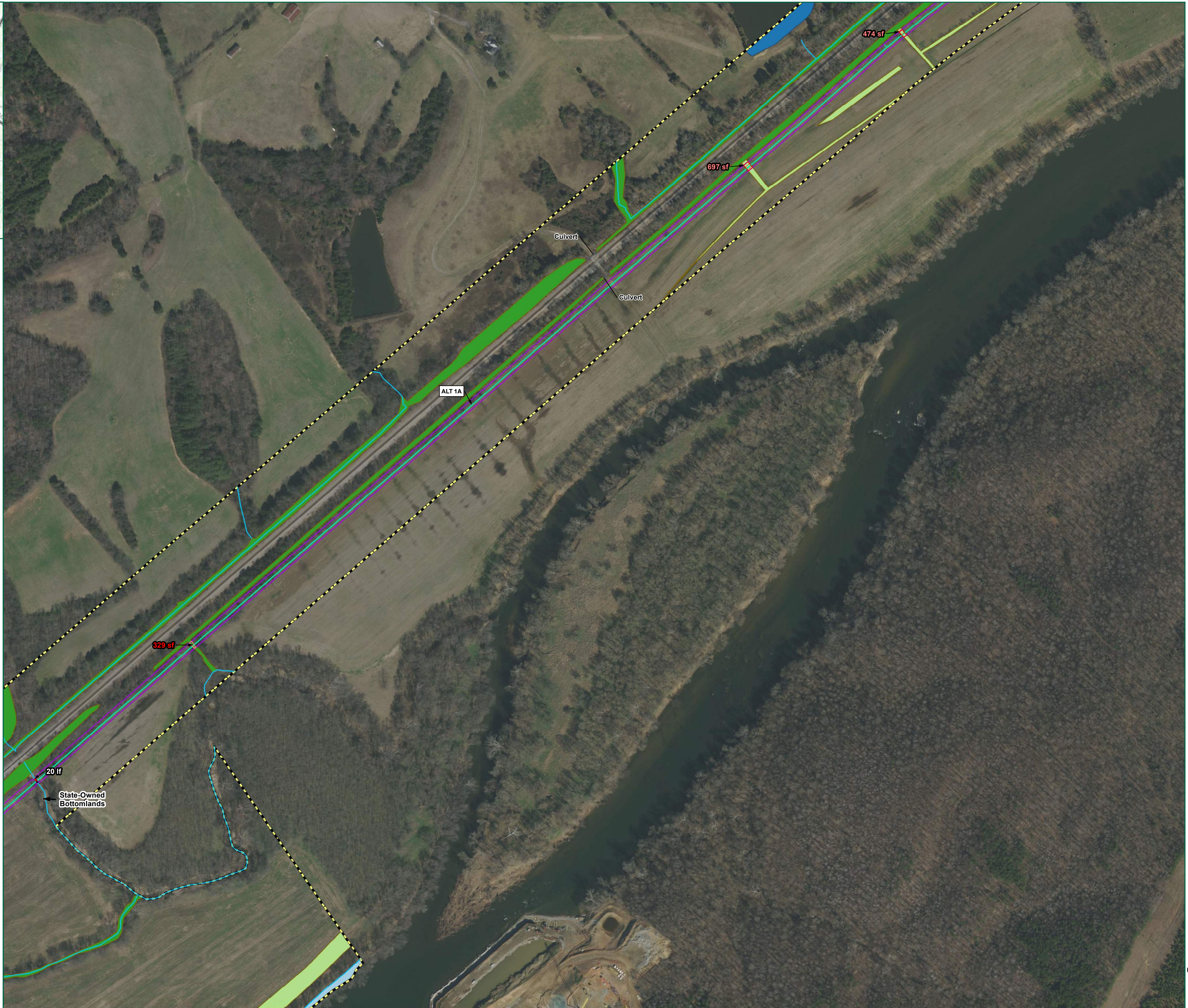
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PLANS PRINTED AS 11X17 ARE HALF SCALE  
SCALE SHEET NUMBER  
 H:1" = 200' 14 of 18





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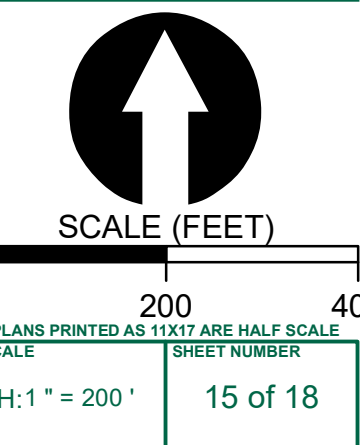
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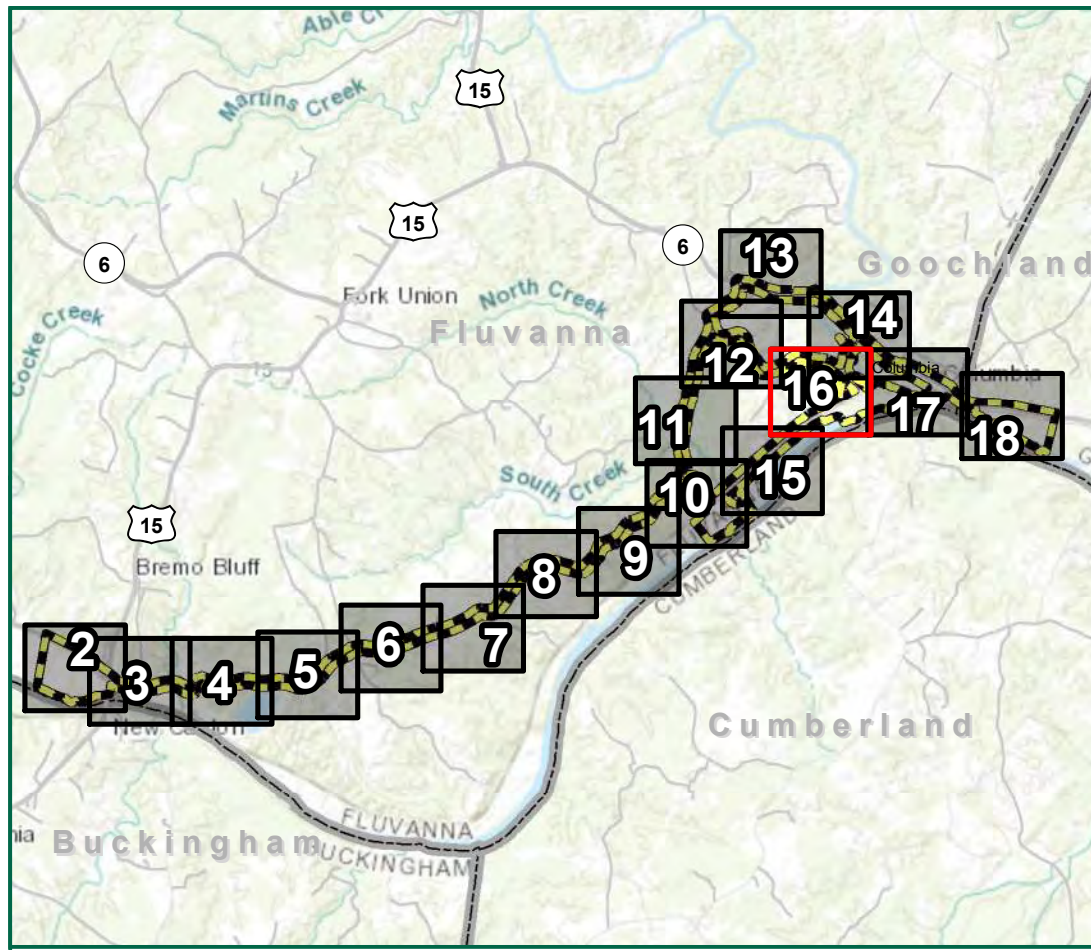
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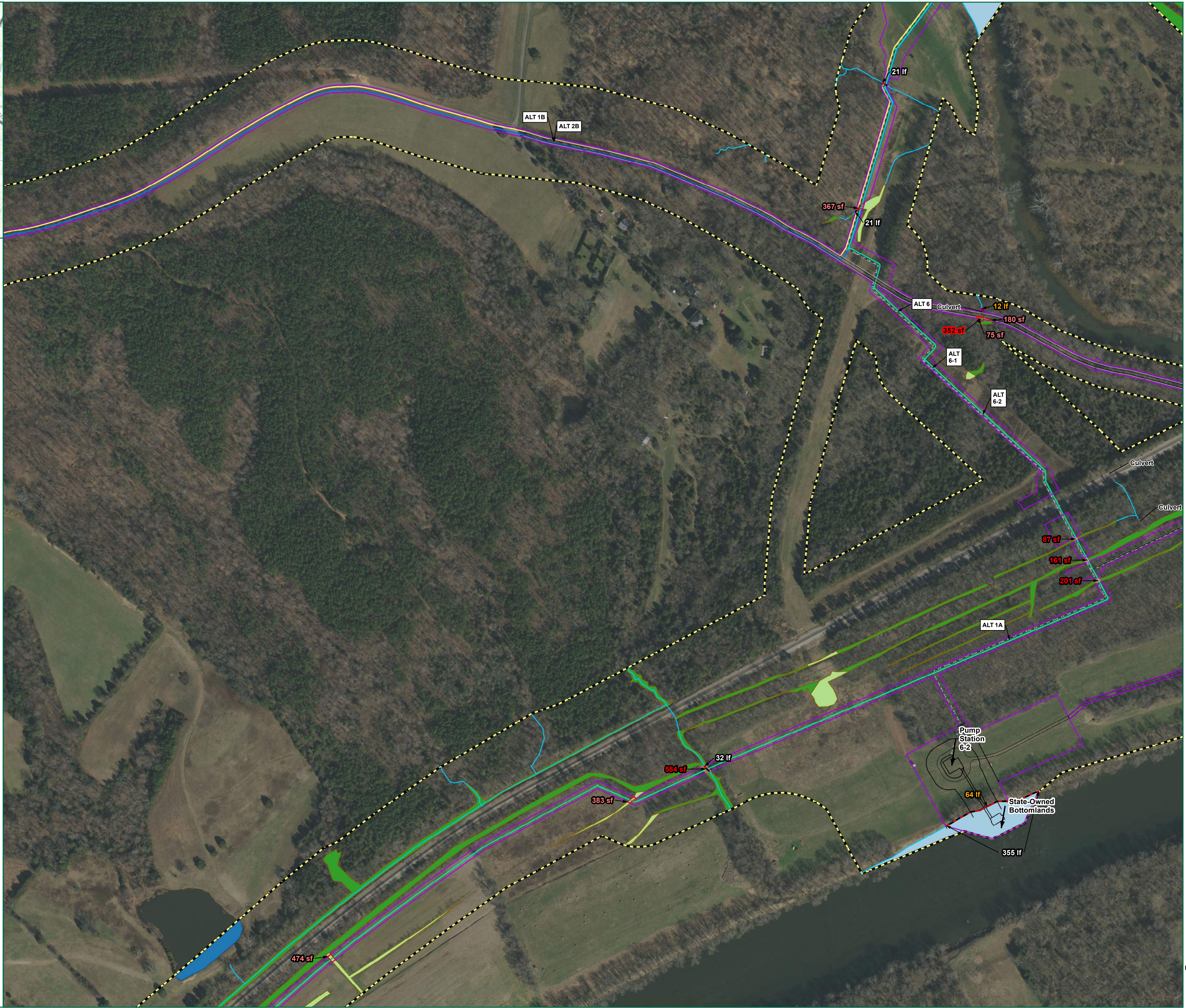
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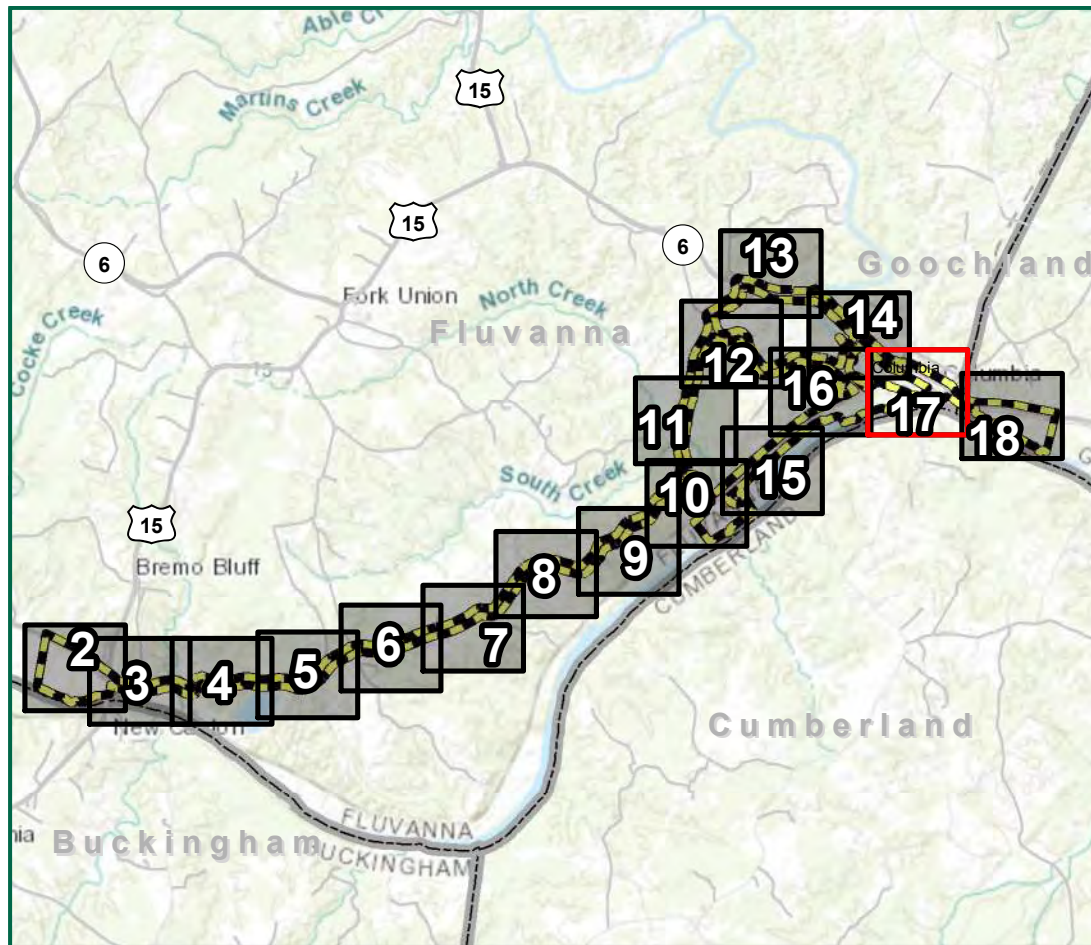
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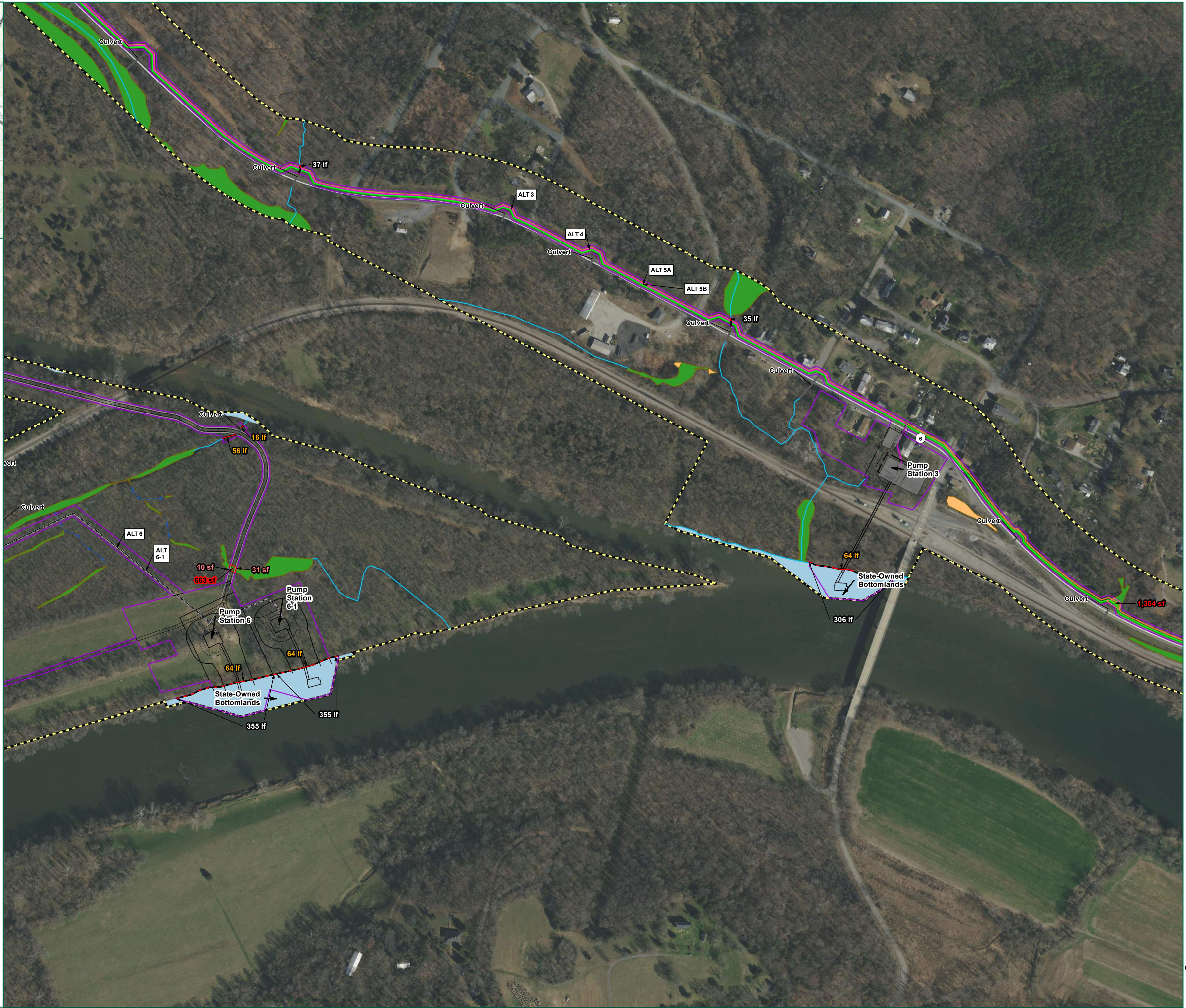
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 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 200' 16 of 18





- Legend**
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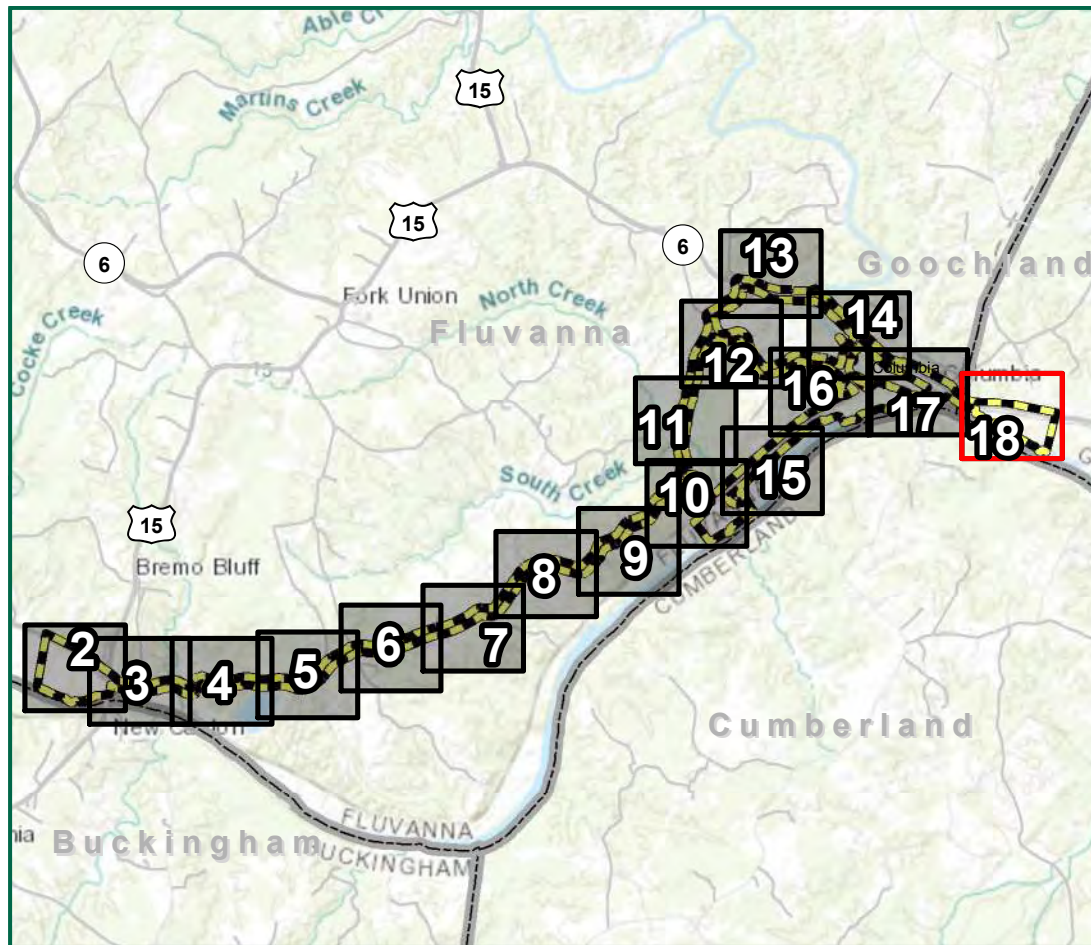
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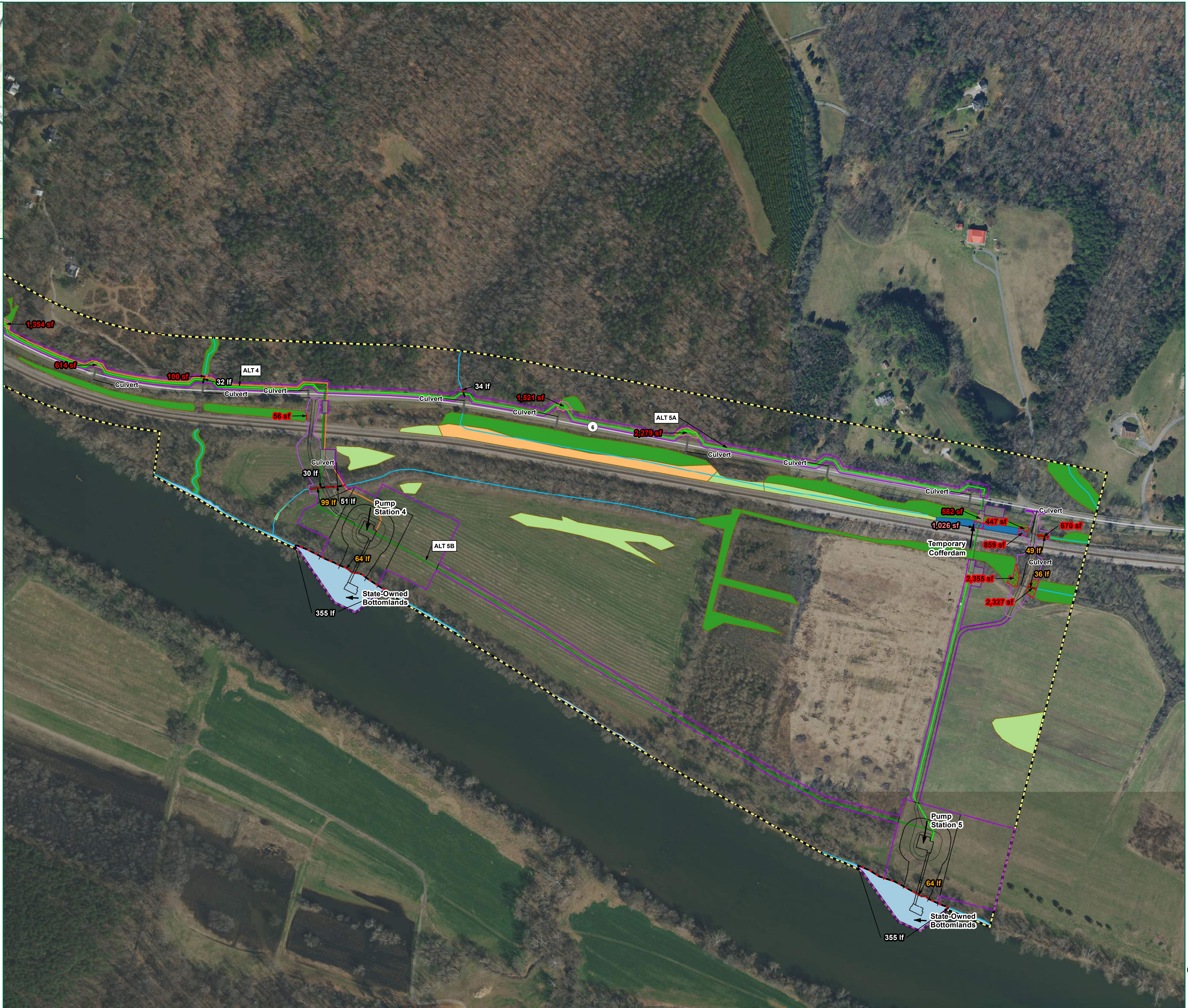
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**Legend**

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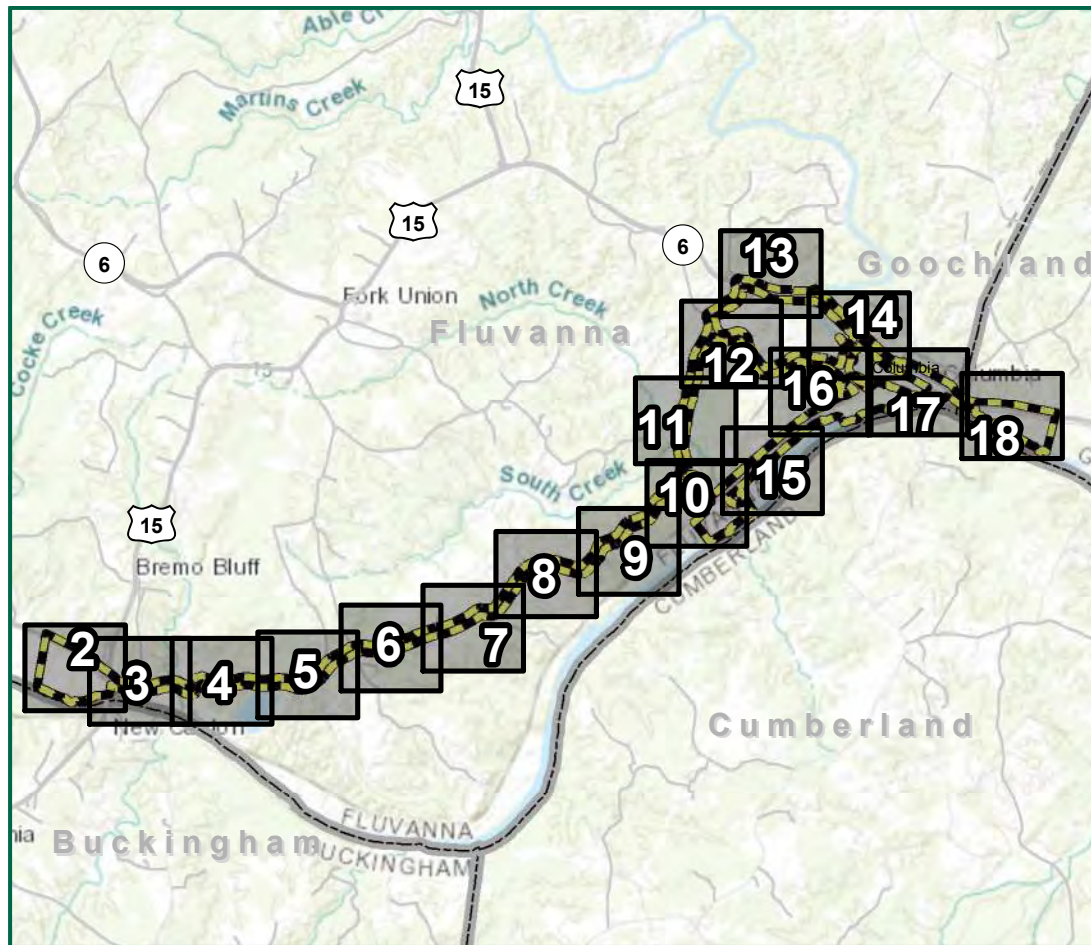
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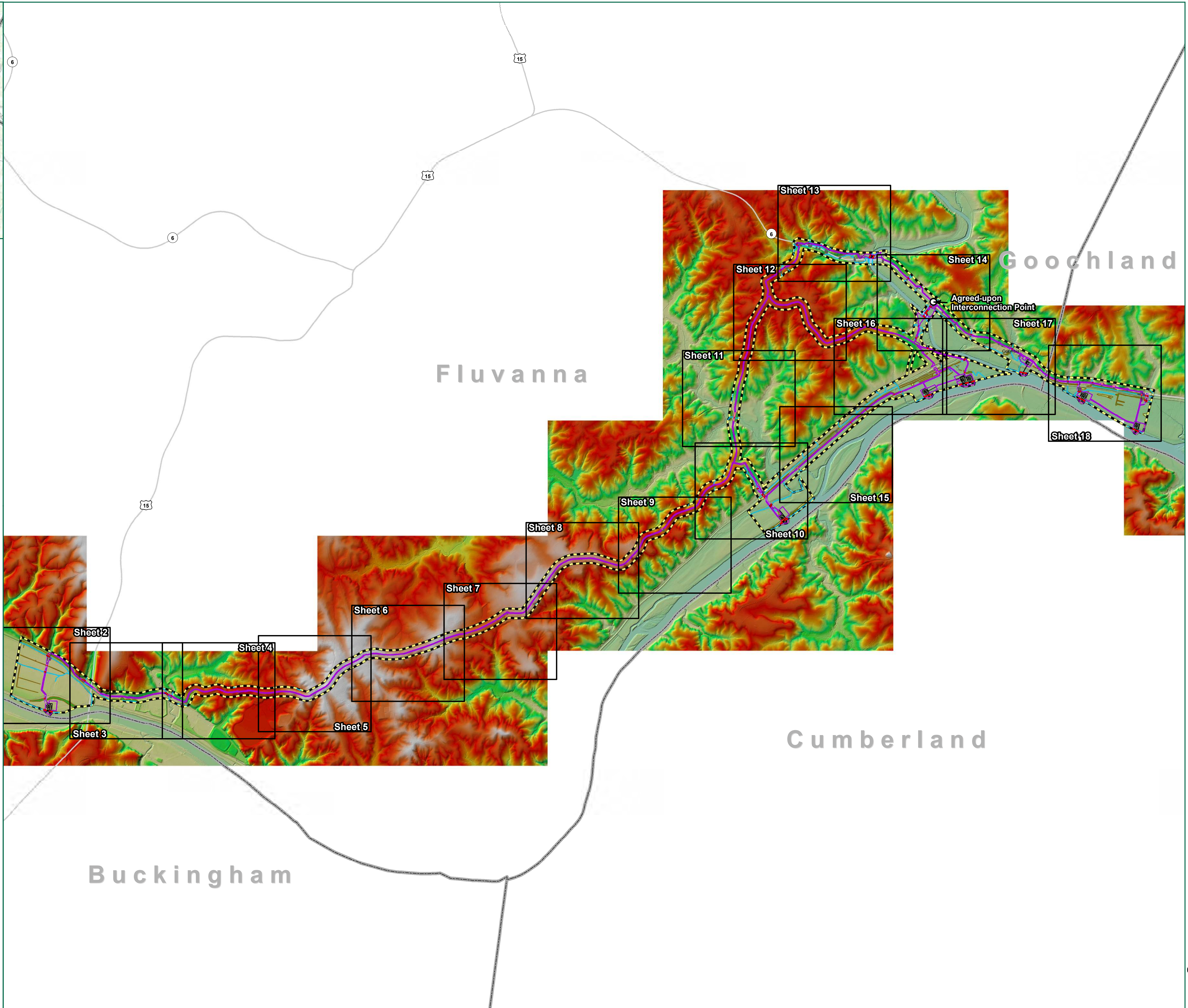
SCALE SHEET NUMBER

H:1" = 200' 18 of 18





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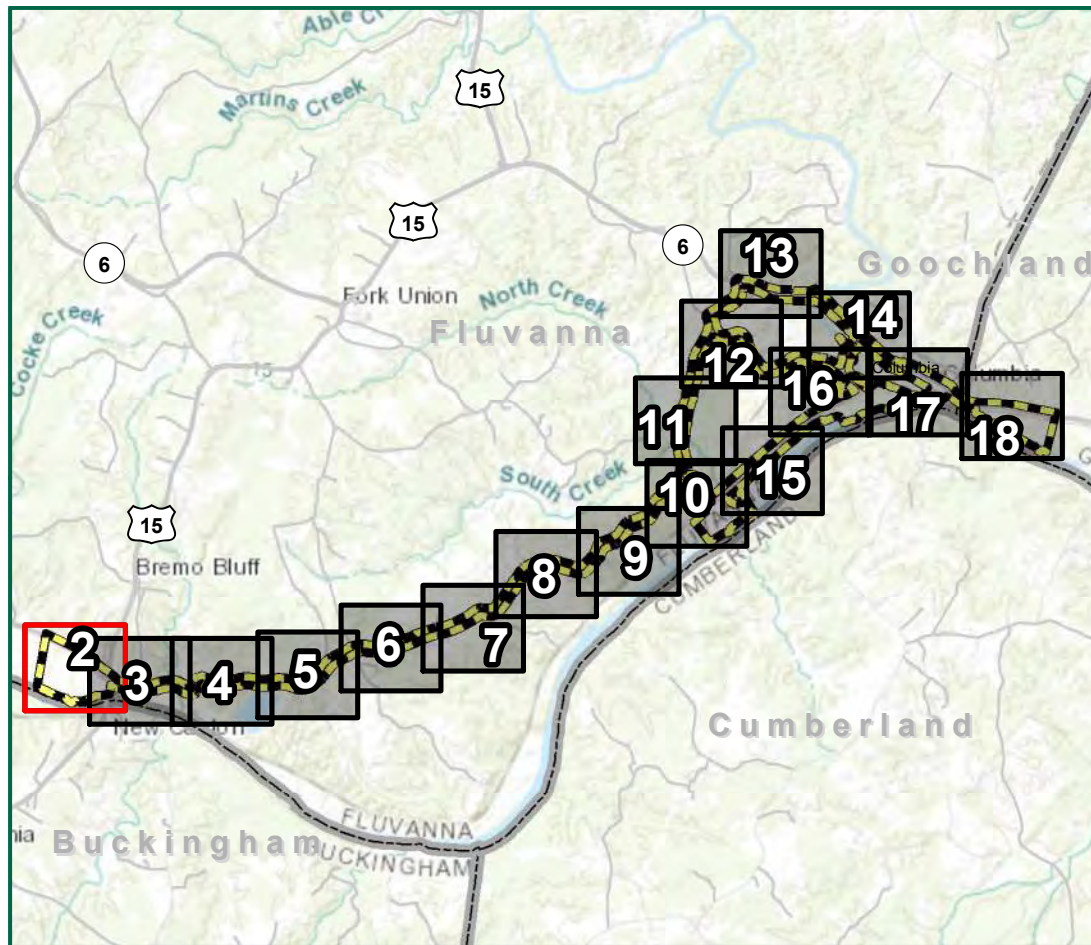
REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**

SCALE (FEET)

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 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 2,100' 1 of 18





**Legend**

- Study Area
- Limits of Disturbance
- x Temporary Stream Impact
- x Permanent Stream Impact
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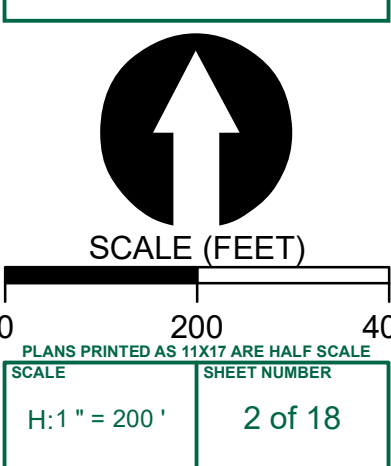
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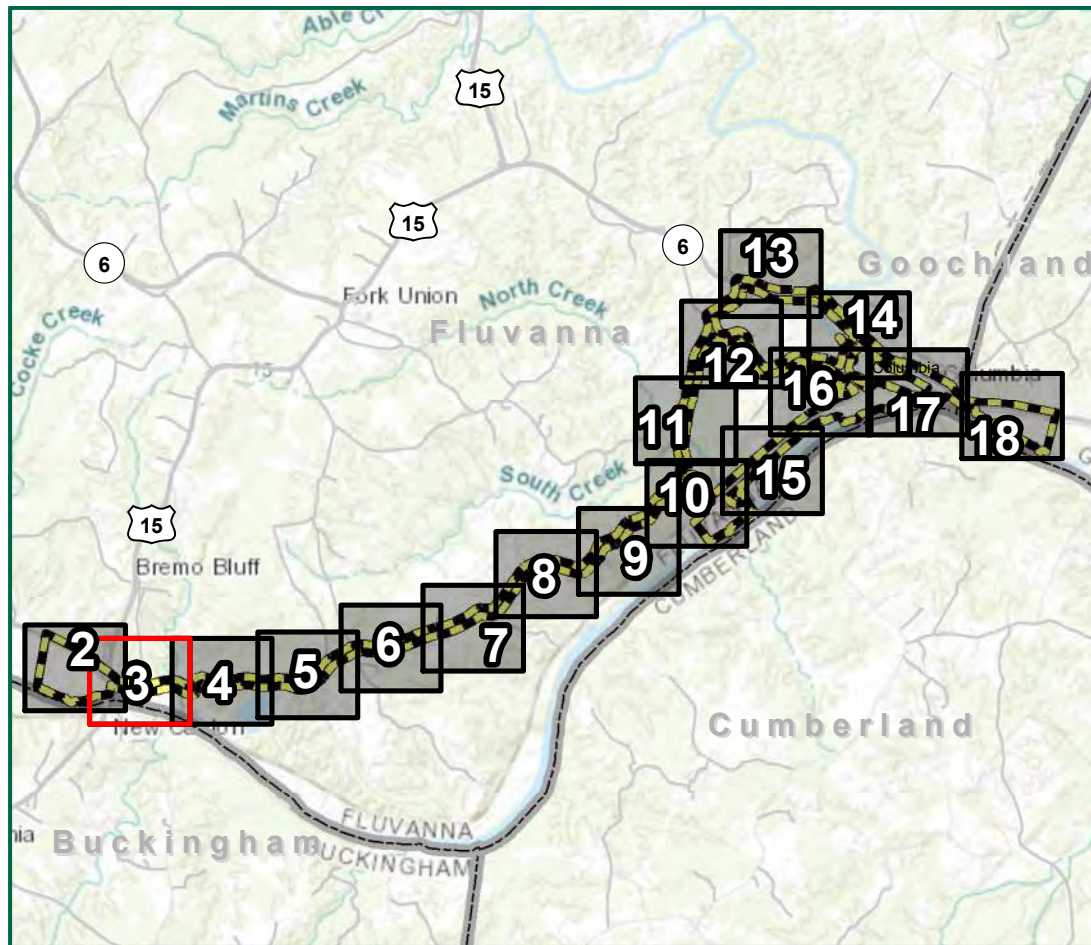
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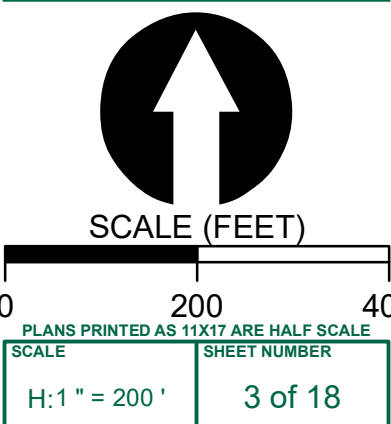
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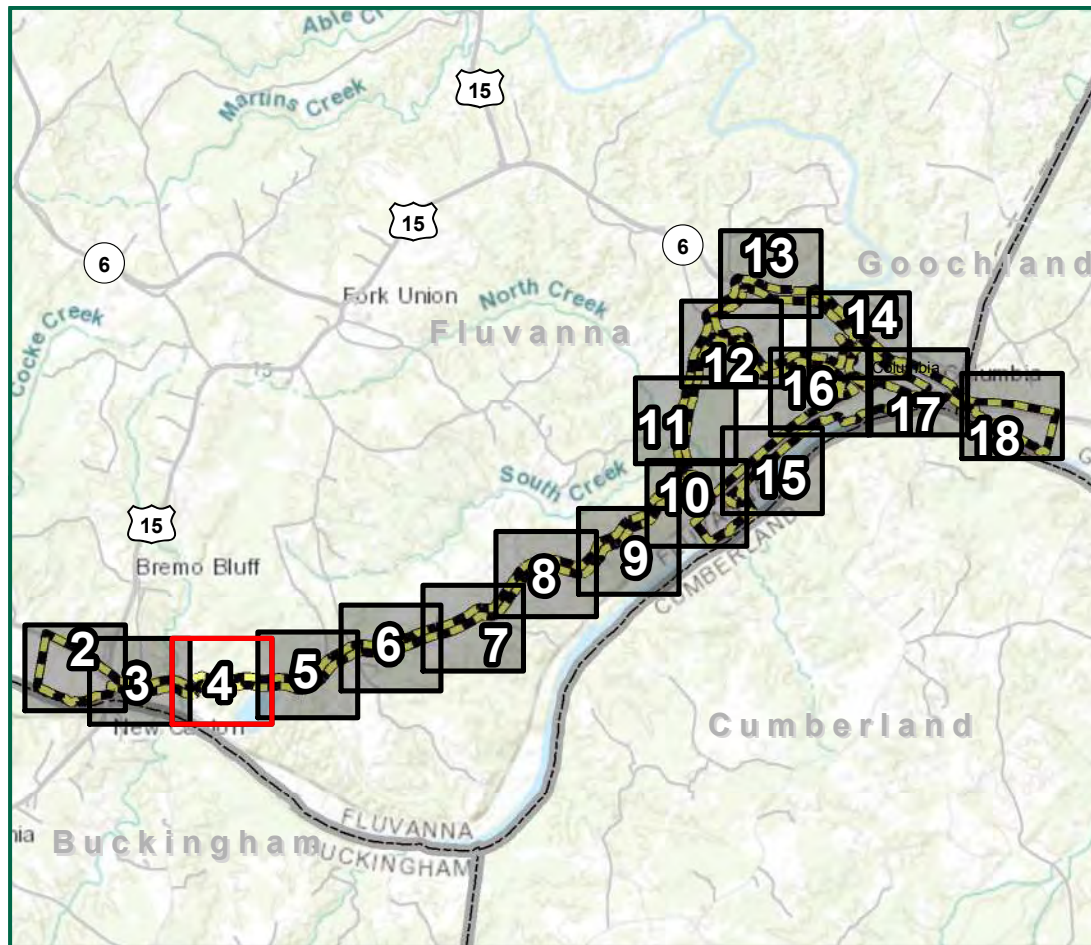
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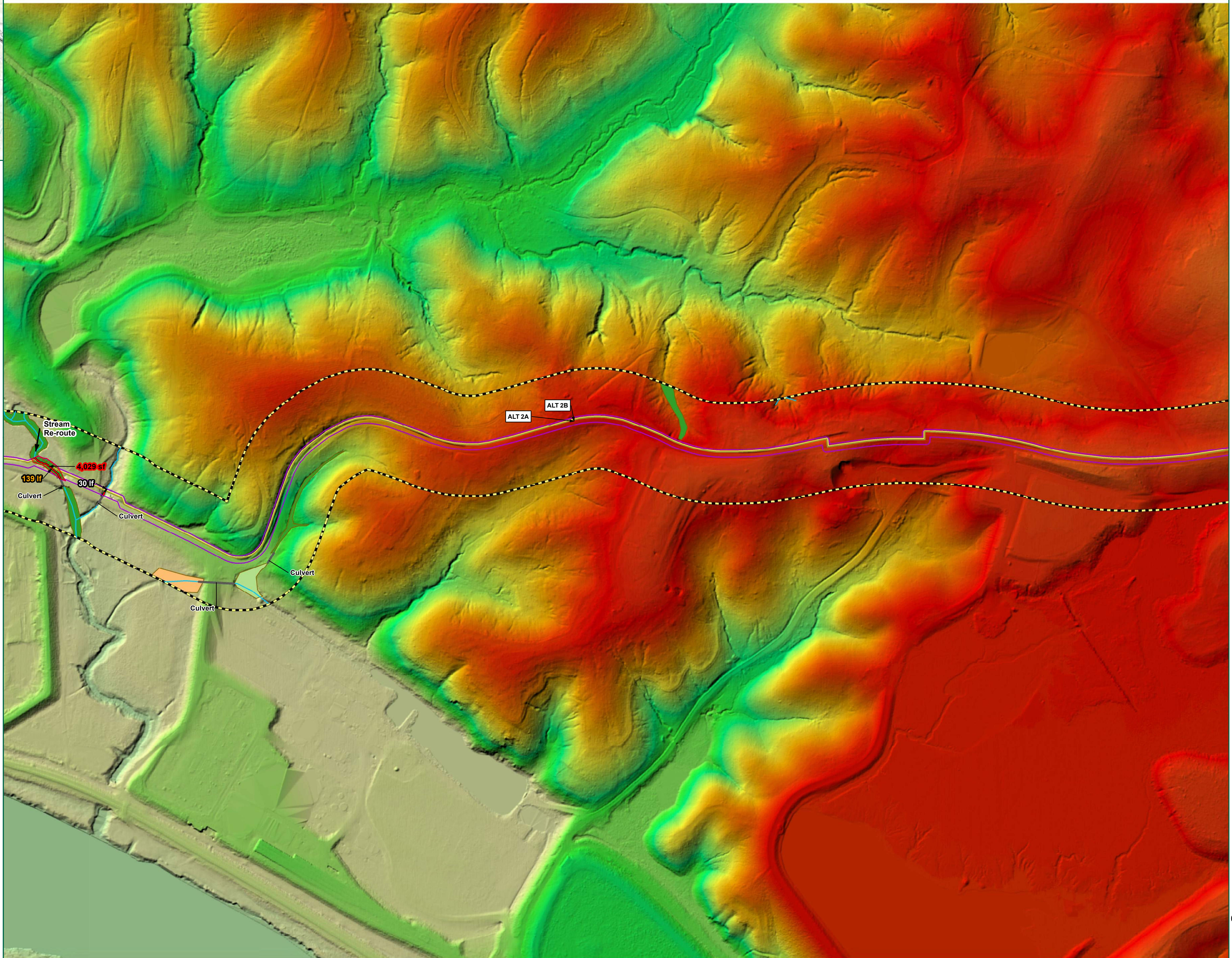






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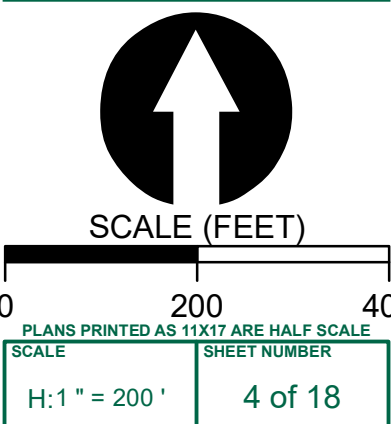
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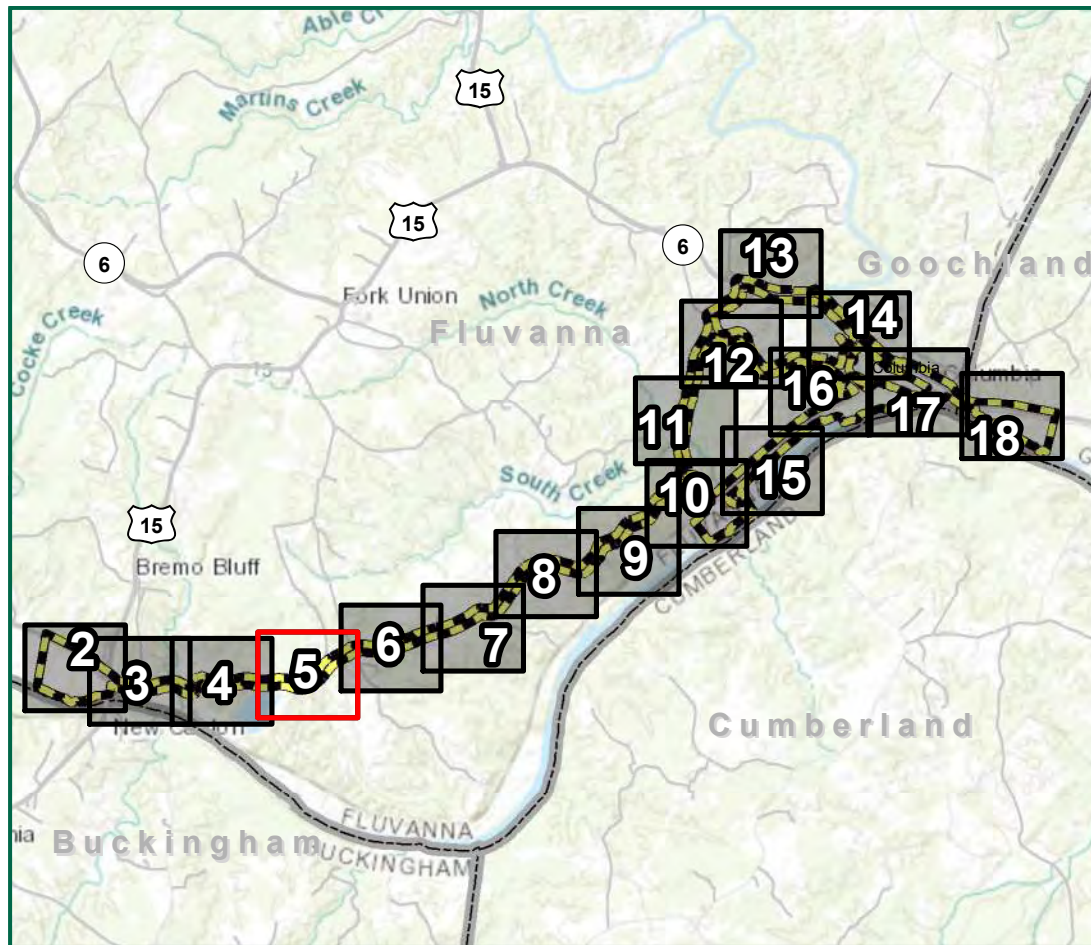
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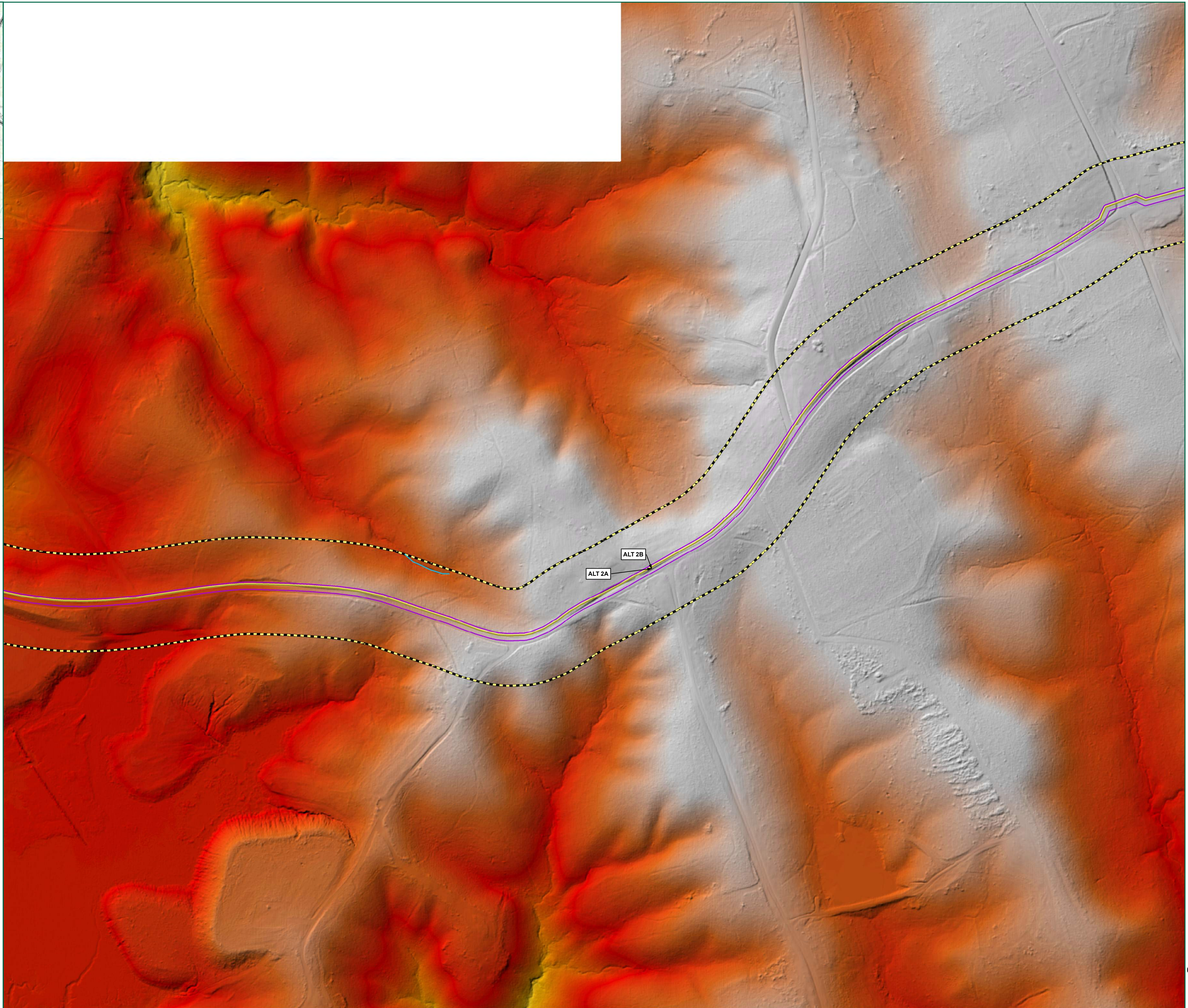






**Legend**

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#	DESCRIPTION

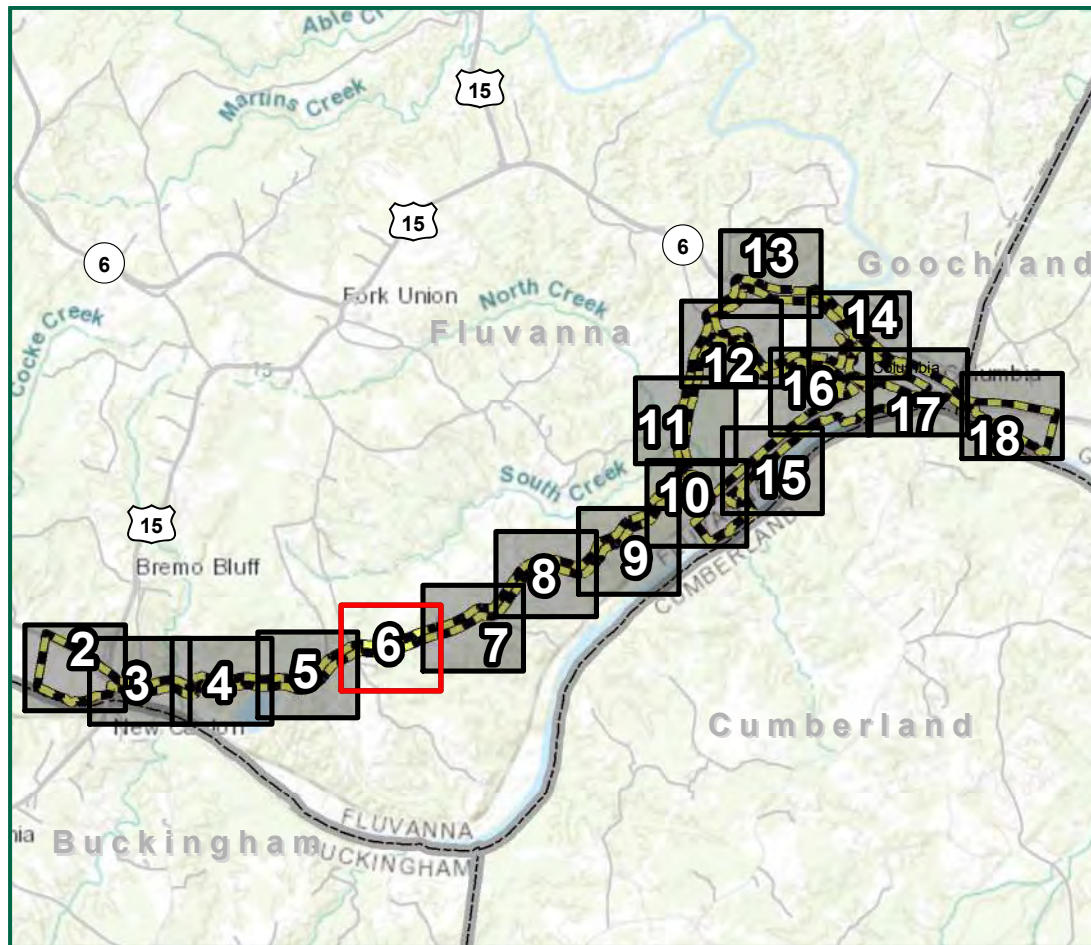
DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**

SCALE (FEET)

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 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER

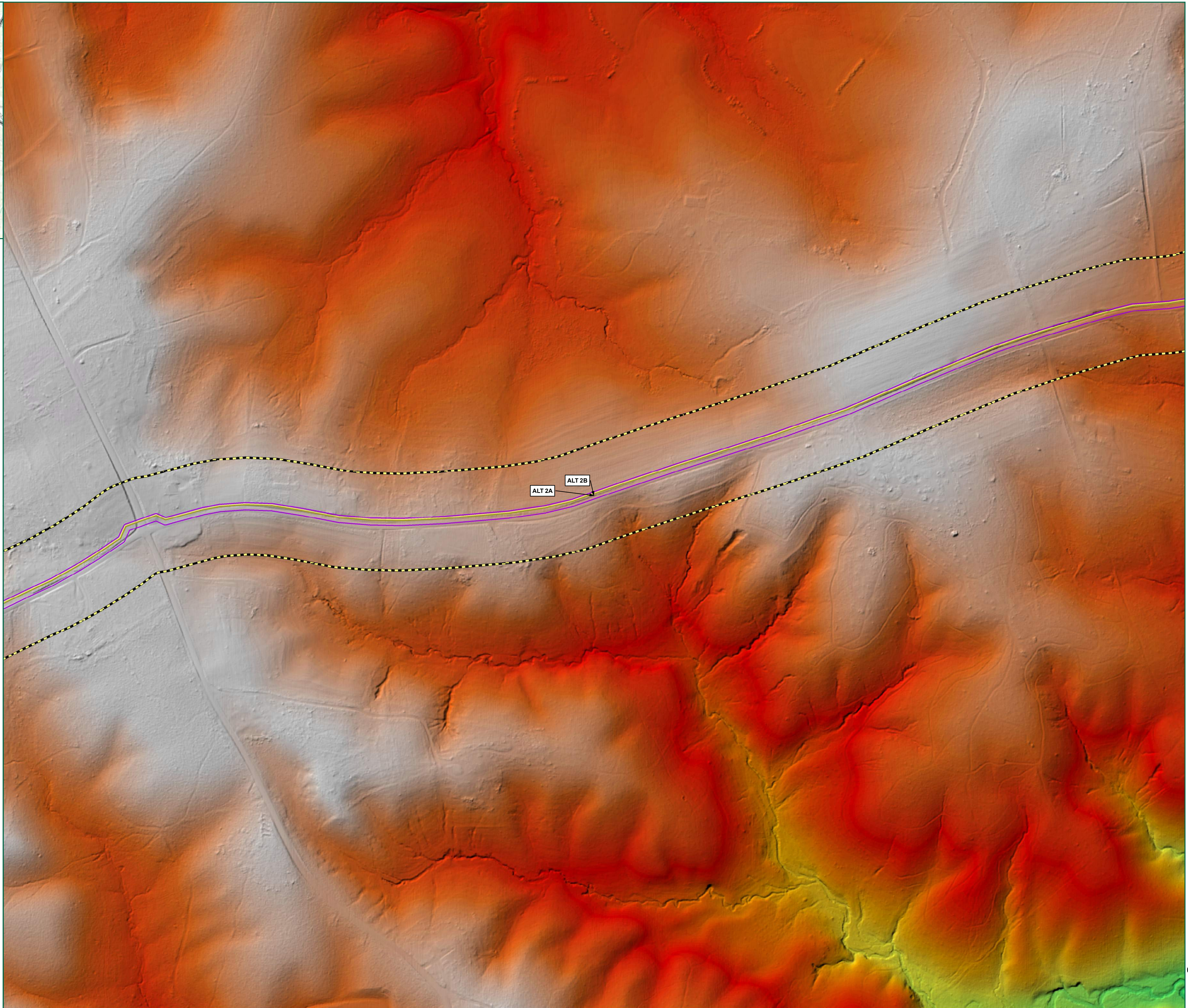
H:1" = 200' 5 of 18





**Legend**

- Study Area
- Limits of Disturbance
- Temporary Stream Impact
- Permanent Stream Impact
- Temporary Wetland Impact
- Permanent Conversion Wetland Impact
- Permanent Wetland Impact
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**JAMES RIVER WATER AUTHORITY**  
 FLUVANNA COUNTY,  
 VIRGINIA

DATE	03/12/2020
PROJECT NUMBER	33927
PROJECT NAME	JRWA
DESIGNED BY / DRAWN BY	C. CHAPPELL

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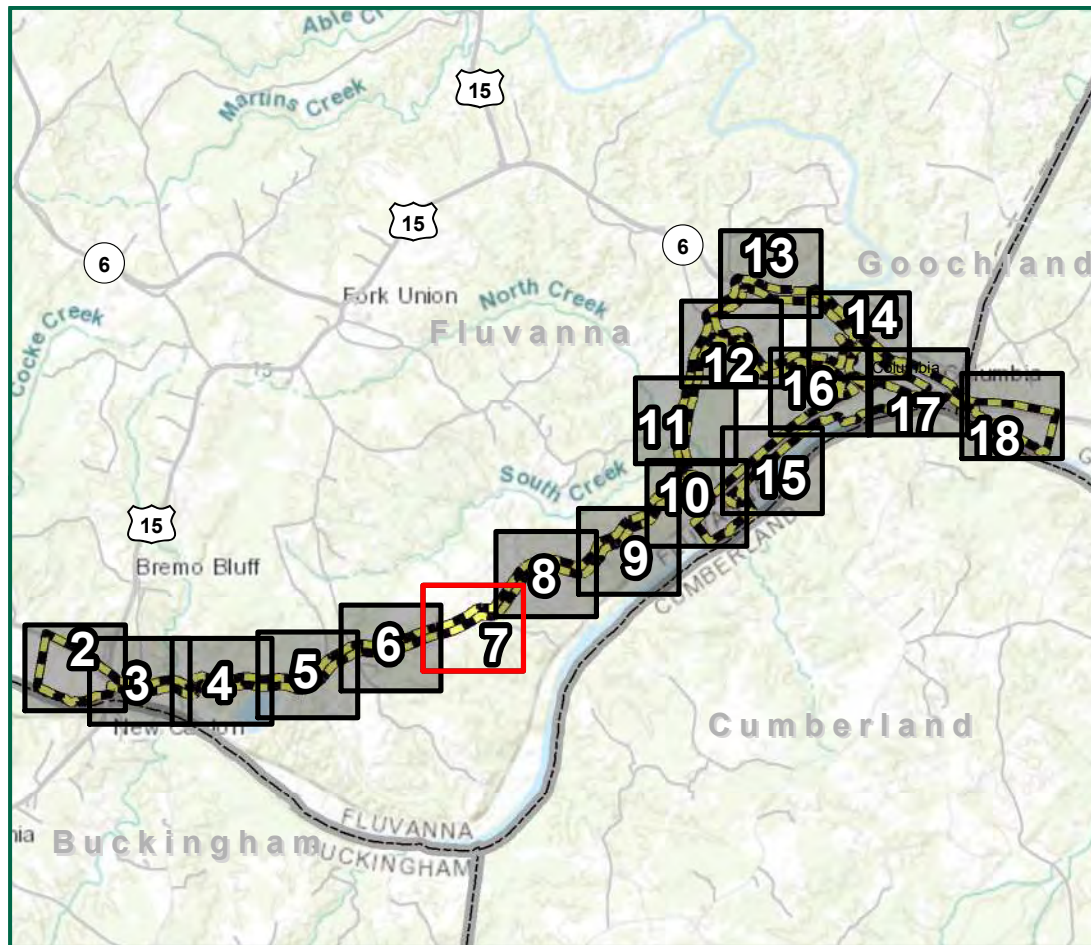
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PLANS PRINTED AS 11X17 ARE HALF SCALE

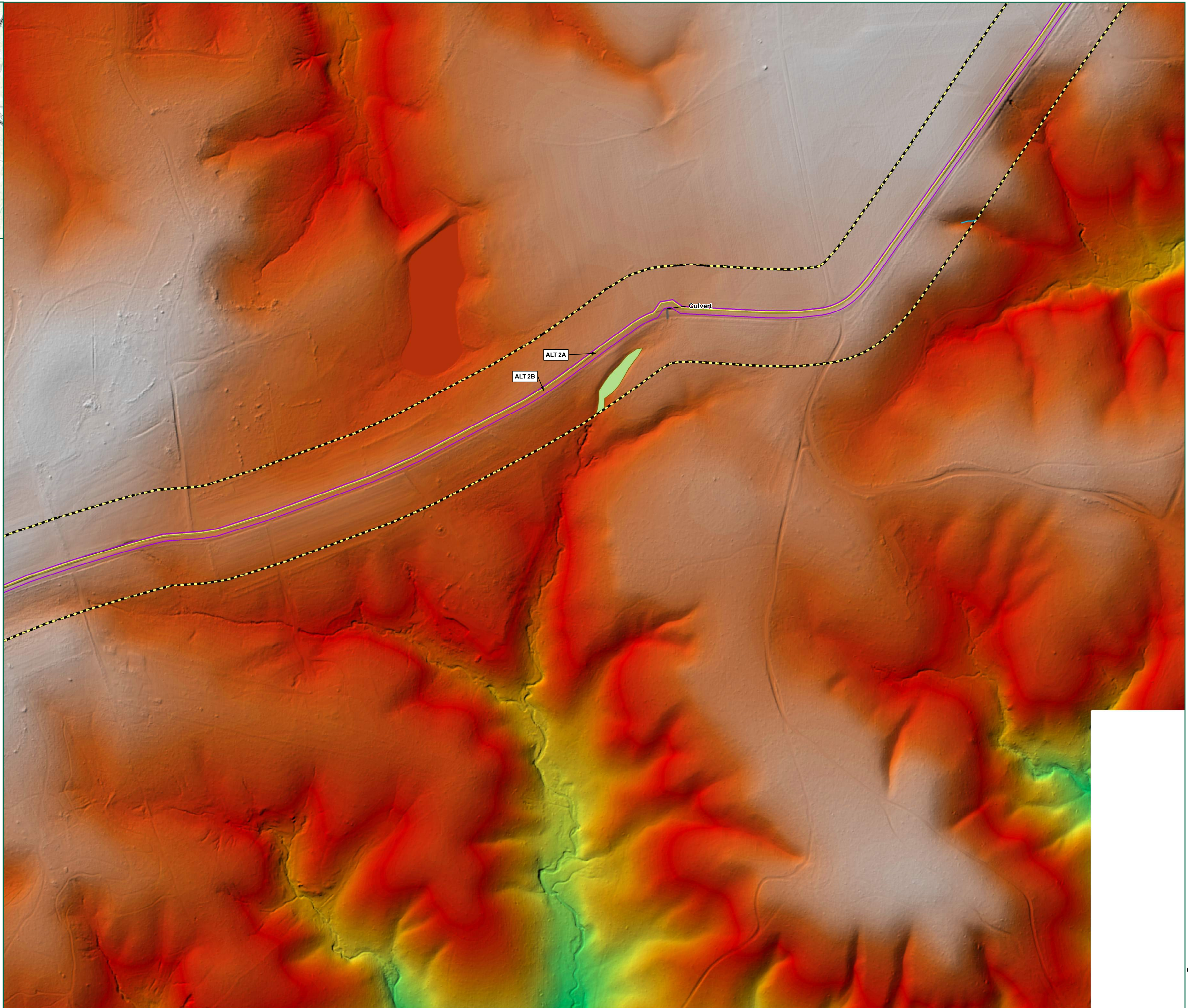
SCALE	SHEET NUMBER
H:1" = 200'	6 of 18





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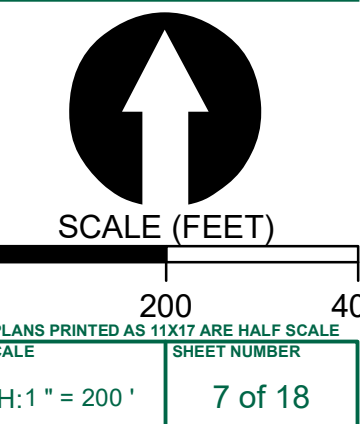
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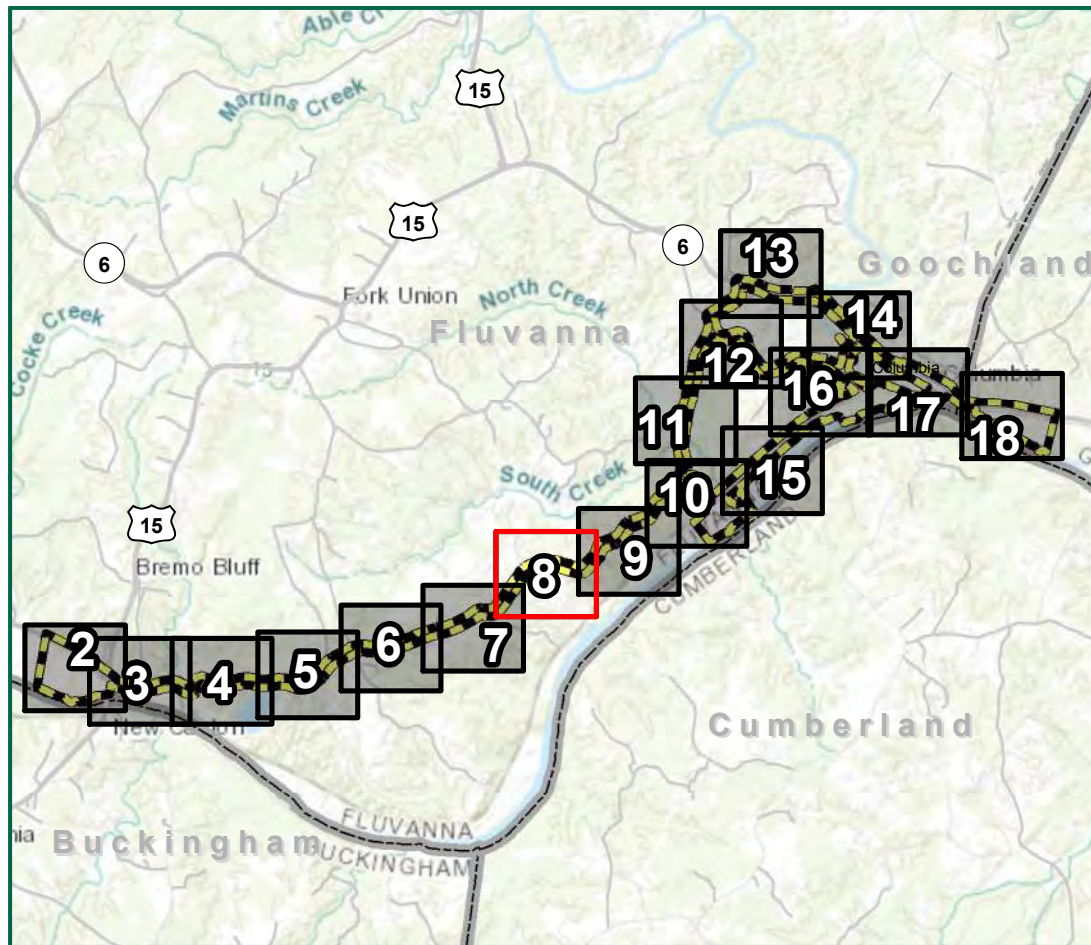
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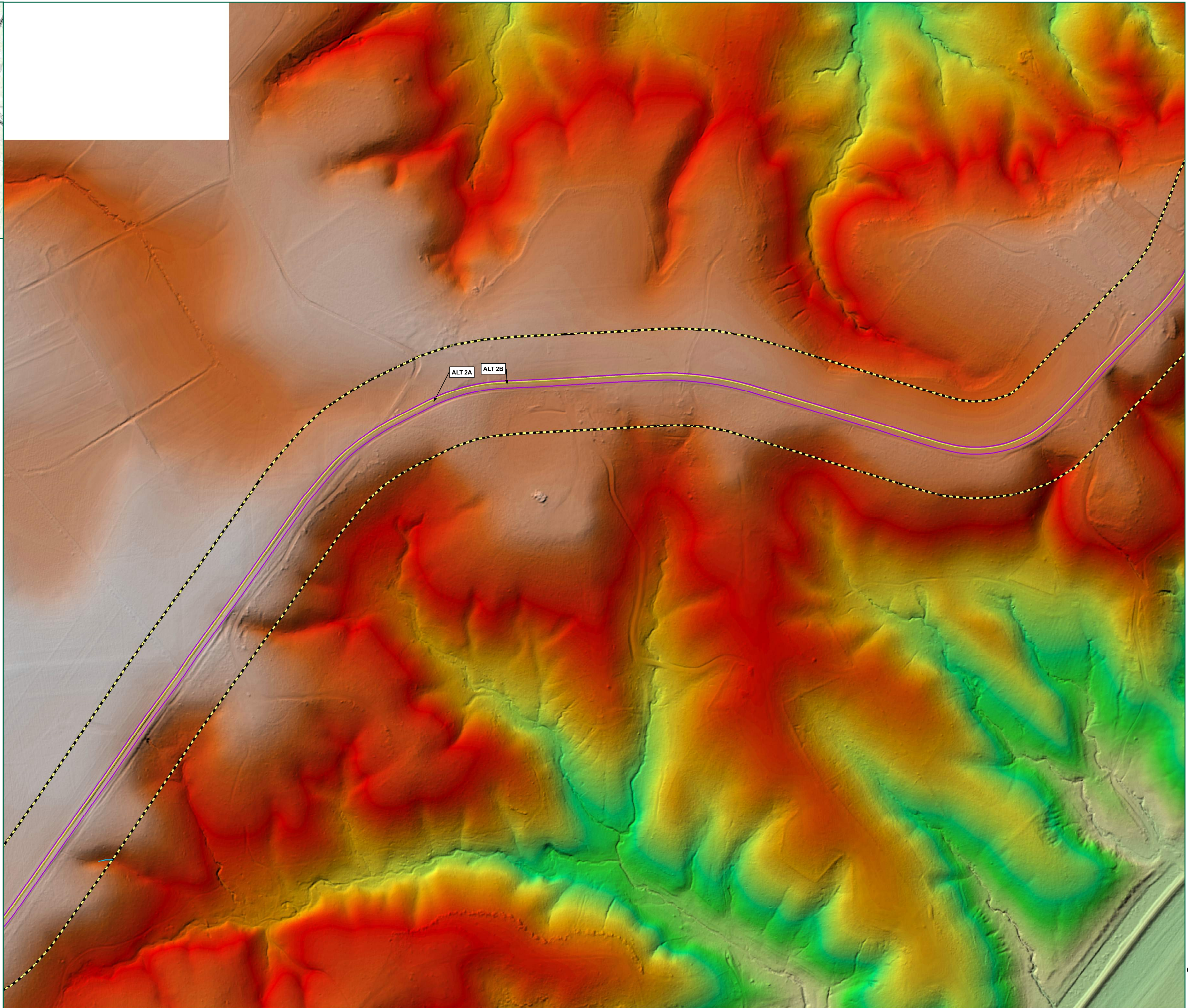






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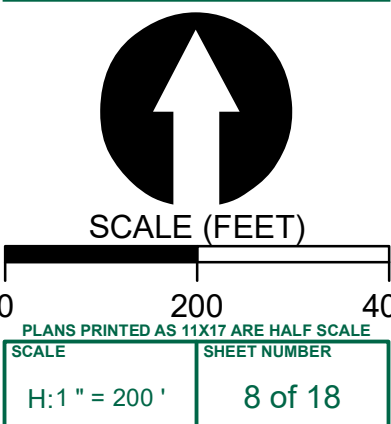
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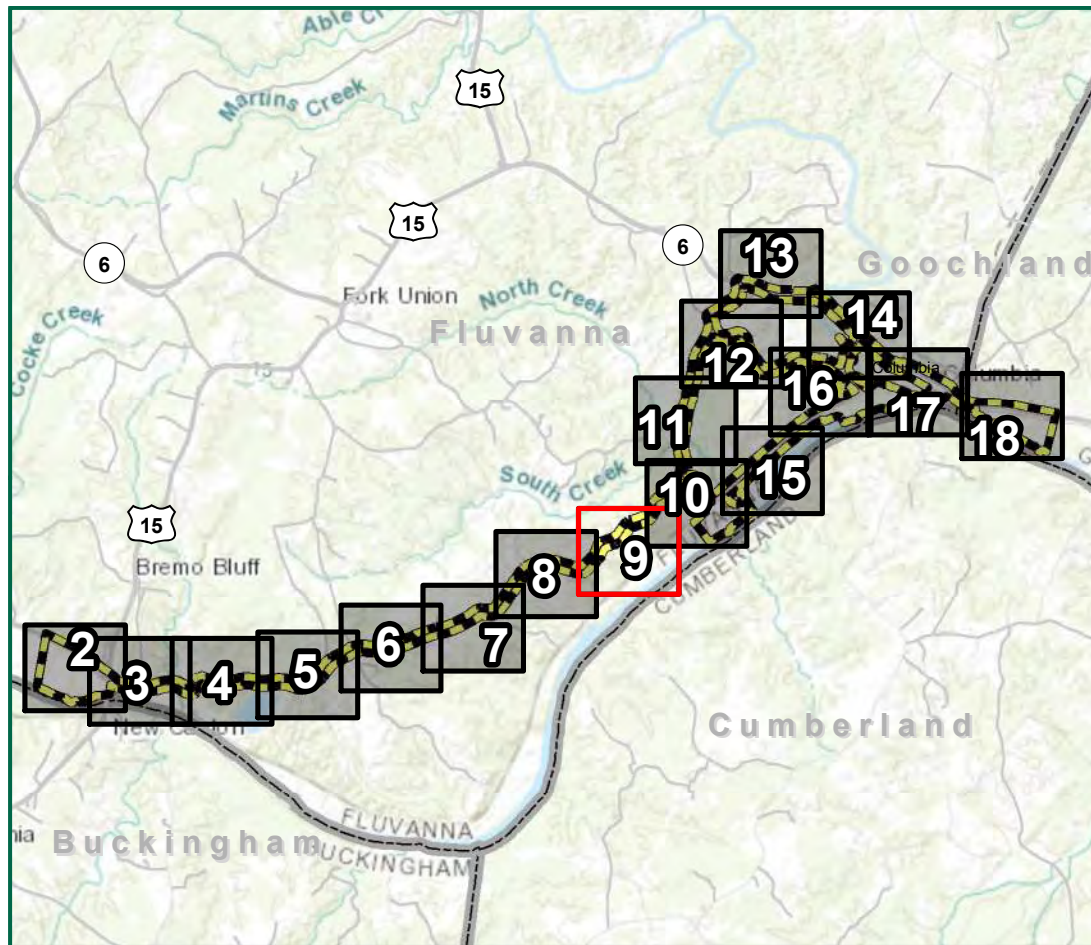
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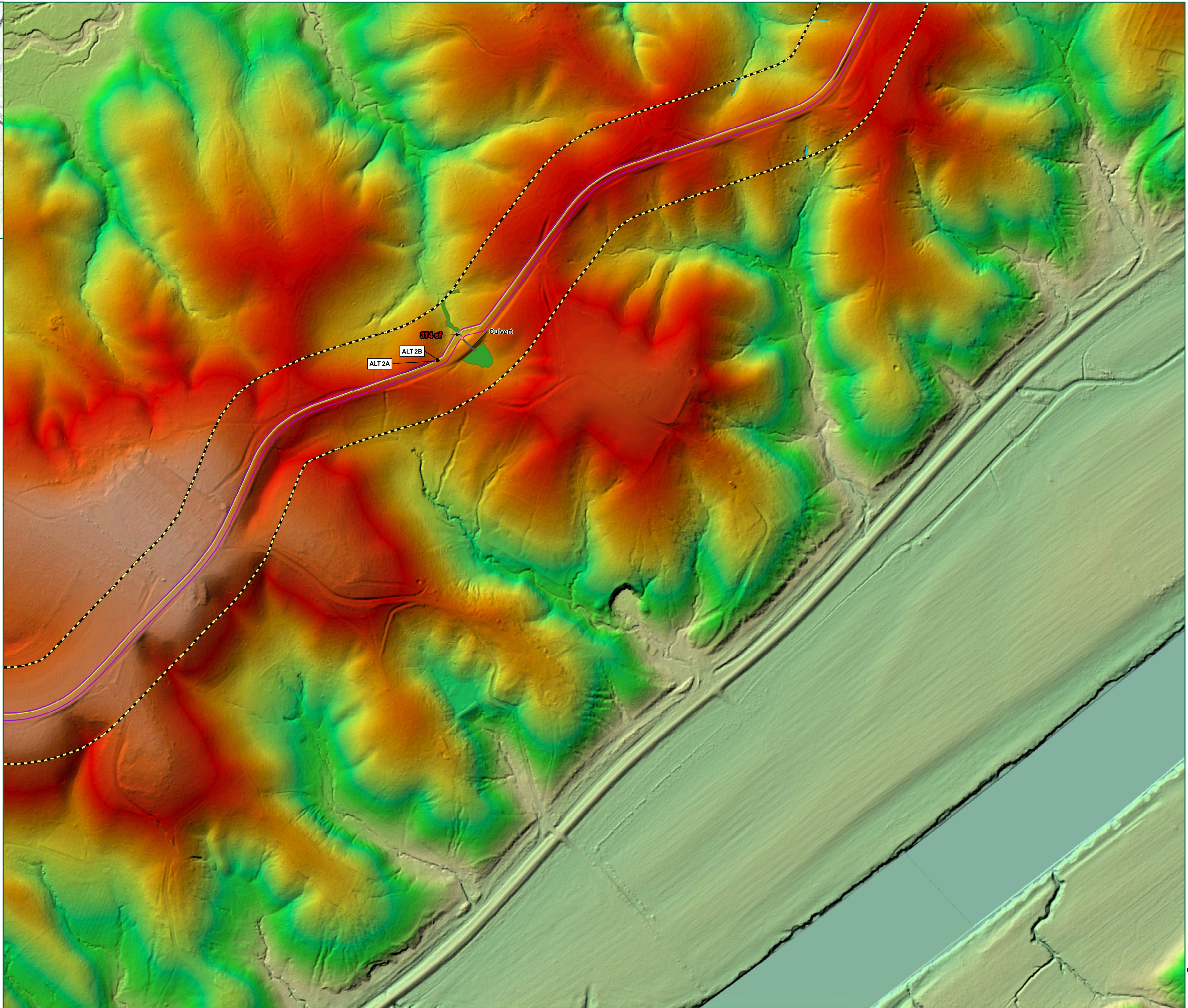






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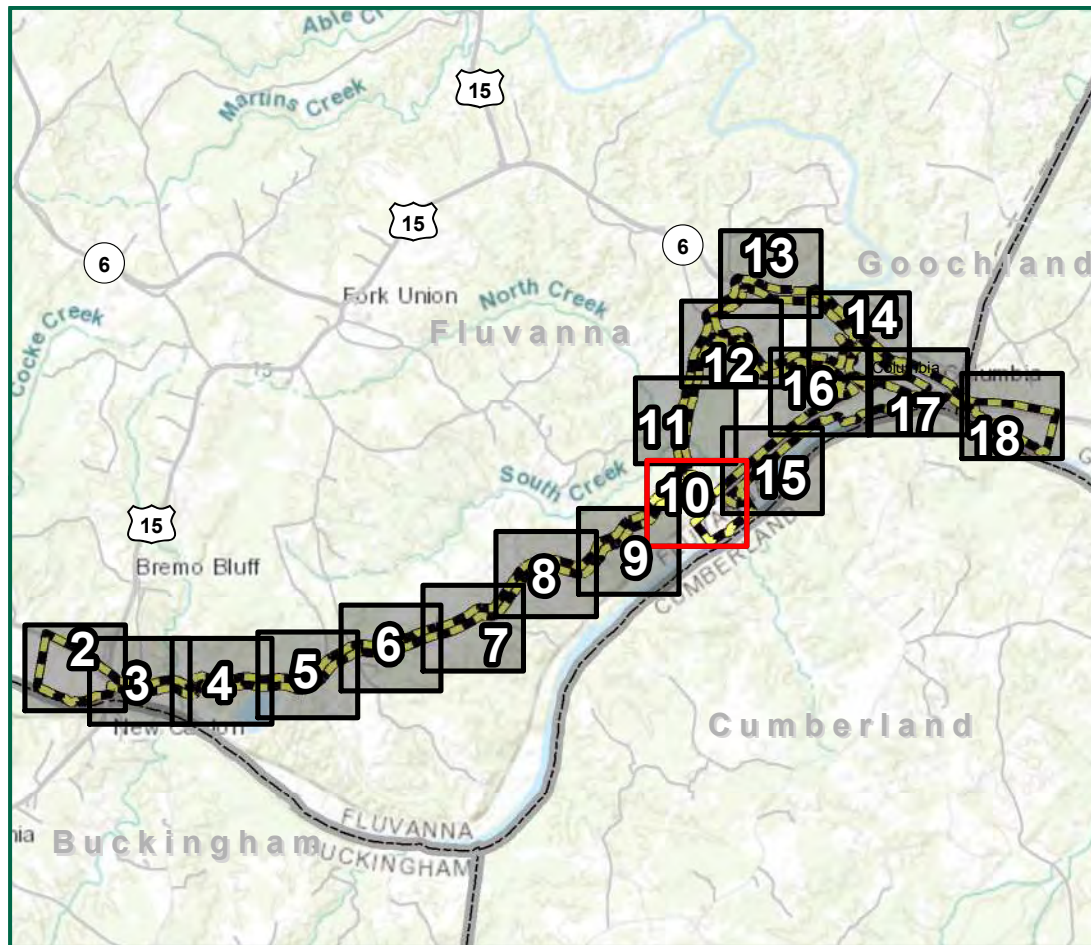
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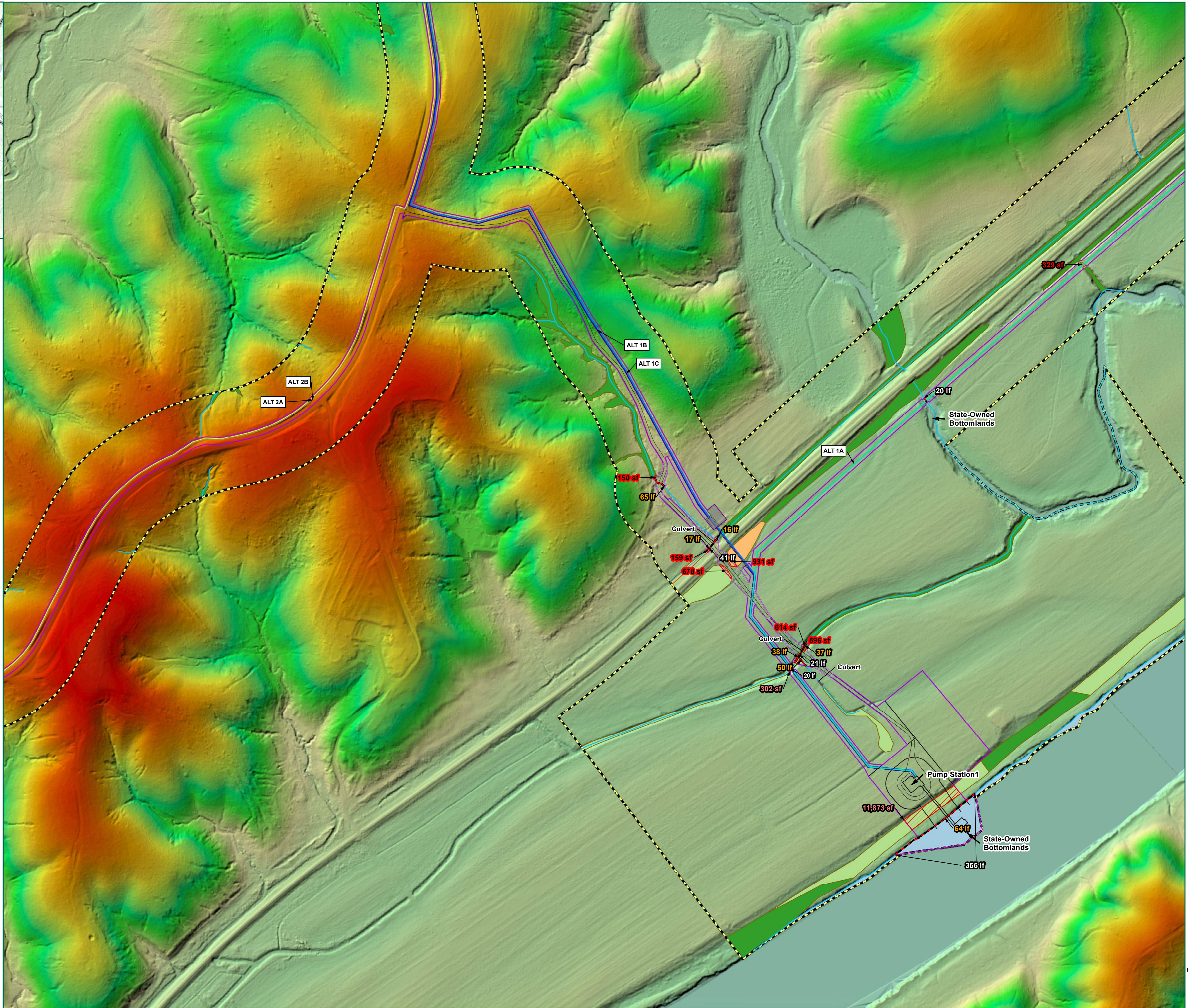
SCALE (FEET)  
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 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 200' 9 of 18





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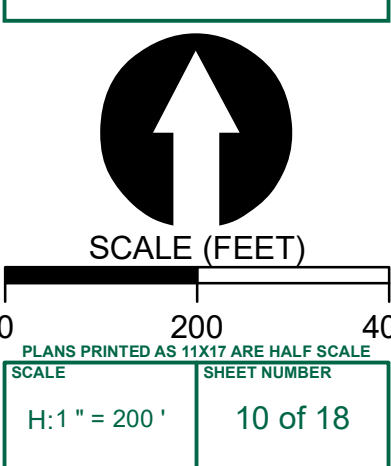
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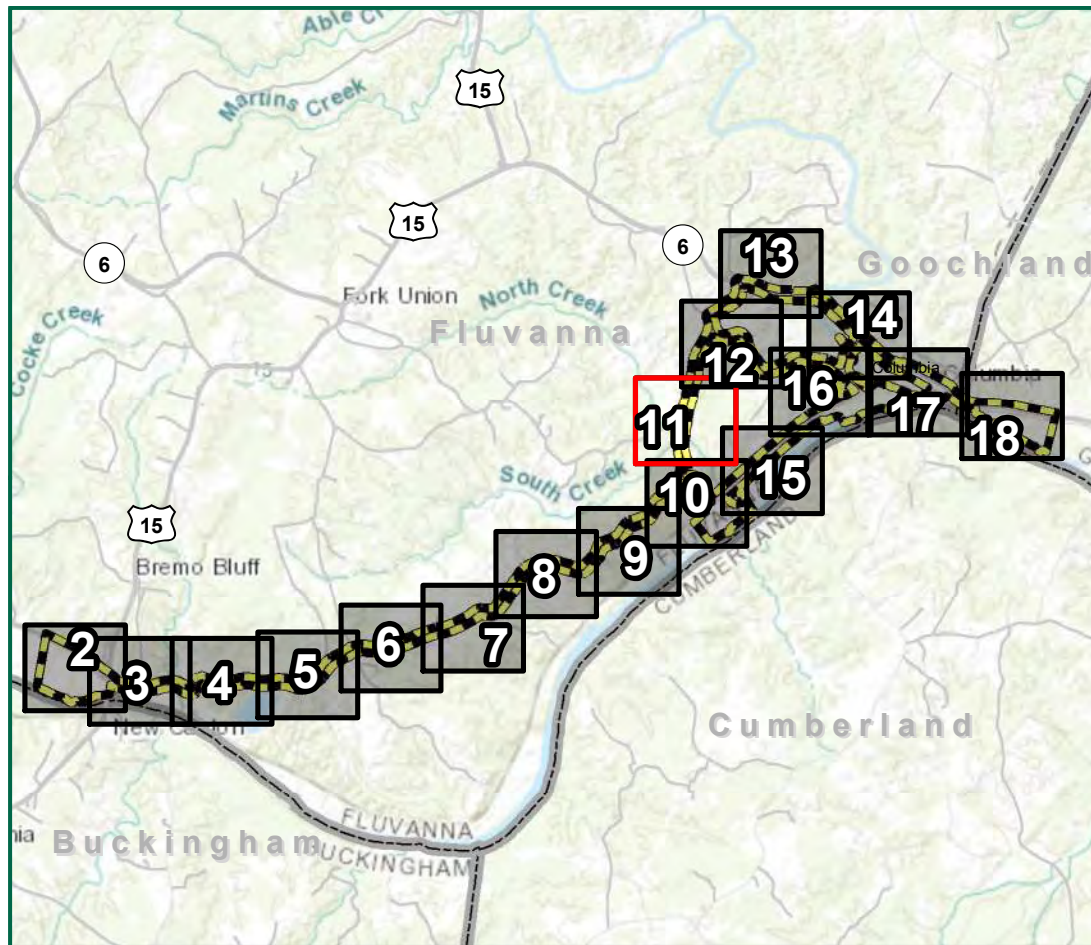
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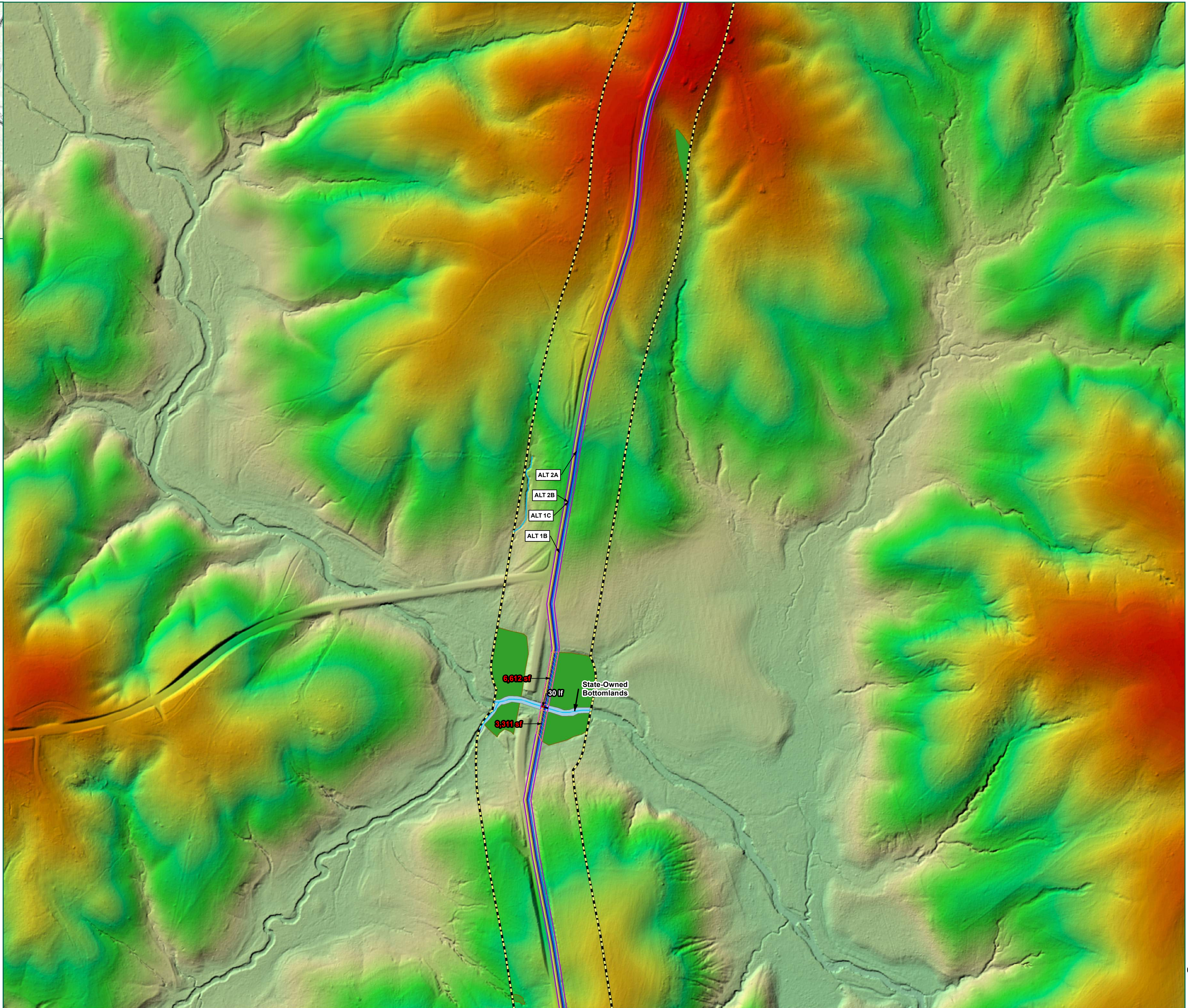






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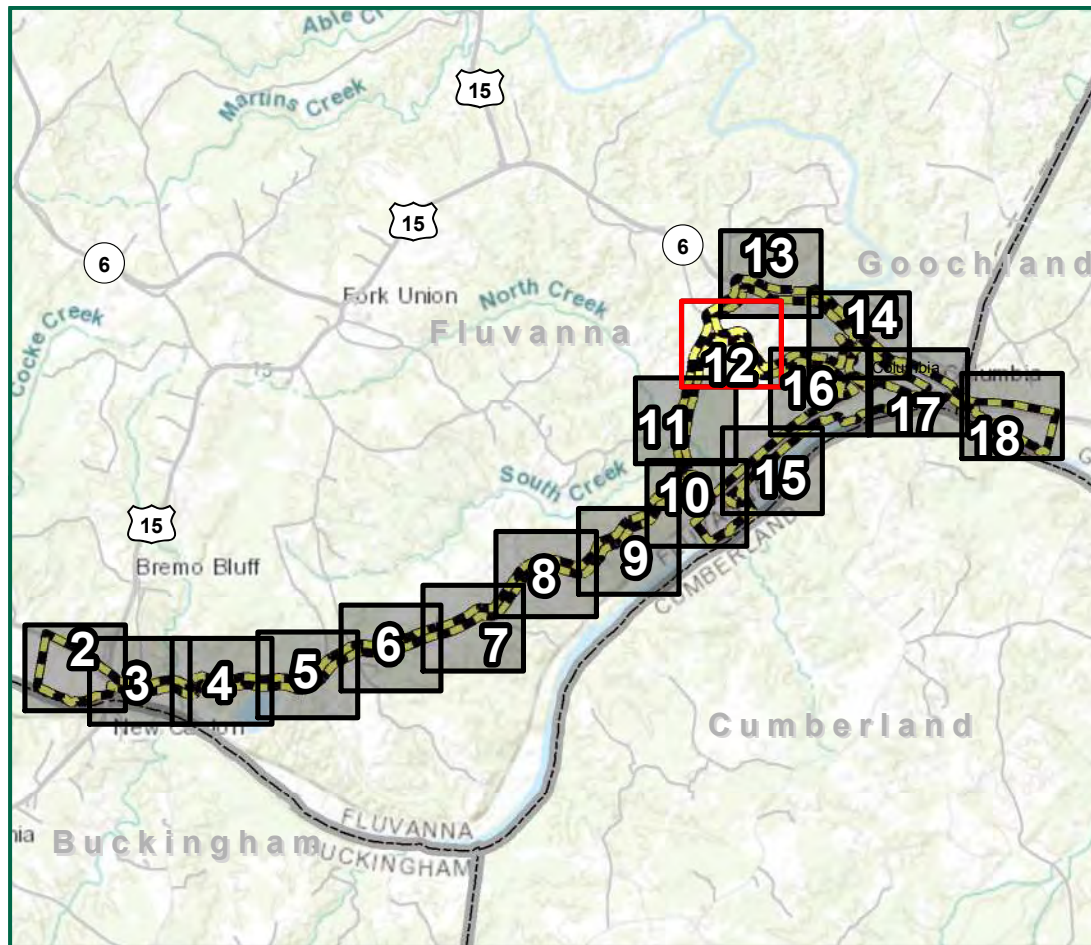
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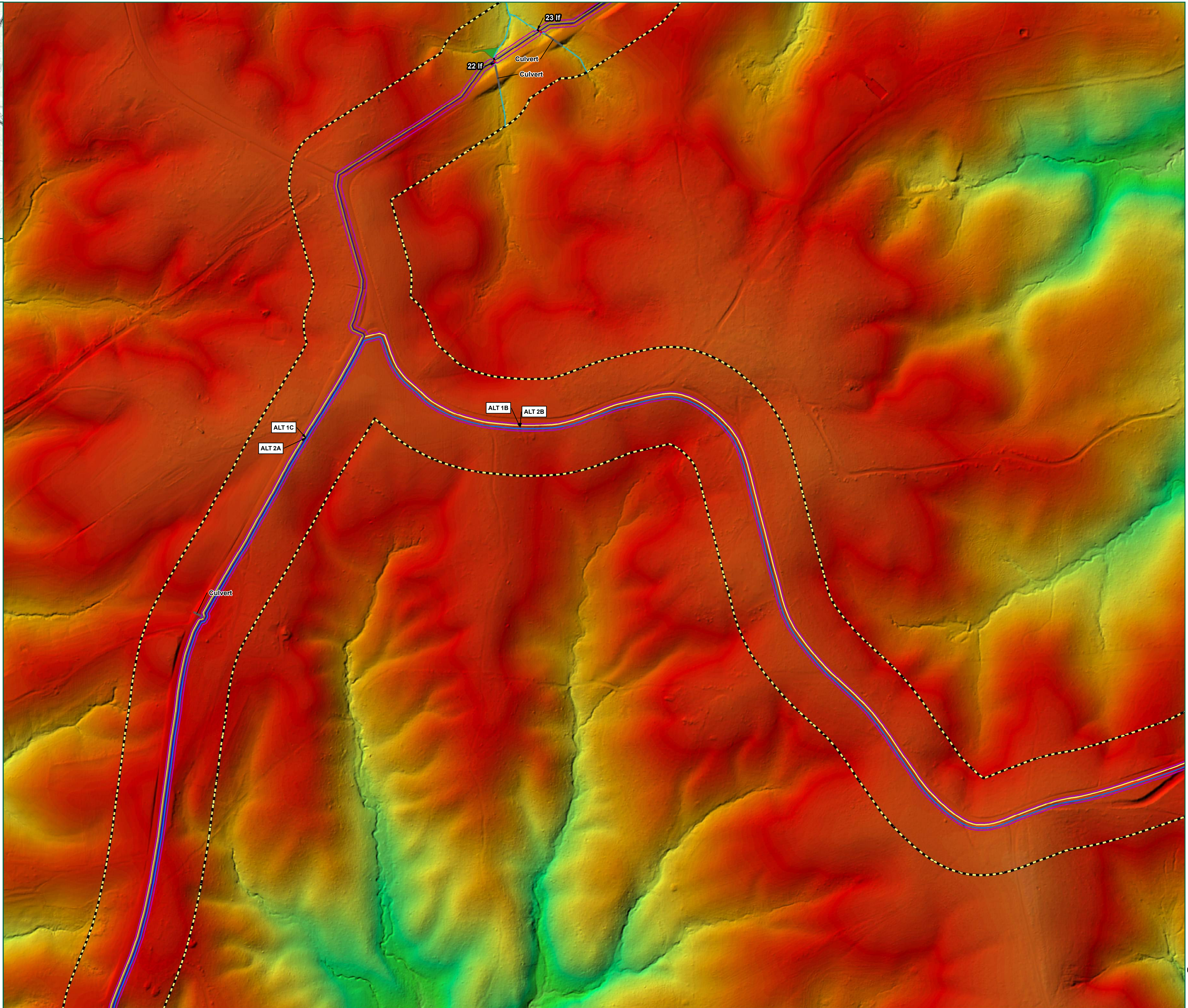
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 PLANS PRINTED AS 11x17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 200' 11 of 18





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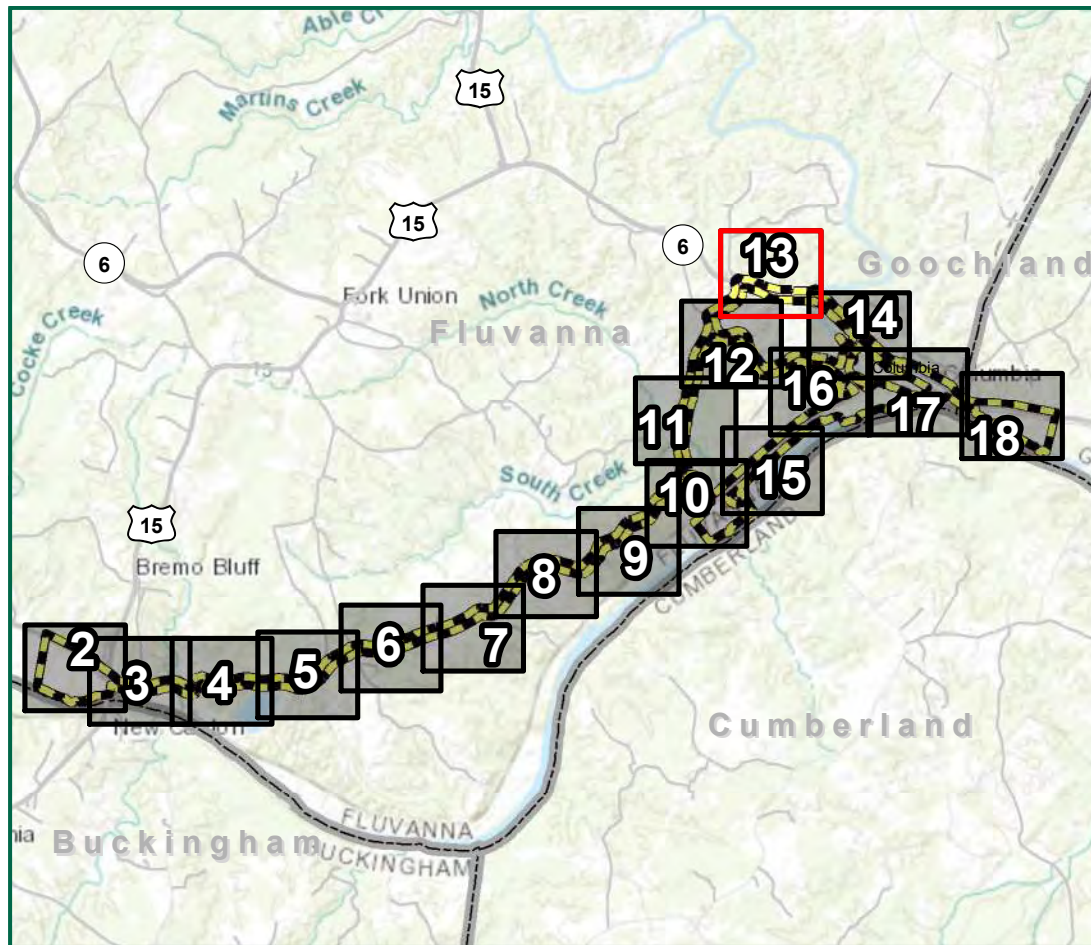
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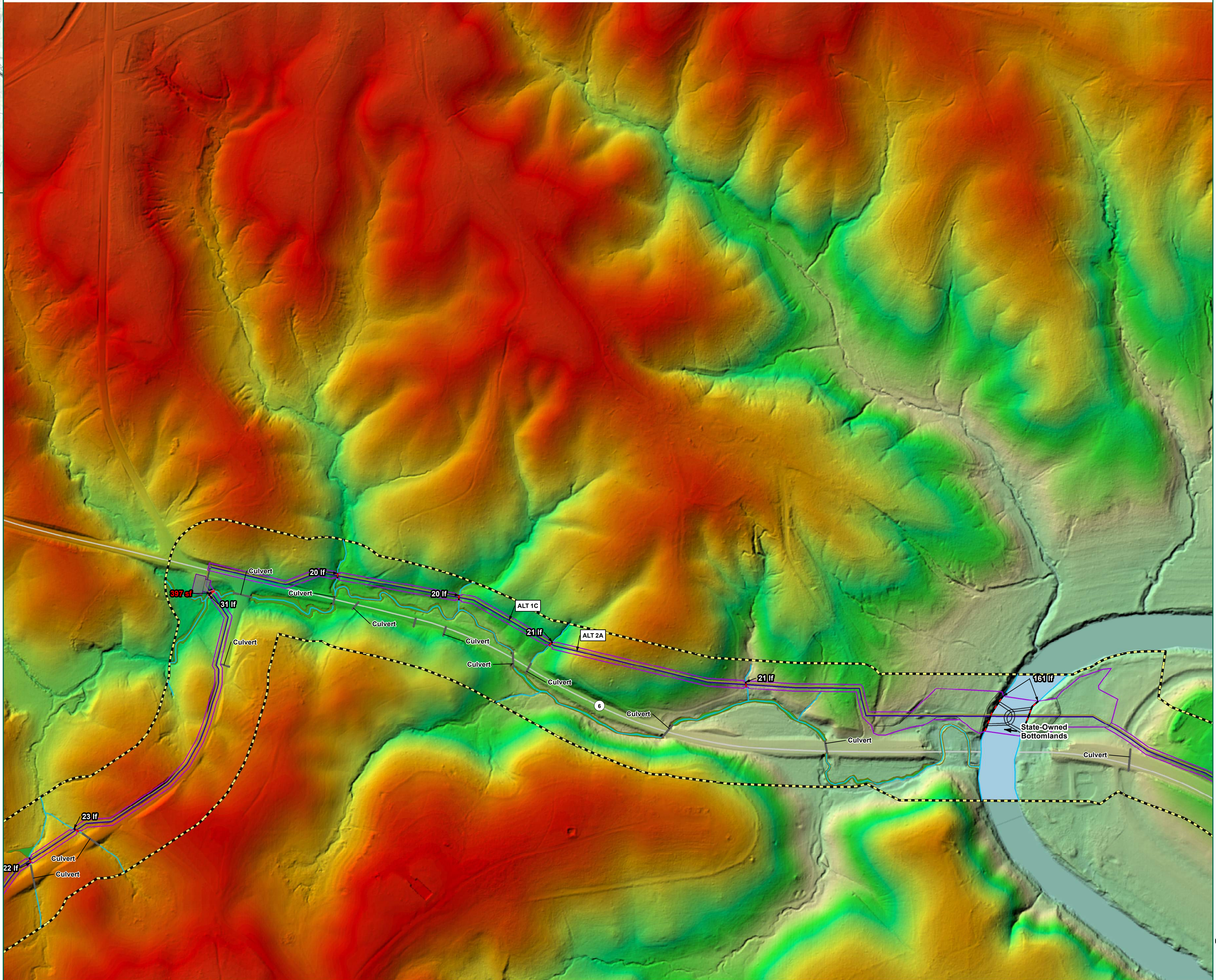
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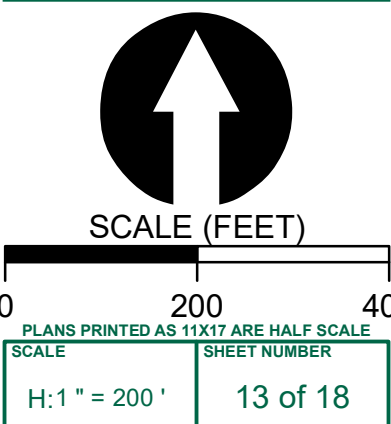
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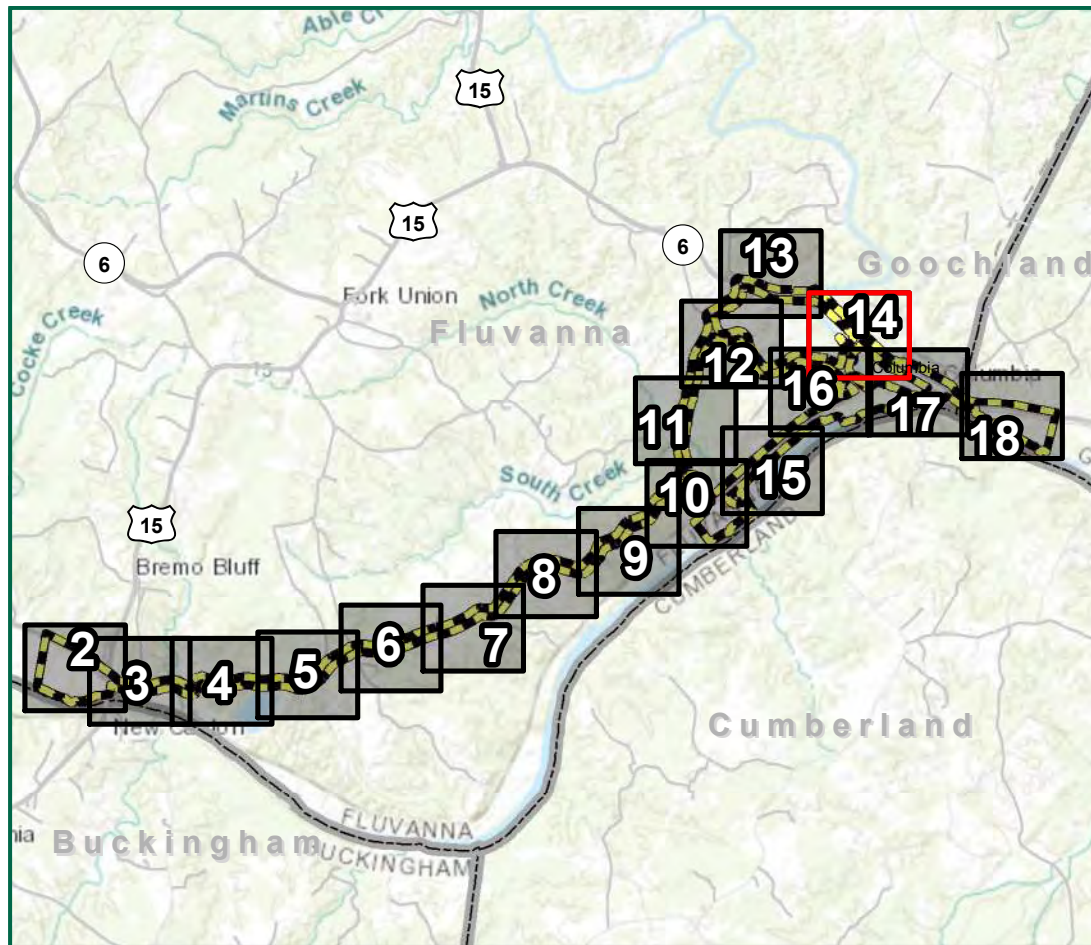
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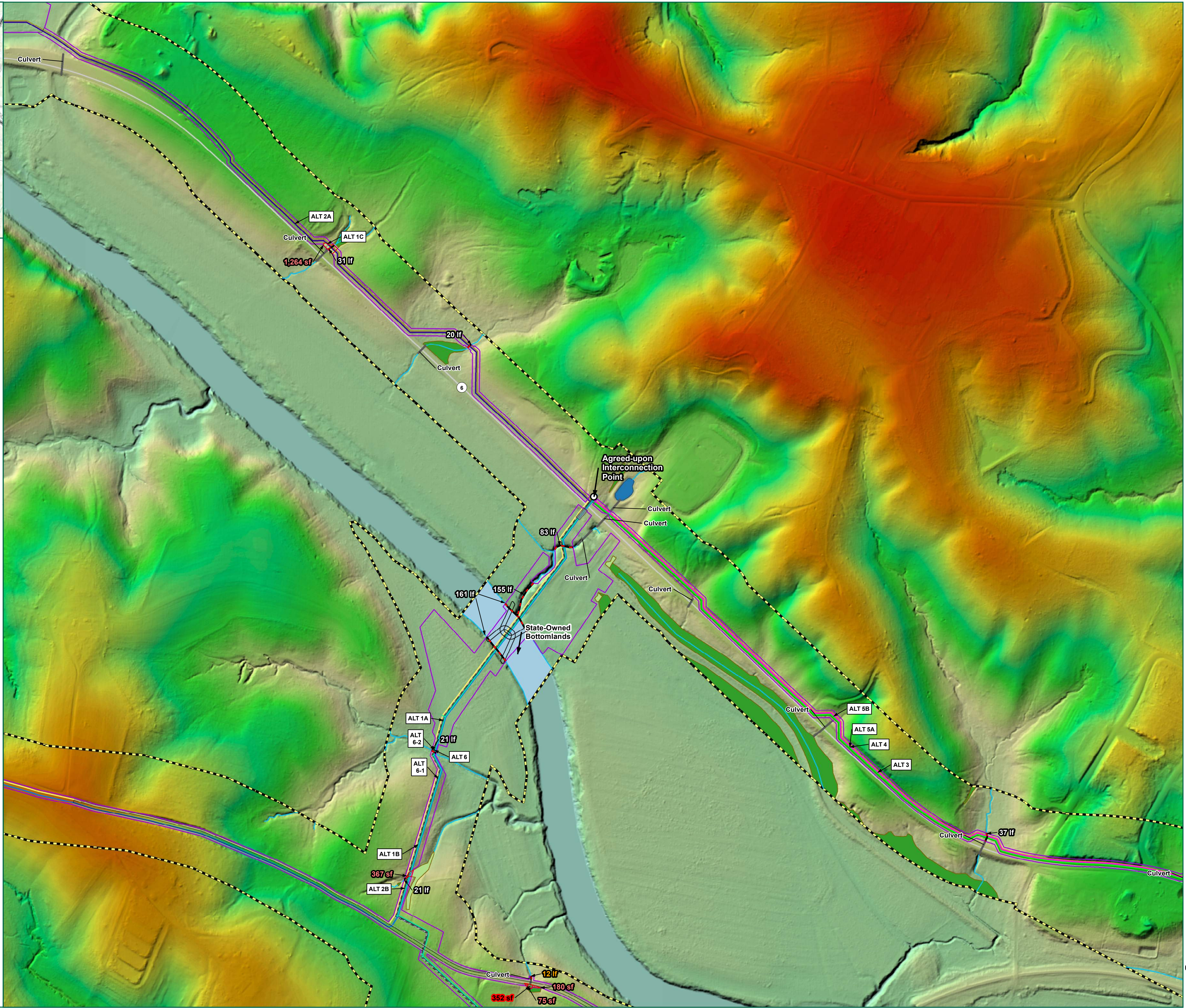
DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**







- Legend**
- Study Area
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PROJECT NAME & LOCATION

DATE	03/12/2020
PROJECT NUMBER	33927
PROJECT NAME	JRWA
DESIGNED BY / DRAWN BY	C. CHAPPELL

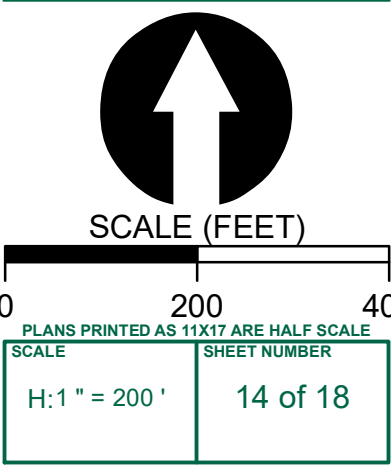
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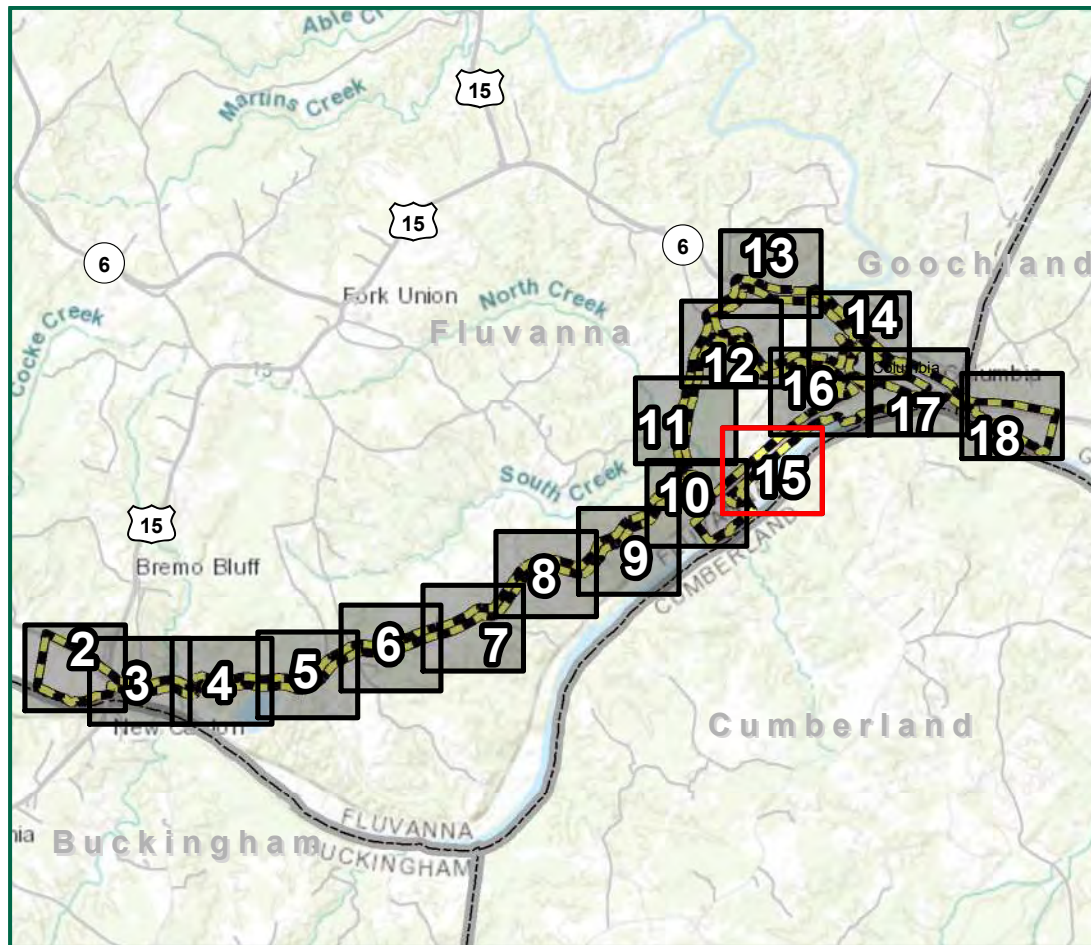
**REVISIONS**

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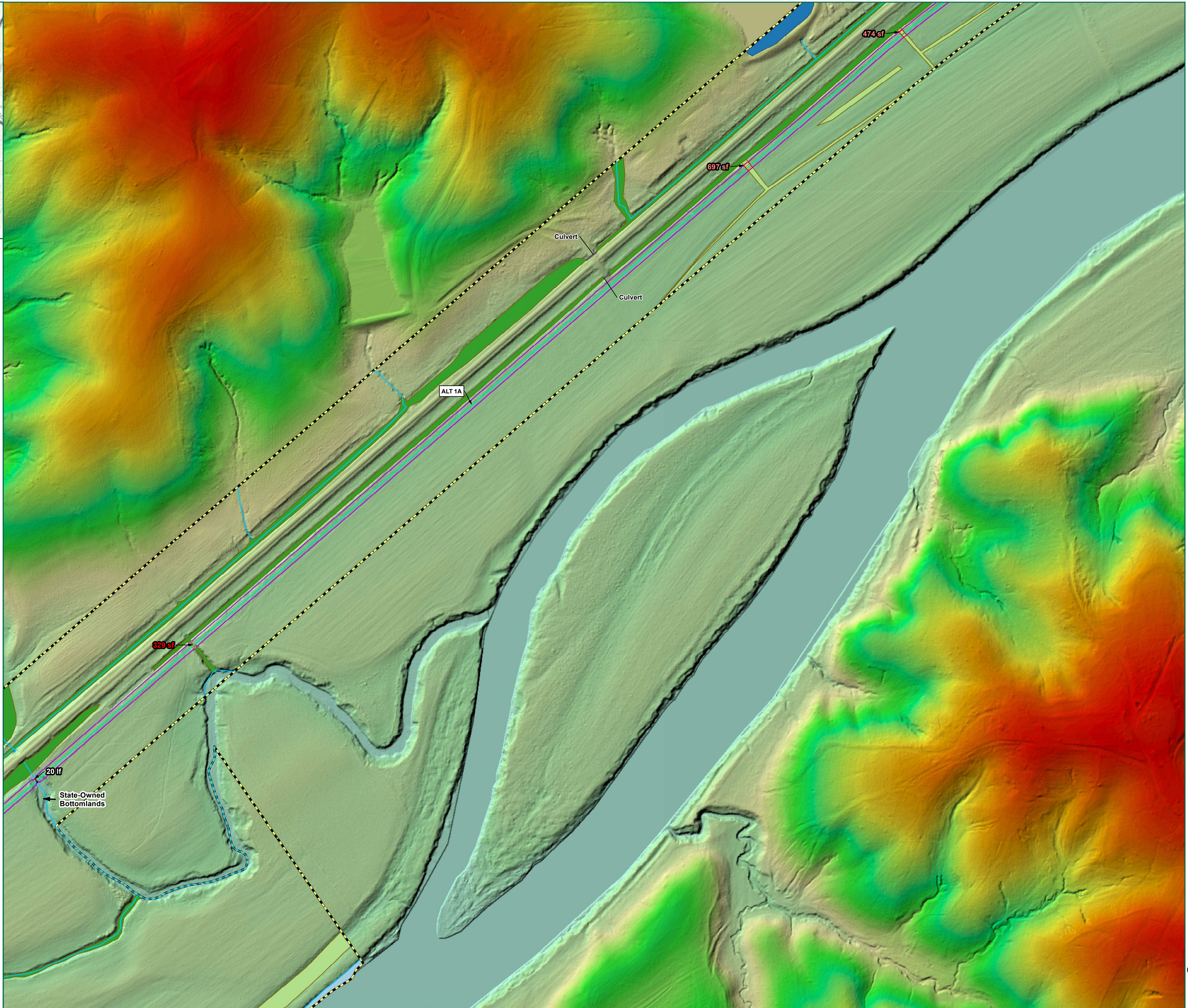






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- Limits of Disturbance
- Temporary Stream Impact
- Permanent Stream Impact
- Temporary Wetland Impact
- Permanent Conversion Wetland Impact
- Permanent Wetland Impact
- Temporary Stream Impact
- Permanent Stream Impact
- Temporary Wetland Impact
- Permanent Conversion Wetland Impact
- Permanent Wetland Impact
- Jack & Bore Pits & Casings
- Access Road Fill Limits
- ALT 1A
- ALT 1B
- ALT 1C
- ALT 2A
- ALT 2B
- ALT 3
- ALT 4
- ALT 5A
- ALT 5B
- ALT 6
- ALT 6-1
- ALT 6-2
- Culvert
- Ditch
- Streams
- Palustrine Scrub-Shrub (PSS) Wetland
- Palustrine Emergent (PEM) Wetland
- Palustrine Forested (PFO) Wetland
- Palustrine Open Water (POW) Wetland
- Perennial Channel (R3)



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PROJECT NAME & LOCATION  
**JAMES RIVER WATER AUTHORITY**  
 FLUVANNA COUNTY,  
 VIRGINIA

DATE 03/12/2020  
 PROJECT NUMBER 33927  
 PROJECT NAME JRWA  
 DESIGNED BY / DRAWN BY C. CHAPPELL

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 3. Project limits are approximate.  
 4. Shaded Relief generated from VGIN DEM by Timmons Group.

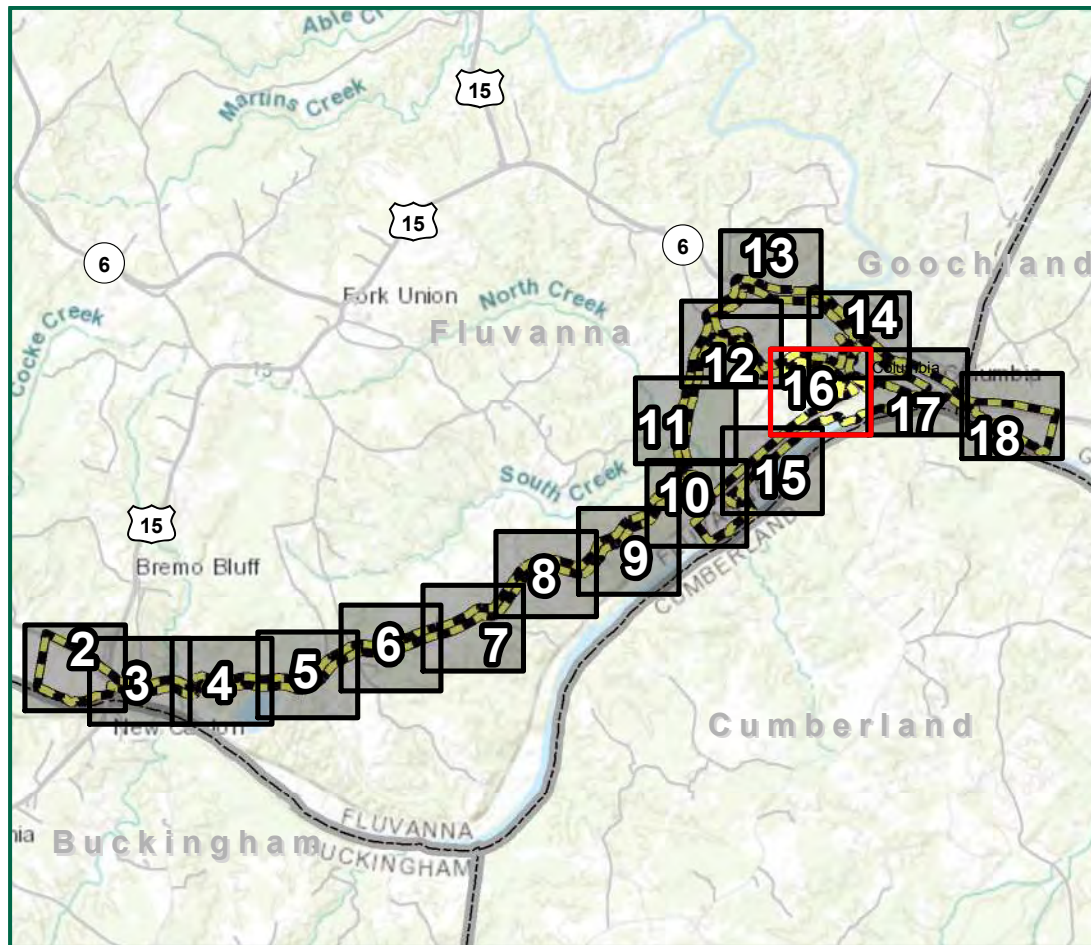
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REVISIONS	
#	DESCRIPTION

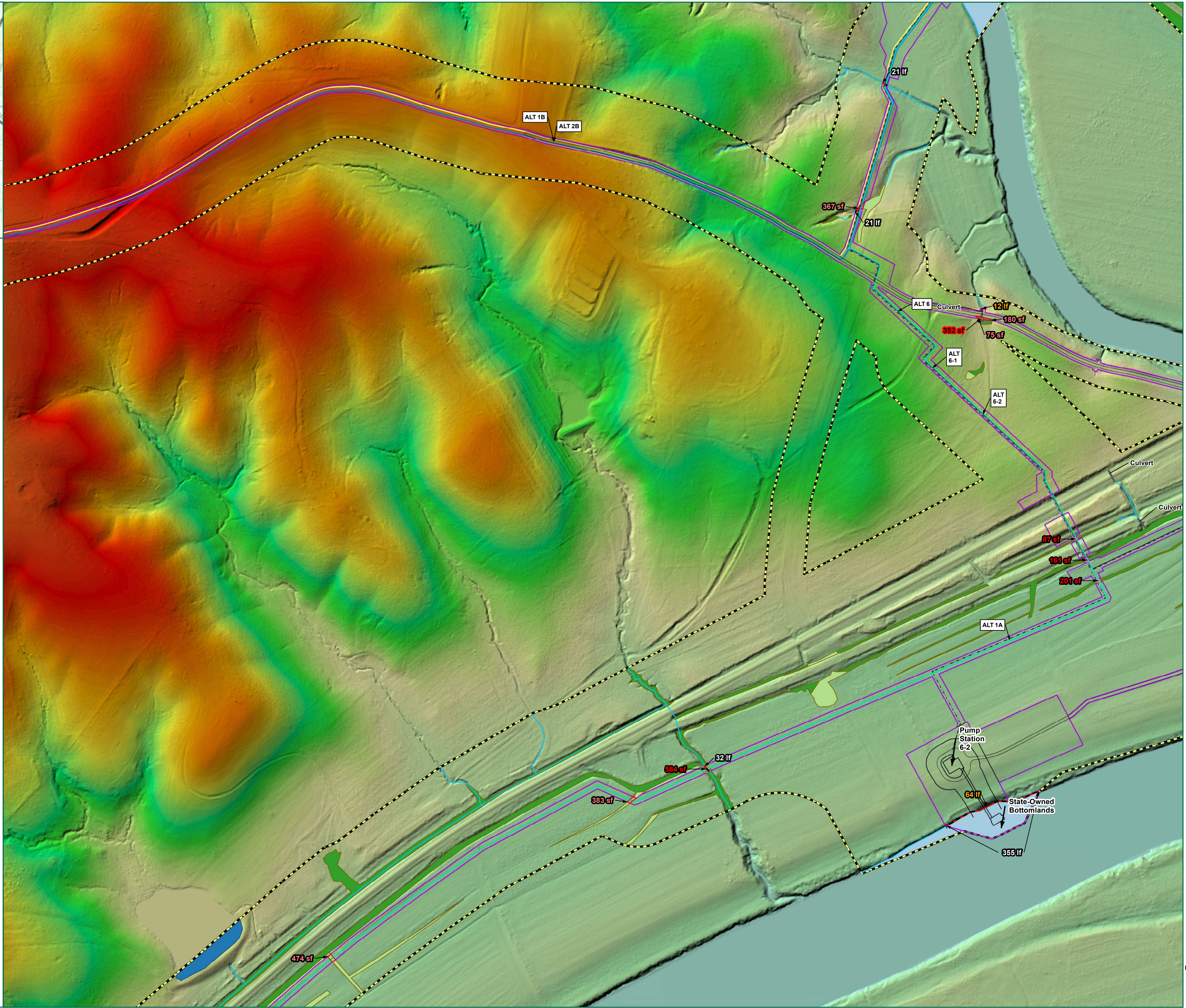
DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**

SCALE (FEET)  
 0 200 400  
 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 200' 15 of 18





- Legend**
- Study Area
  - Limits of Disturbance
  - Temporary Stream Impact
  - Permanent Stream Impact
  - Temporary Wetland Impact
  - Permanent Conversion Wetland Impact
  - Permanent Wetland Impact
  - Temporary Stream Impact
  - Permanent Stream Impact
  - Temporary Wetland Impact
  - Permanent Conversion Wetland Impact
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  - ALT 2A
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 PROJECT NAME: JRWA  
 DESIGNED BY / DRAWN BY: C. CHAPPELL

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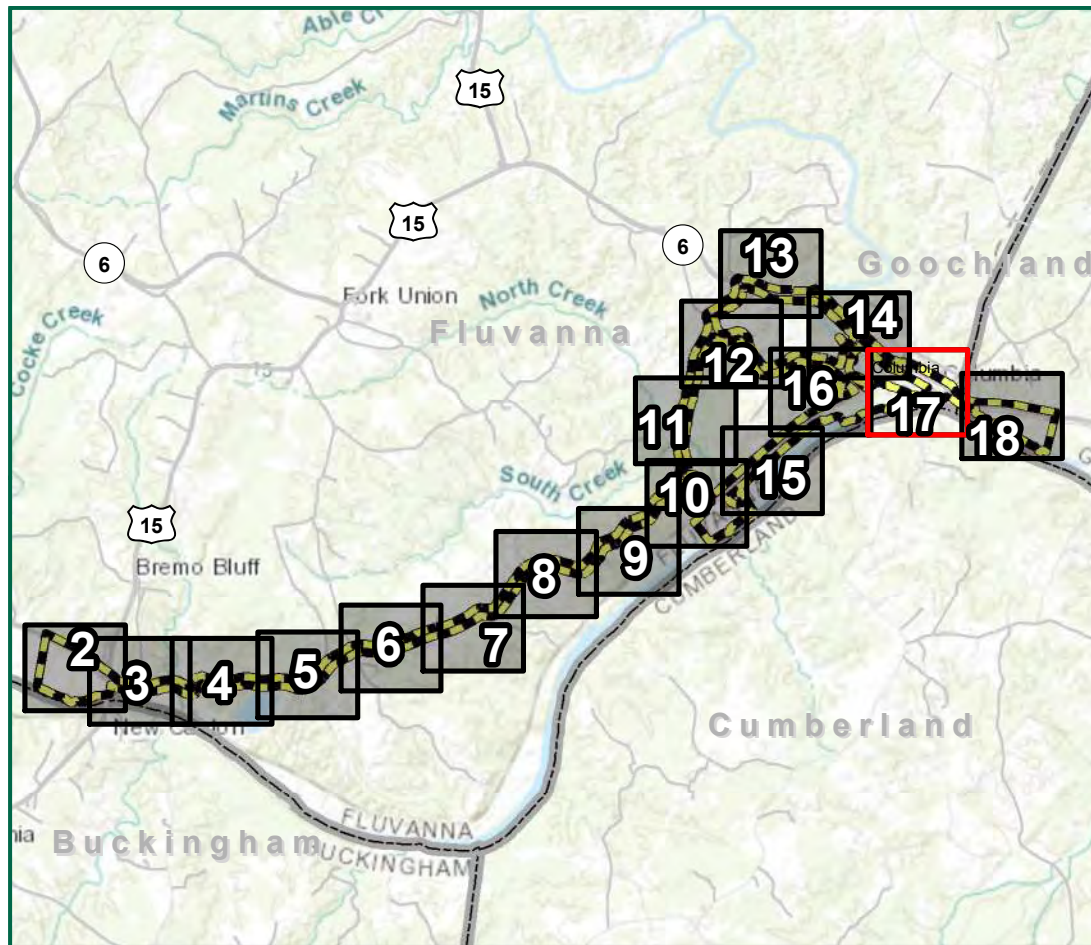
REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**

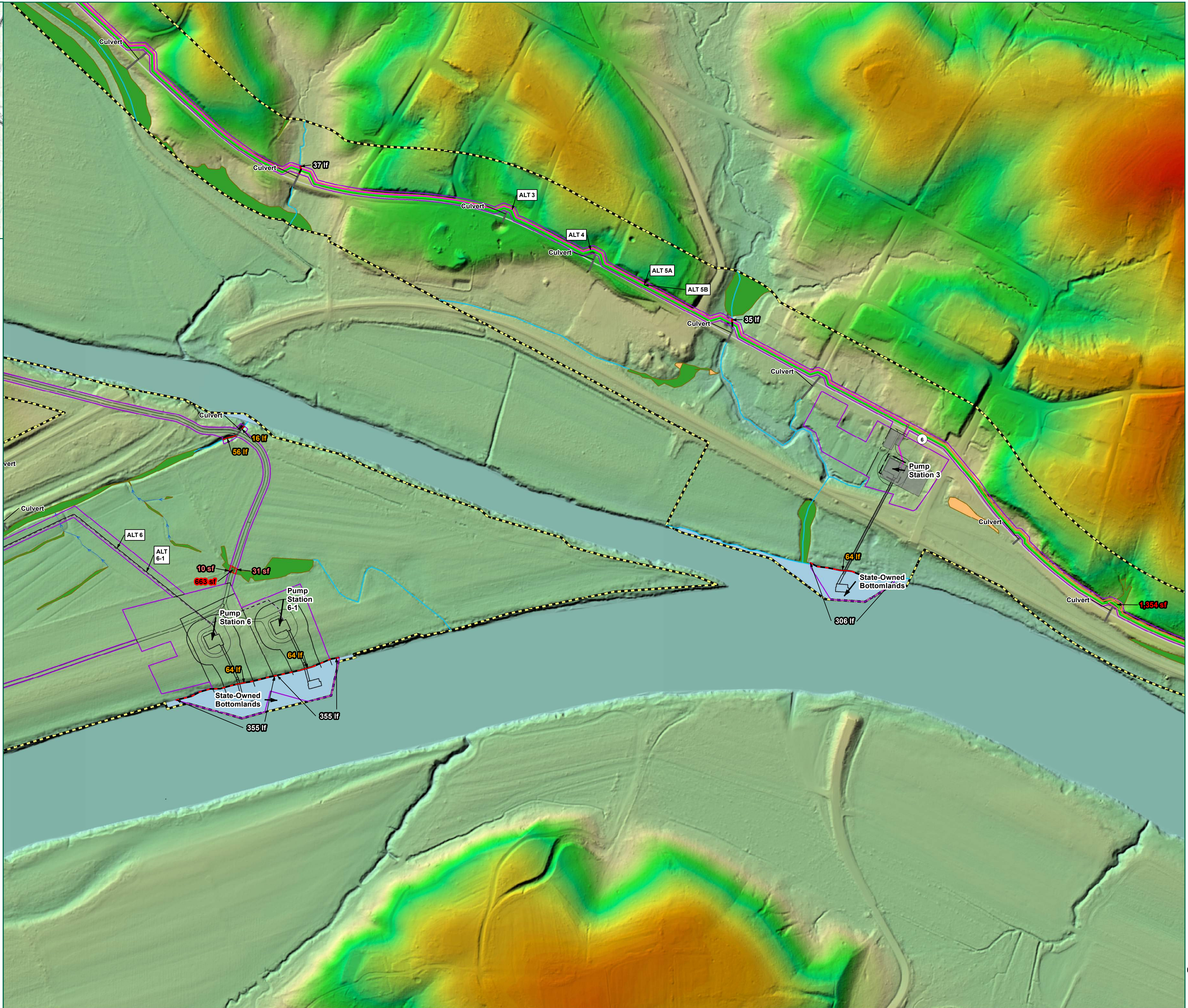
SCALE (FEET)

0 200 400  
 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 200' 16 of 18





- Legend**
- Study Area
  - Limits of Disturbance
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  - Permanent Stream Impact
  - Temporary Wetland Impact
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  - Permanent Wetland Impact
  - Temporary Stream Impact
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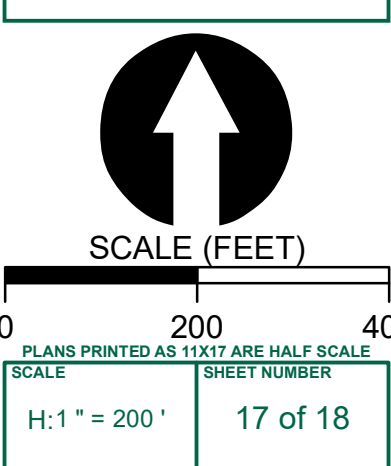
DATE 03/12/2020  
 PROJECT NUMBER 33927  
 PROJECT NAME JRWA  
 DESIGNED BY / DRAWN BY C. CHAPPELL

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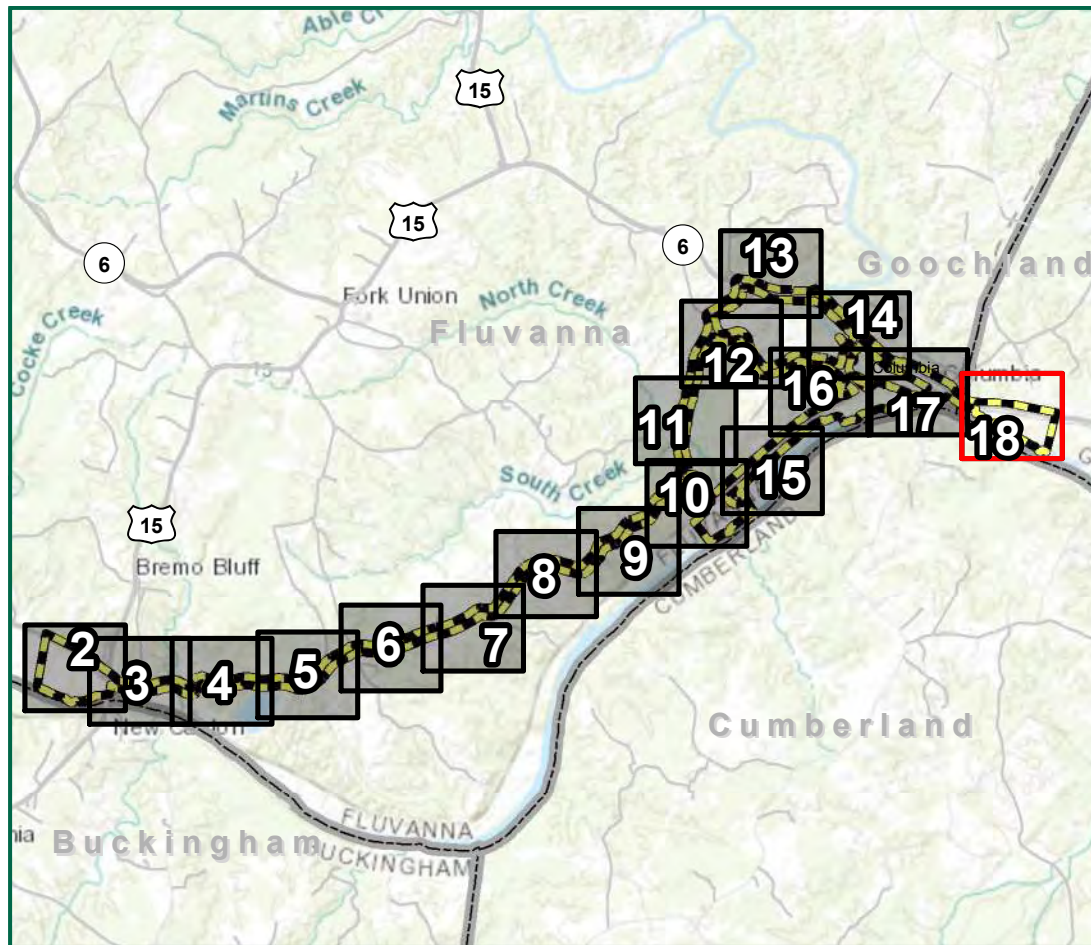
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REVISIONS	
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DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**

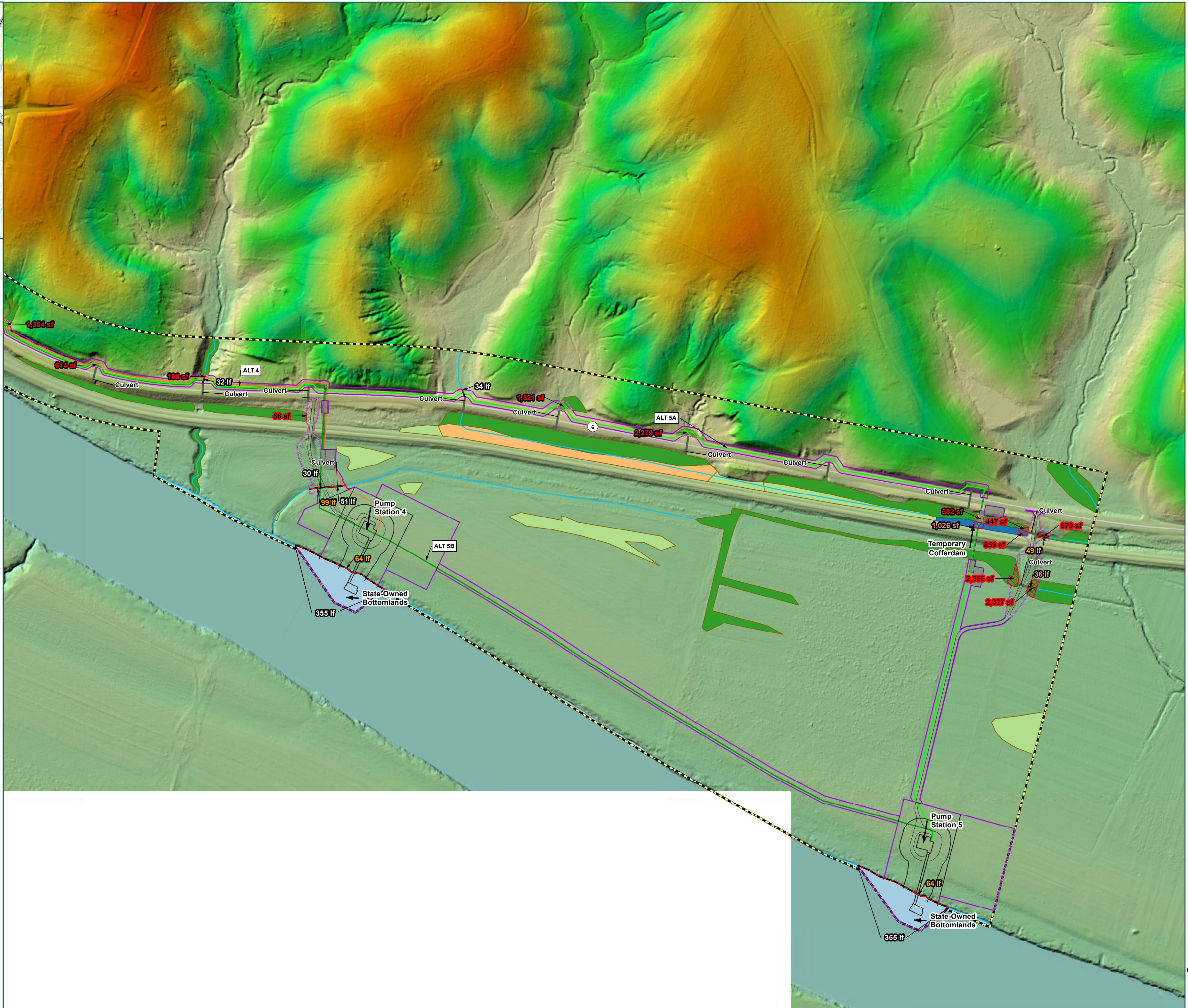






**Legend**

- Study Area
- Limits of Disturbance
- Temporary Stream Impact
- Permanent Stream Impact
- Temporary Wetland Impact
- Permanent Conversion Wetland Impact
- Permanent Wetland Impact
- Temporary Stream Impact
- Permanent Stream Impact
- Temporary Wetland Impact
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DRAWING DESCRIPTION  
**ESTIMATED JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP**

SCALE (FEET)

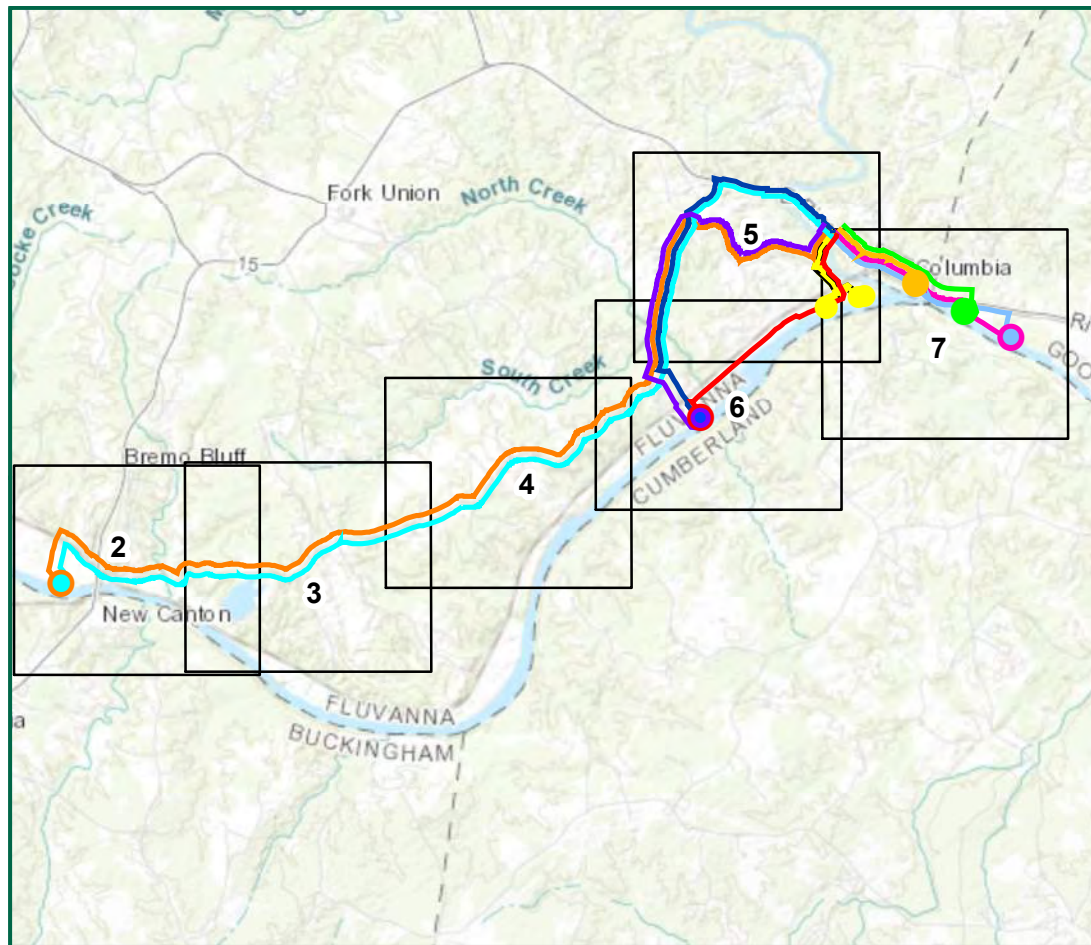
0 200 400  
 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER

H:1" = 200' 18 of 18



**APPENDIX H-12-4**  
**ENVIRONMENTAL INVENTORY MAP – ALTERNATE SITES**





**Legend**

- ALT 1A
- ALT 1B
- ALT 1C
- ALT 2A
- ALT 2B
- ALT 3
- ALT 4
- ALT 5A
- ALT 5B
- ALT 6
- ALT 6-1
- ALT 6-2
- Pump Station 1
- Pump Station 2
- Pump Station 3
- Pump Station 4
- Pump Station 5
- Pump Station 6
- Pump Station 6-1
- Pump Station 6-2
- \* Mussel Survey Locations (Proposed)
- National Hydrography Dataset
- National Wetlands Inventory

**Hydric Soil Classification**

- Hydric
- Partially Hydric
- Non Hydric



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PROJECT NAME & LOCATION  
**JAMES RIVER WATER AUTHORITY**  
 FLUVANNA COUNTY,  
 VIRGINIA

DATE: 03/12/2020  
 PROJECT NUMBER: 33927  
 PROJECT NAME: JRWA  
 DESIGNED BY / DRAWN BY: M.COOLEY

Project Limits are approximate.  
 NWI from US Fish and Wildlife Service.  
 Soils data from SSGRGO.  
 National Hydrography Dataset from USGS.  
 Aerial imagery from VGIN.

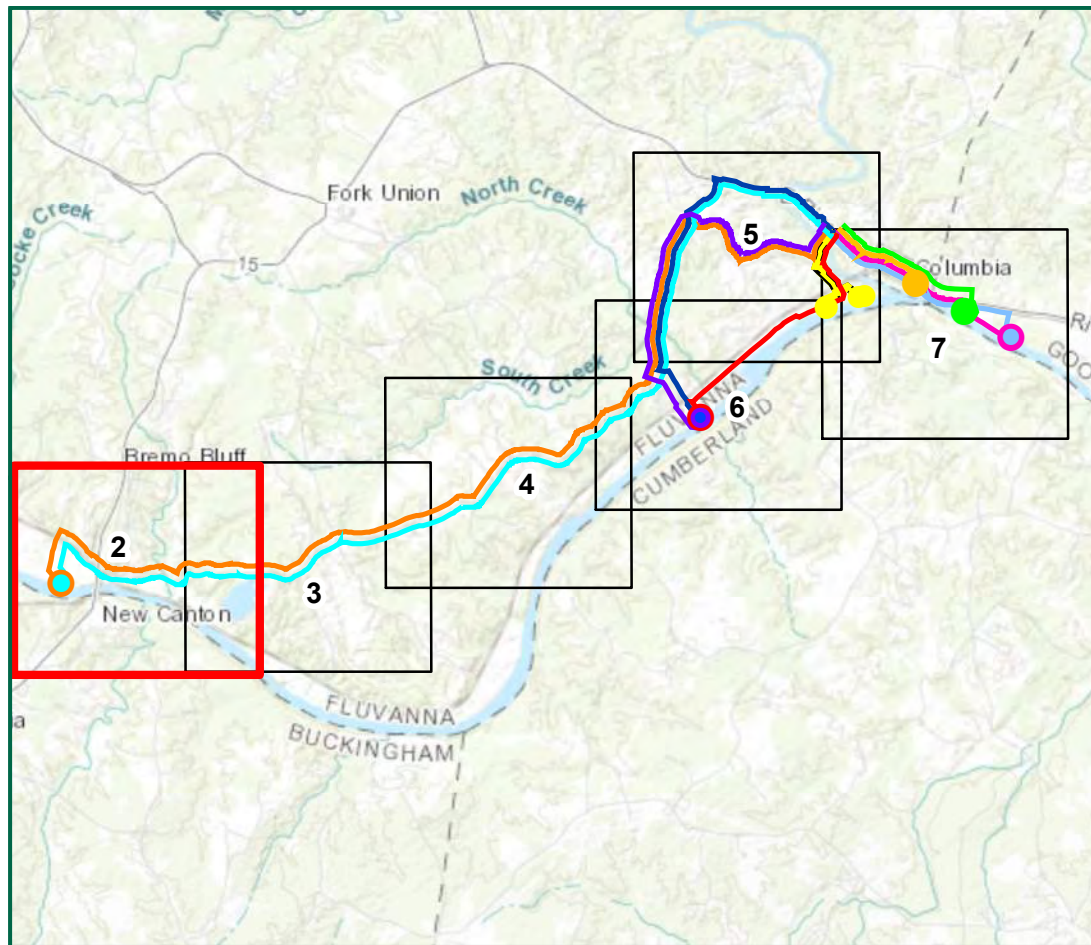
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REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION  
**ENVIRONMENTAL INVENTORY MAP - ALTERNATIVE SITES**

SCALE (FEET)  
 0 2,200 4,400  
 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H: 1" = 2,100' 1 OF 7





**Legend**

- ALT 1A
- ALT 1B
- ALT 1C
- ALT 2A
- ALT 2B
- ALT 3
- ALT 4
- ALT 5A
- ALT 5B
- ALT 6
- ALT 6-1
- ALT 6-2
- Pump Station 1
- Pump Station 2
- Pump Station 3
- Pump Station 4
- Pump Station 5
- Pump Station 6
- Pump Station 6-1
- Pump Station 6-2
- \* Mussel Survey Locations (Proposed)
- National Hydrography Dataset
- National Wetlands Inventory
- Hydric Soil Classification**
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 VIRGINIA

PROJECT NAME & LOCATION

DATE	03/12/2020
PROJECT NUMBER	33927
PROJECT NAME	JRWA
DESIGNED BY / DRAWN BY	M.COOLEY

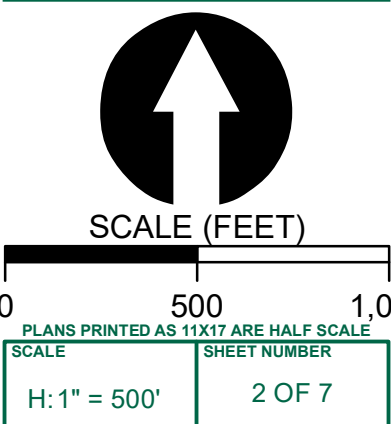
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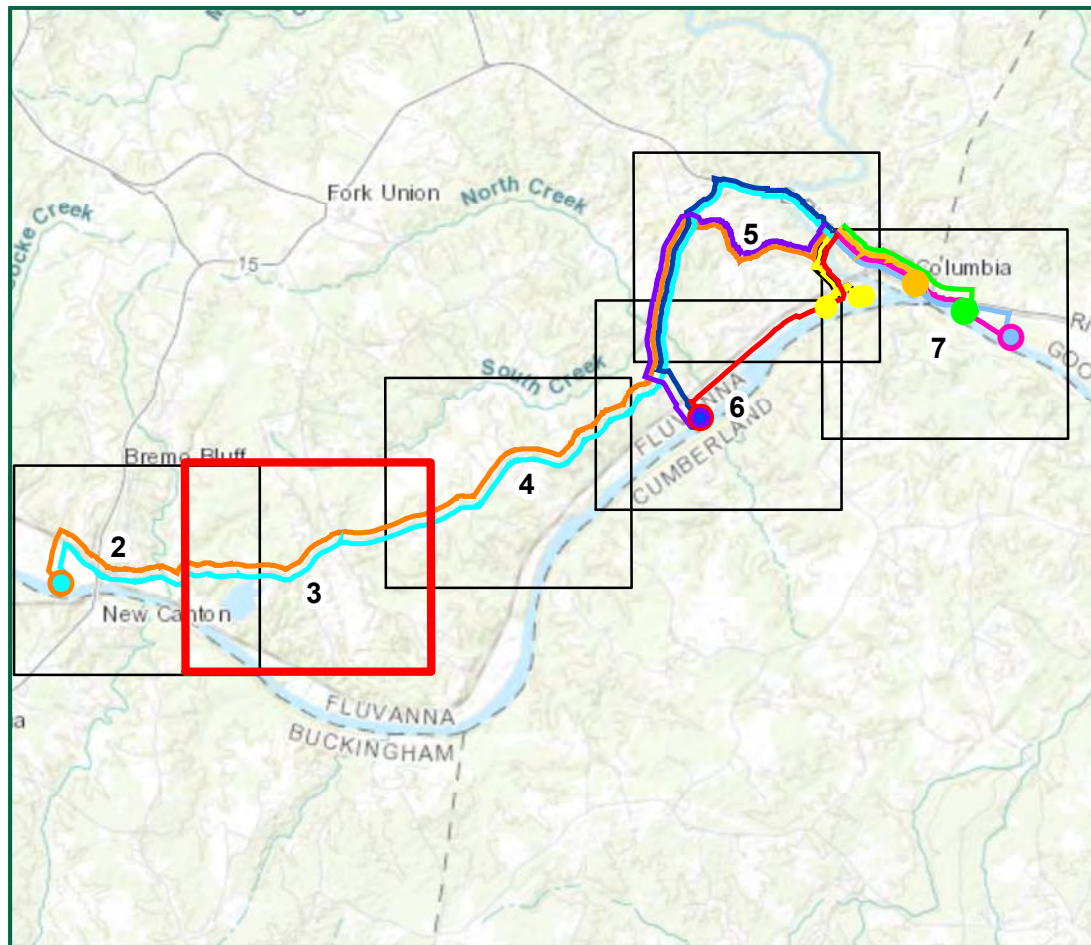
**REVISIONS**

#	DATE	DESCRIPTION

DRAWING DESCRIPTION  
**ENVIRONMENTAL INVENTORY MAP - ALTERNATIVE SITES**







**Legend**

- ALT 1A
  - ALT 1B
  - ALT 1C
  - ALT 2A
  - ALT 2B
  - ALT 3
  - ALT 4
  - ALT 5A
  - ALT 5B
  - ALT 6
  - ALT 6-1
  - ALT 6-2
  - Pump Station 1
  - Pump Station 2
  - Pump Station 3
  - Pump Station 4
  - Pump Station 5
  - Pump Station 6
  - Pump Station 6-1
  - Pump Station 6-2
  - \* Mussel Survey Locations (Proposed)
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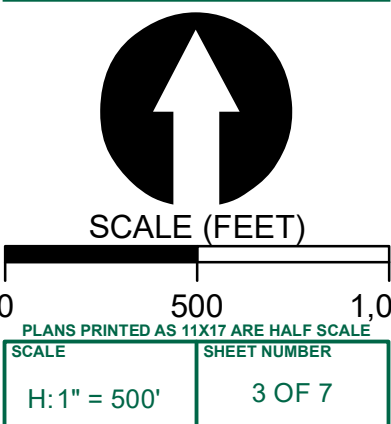
DATE: 03/12/2020  
 PROJECT NUMBER: 33927  
 PROJECT NAME: JRWA  
 DESIGNED BY / DRAWN BY: M.COOLEY

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 NWI from US Fish and Wildlife Service.  
 Soils data from SSURGO.  
 National Hydrography Dataset from USGS.  
 Aerial imagery from VGIN.

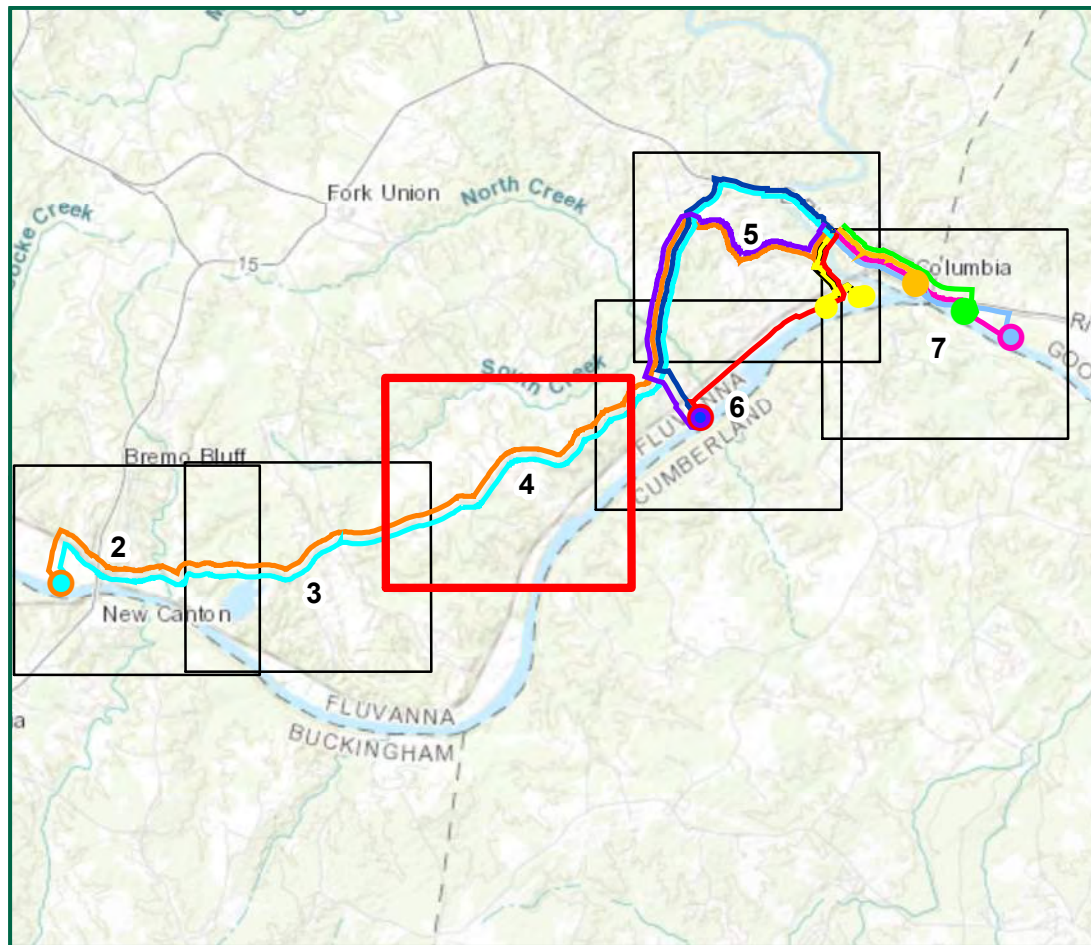
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REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION  
**ENVIRONMENTAL INVENTORY MAP - ALTERNATIVE SITES**







**Legend**

- ALT 1A
  - ALT 1B
  - ALT 1C
  - ALT 2A
  - ALT 2B
  - ALT 3
  - ALT 4
  - ALT 5A
  - ALT 5B
  - ALT 6
  - ALT 6-1
  - ALT 6-2
  - Pump Station 1
  - Pump Station 2
  - Pump Station 3
  - Pump Station 4
  - Pump Station 5
  - Pump Station 6
  - Pump Station 6-1
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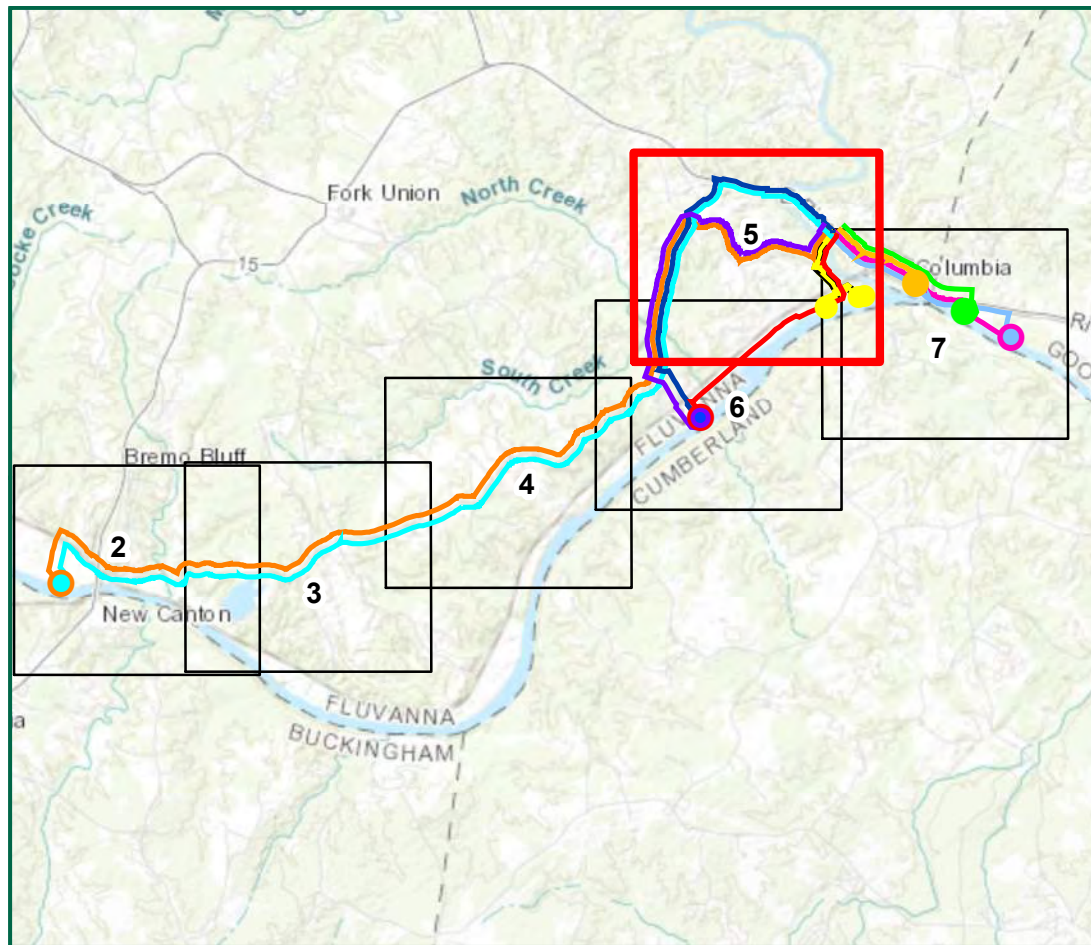
#	DATE	DESCRIPTION

DRAWING DESCRIPTION  
**ENVIRONMENTAL INVENTORY MAP - ALTERNATIVE SITES**

SCALE (FEET)

0 500 1,000  
 PLANS PRINTED AS 11x17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H: 1" = 500' 4 OF 7





**Legend**

- ALT 1A
- ALT 1B
- ALT 1C
- ALT 2A
- ALT 2B
- ALT 3
- ALT 4
- ALT 5A
- ALT 5B
- ALT 6
- ALT 6-1
- ALT 6-2
- Pump Station 1
- Pump Station 2
- Pump Station 3
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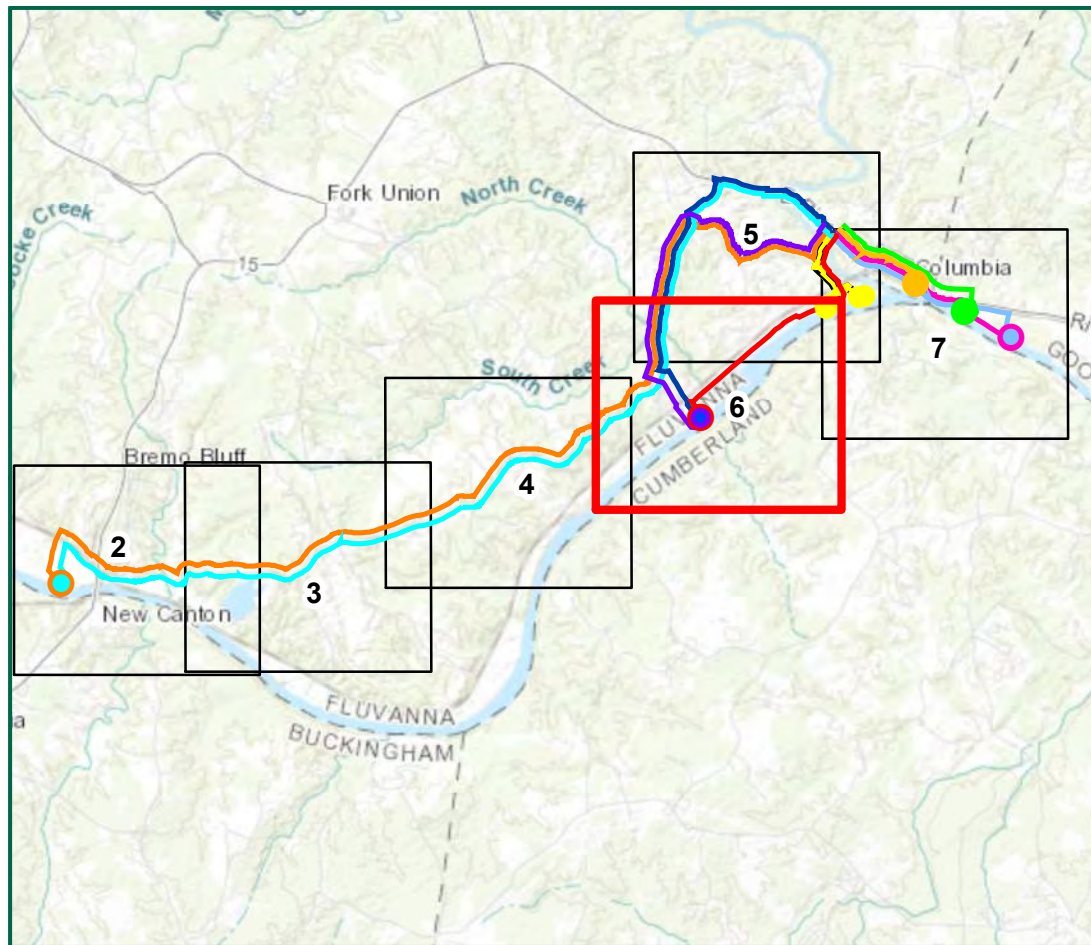
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**ENVIRONMENTAL INVENTORY MAP - ALTERNATIVE SITES**

SCALE (FEET)  
 0 500 1,000  
 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 500' 5 OF 7





**Legend**

- ALT 1A
- ALT 1B
- ALT 1C
- ALT 2A
- ALT 2B
- ALT 3
- ALT 4
- ALT 5A
- ALT 5B
- ALT 6
- ALT 6-1
- ALT 6-2
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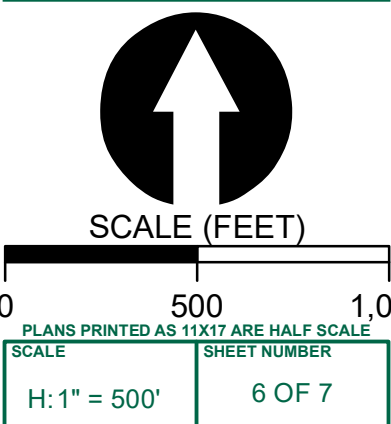
DATE	03/12/2020
PROJECT NUMBER	33927
PROJECT NAME	JRWA
DESIGNED BY / DRAWN BY	M.COOLEY

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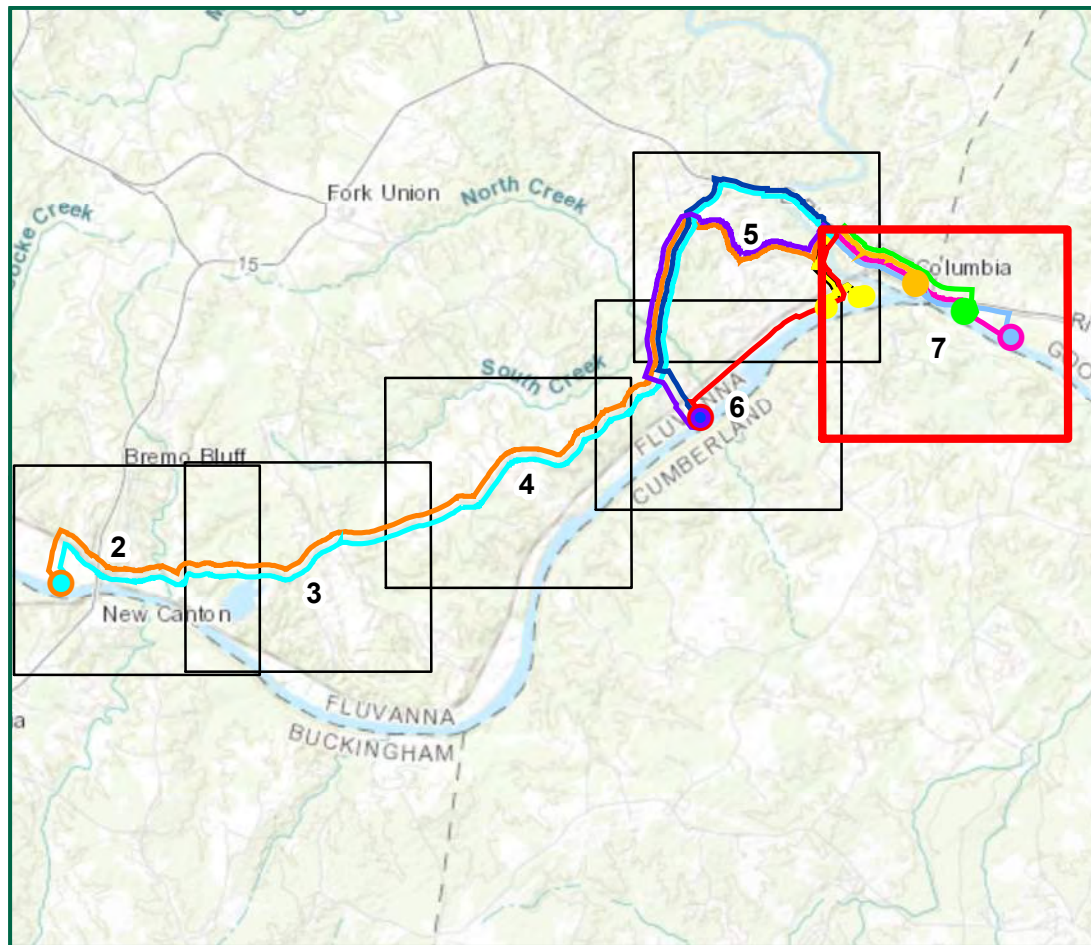
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**ENVIRONMENTAL INVENTORY MAP - ALTERNATIVE SITES**







- Legend**
- ALT 1A
  - ALT 1B
  - ALT 1C
  - ALT 2A
  - ALT 2B
  - ALT 3
  - ALT 4
  - ALT 5A
  - ALT 5B
  - ALT 6
  - ALT 6-1
  - ALT 6-2
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  - Pump Station 2
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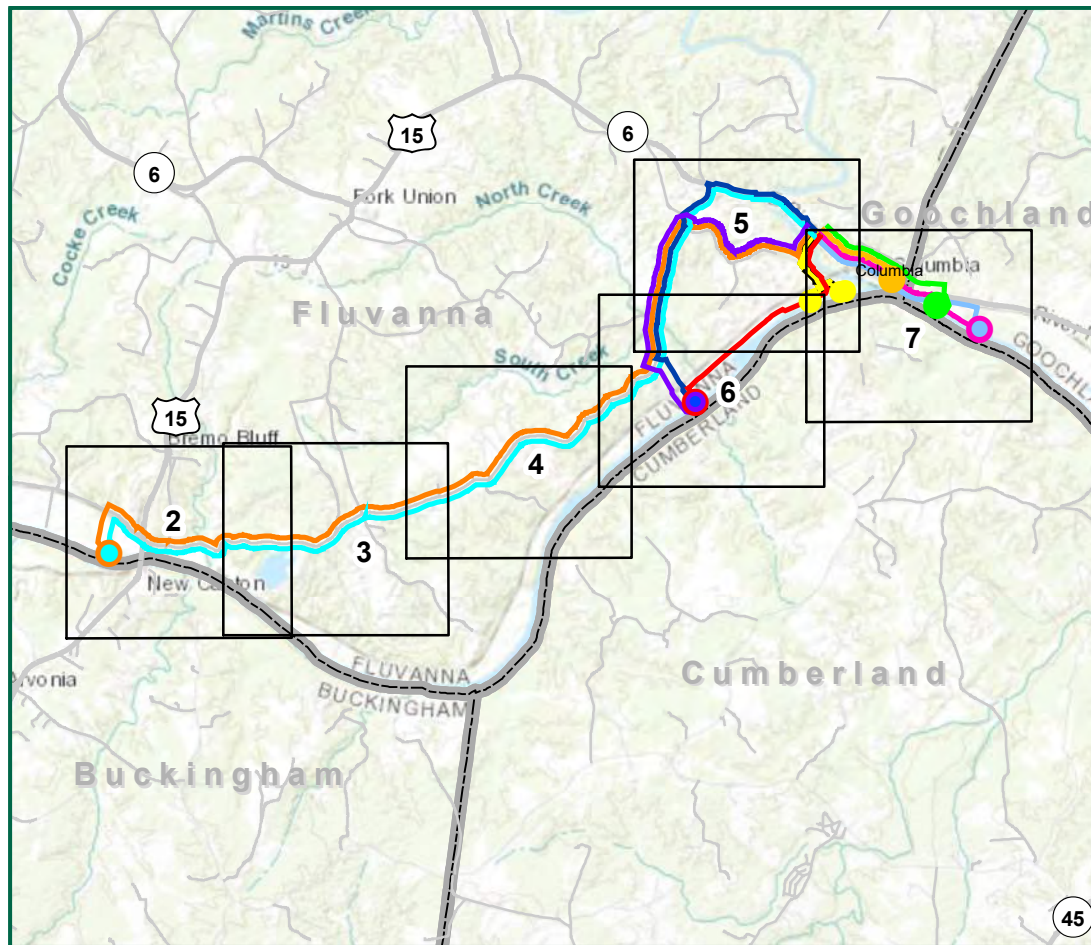
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**ENVIRONMENTAL INVENTORY MAP - ALTERNATIVE SITES**

SCALE (FEET)  
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 PLANS PRINTED AS 11X17 ARE HALF SCALE  
 SCALE SHEET NUMBER  
 H:1" = 500' 7 OF 7



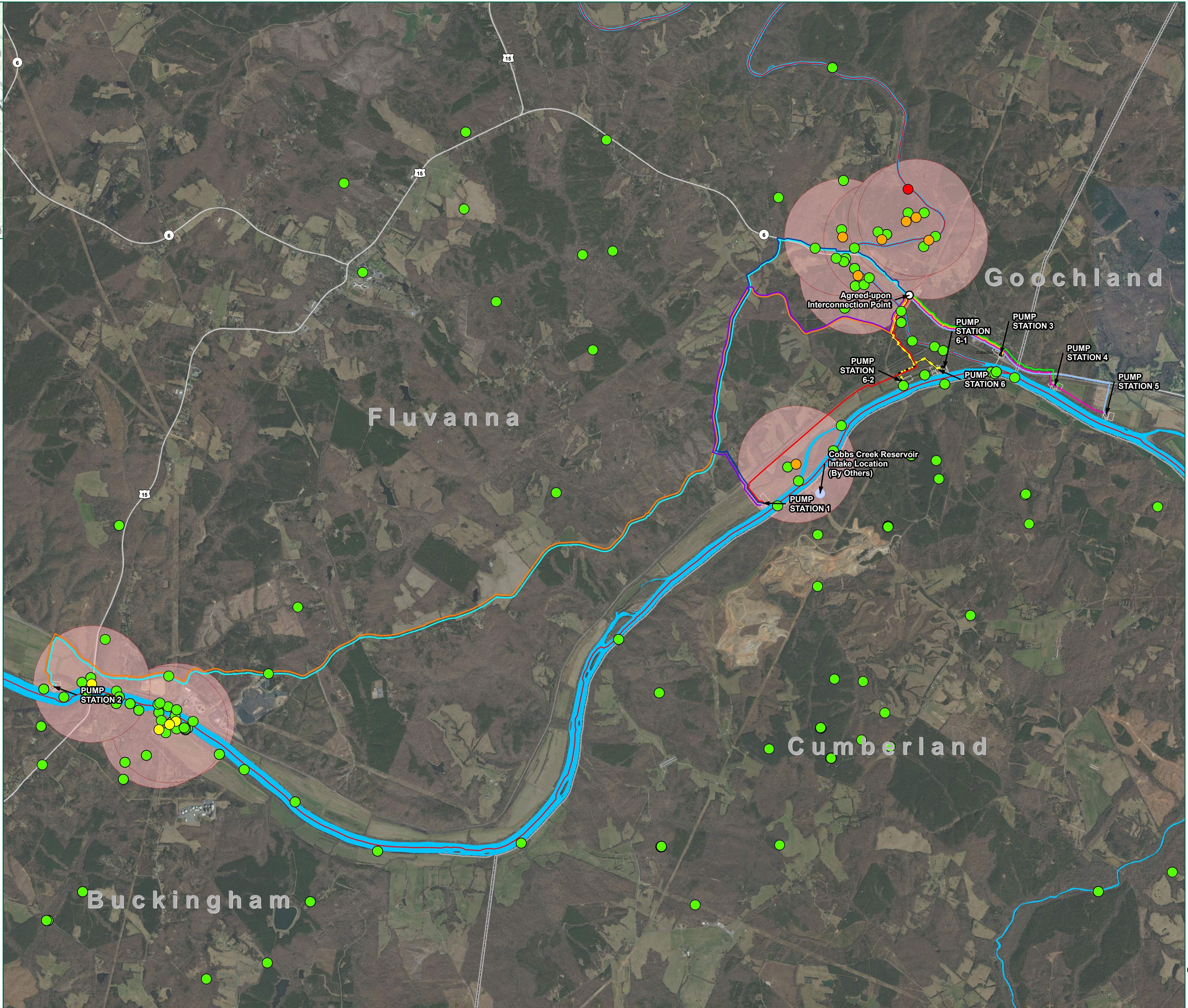
**APPENDIX H-13**  
**THREATENED AND ENDANGERED SPECIES INFORMATION**





**Legend**

- ALT 1A
  - ALT 1B
  - ALT 1C
  - ALT 2A
  - ALT 2B
  - ALT 3
  - ALT 4
  - ALT 5A
  - ALT 5B
  - ALT 6
  - ALT 6-1
  - ALT 6-2
  - ▲ NLEB Roost Trees - Not Present
  - Trout Streams - Not Present
  - Threatened/Endangered Waters
  - Anadromous Fish Use
  - Bald Eagle Concentration Areas and Roosts - Not Present
  - Colonial Water Birds - Not Present
  - Bat Hibernacula - Not Present
  - Federal Threatened / State Endangered Observation Area
- Species Observed**
- Federal Status, State Status**
- Federal Proposed, State Threatened
  - Federal Threatened, Non-Endangered/Non-Threatened
  - Non-Endangered/Non-Threatened, State Threatened
  - Non-Endangered/Non-Threatened, Non-Endangered/Non-Threatened



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PROJECT NAME & LOCATION  
**JAMES RIVER WATER AUTHORITY**  
 FLUVANNA COUNTY,  
 VIRGINIA

DATE: 03/12/2020  
 PROJECT NUMBER: 33927  
 PROJECT NAME: JRWA  
 DESIGNED BY / DRAWN BY: C. CHAPPELL

Project Limits are approximate.  
 WERMS data from DGIF.  
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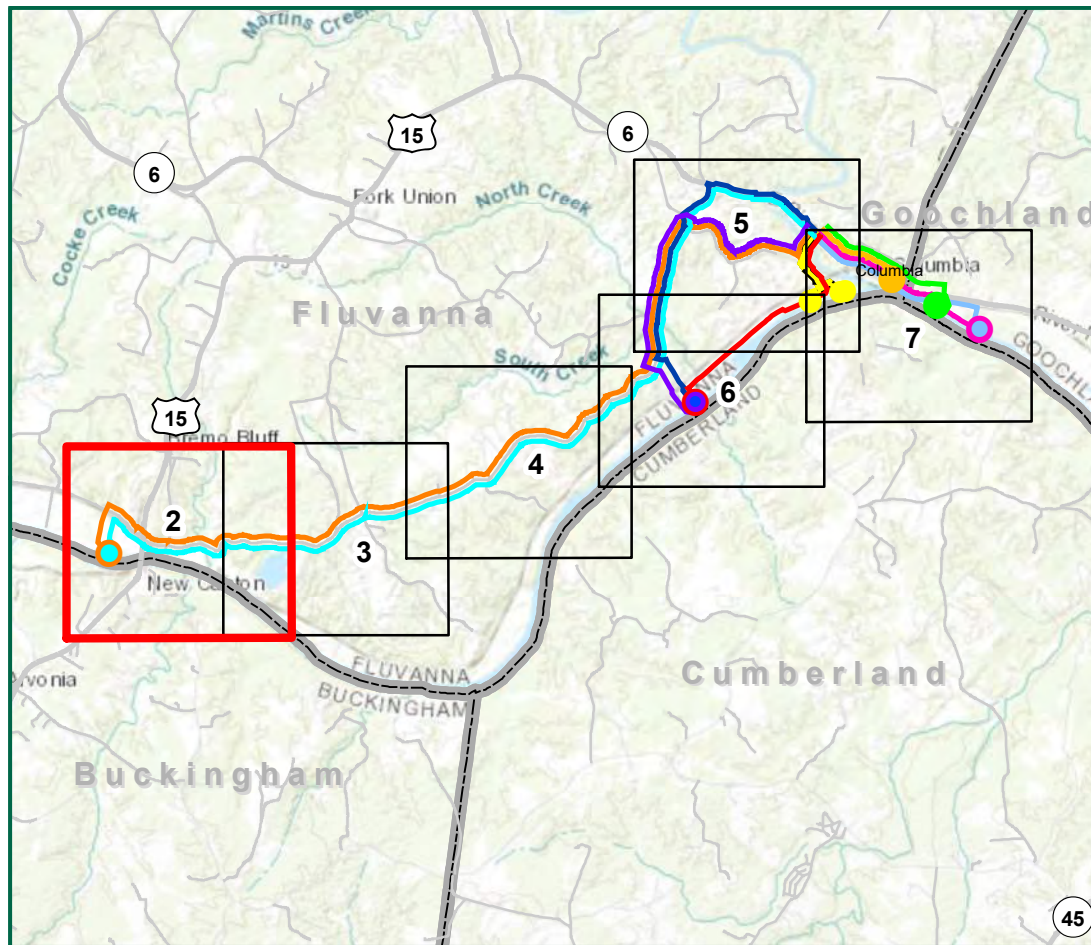
REVISIONS	
#	DESCRIPTION

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**WILDLIFE ENVIRONMENTAL REVIEW MAP - ALTERNATIVE SITES**

SCALE (FEET)

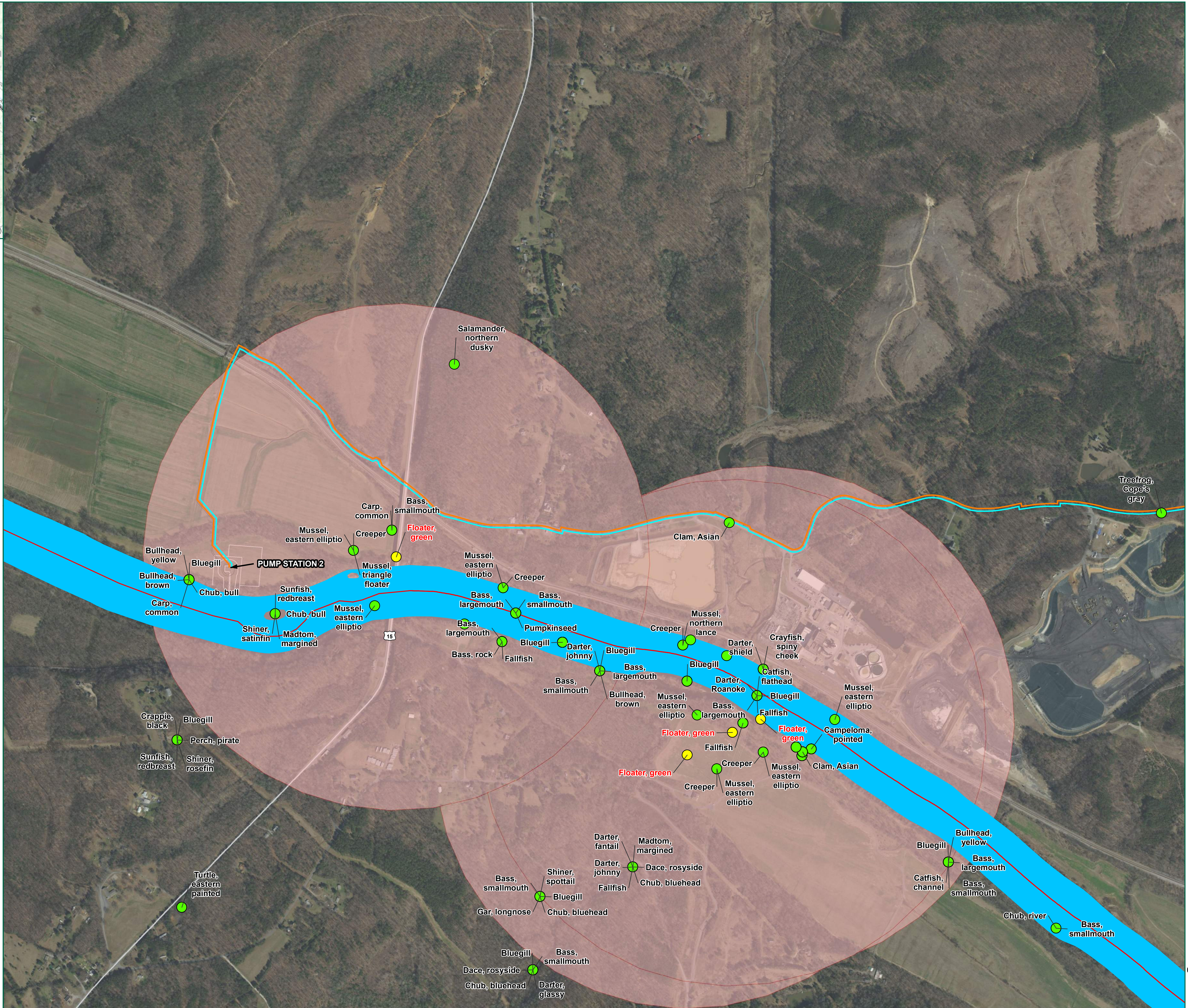
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 SCALE SHEET NUMBER  
 H: 1" = 2,100' 1 OF 7





**Legend**

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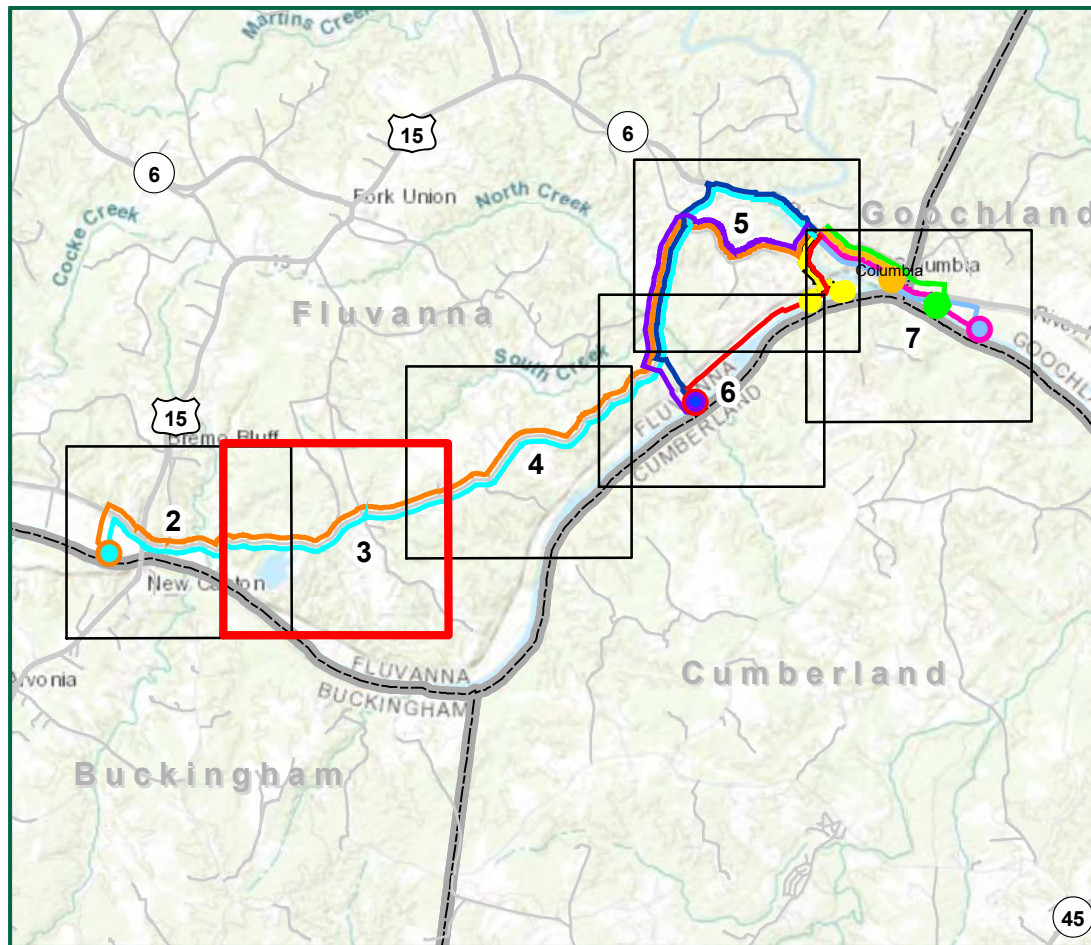
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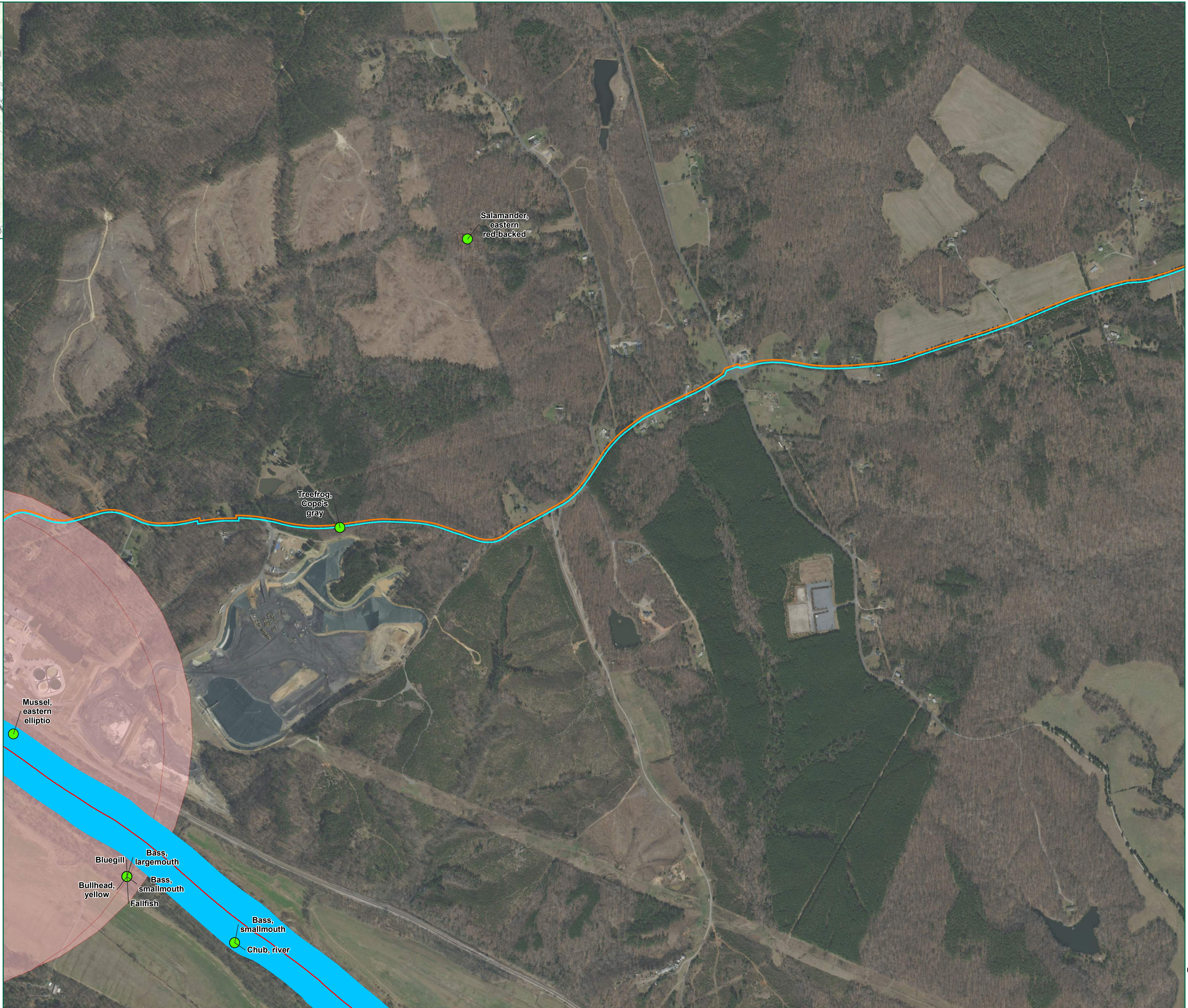
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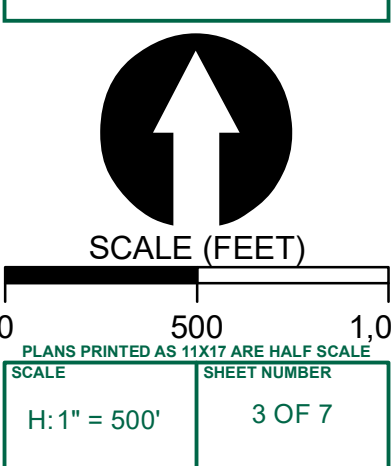
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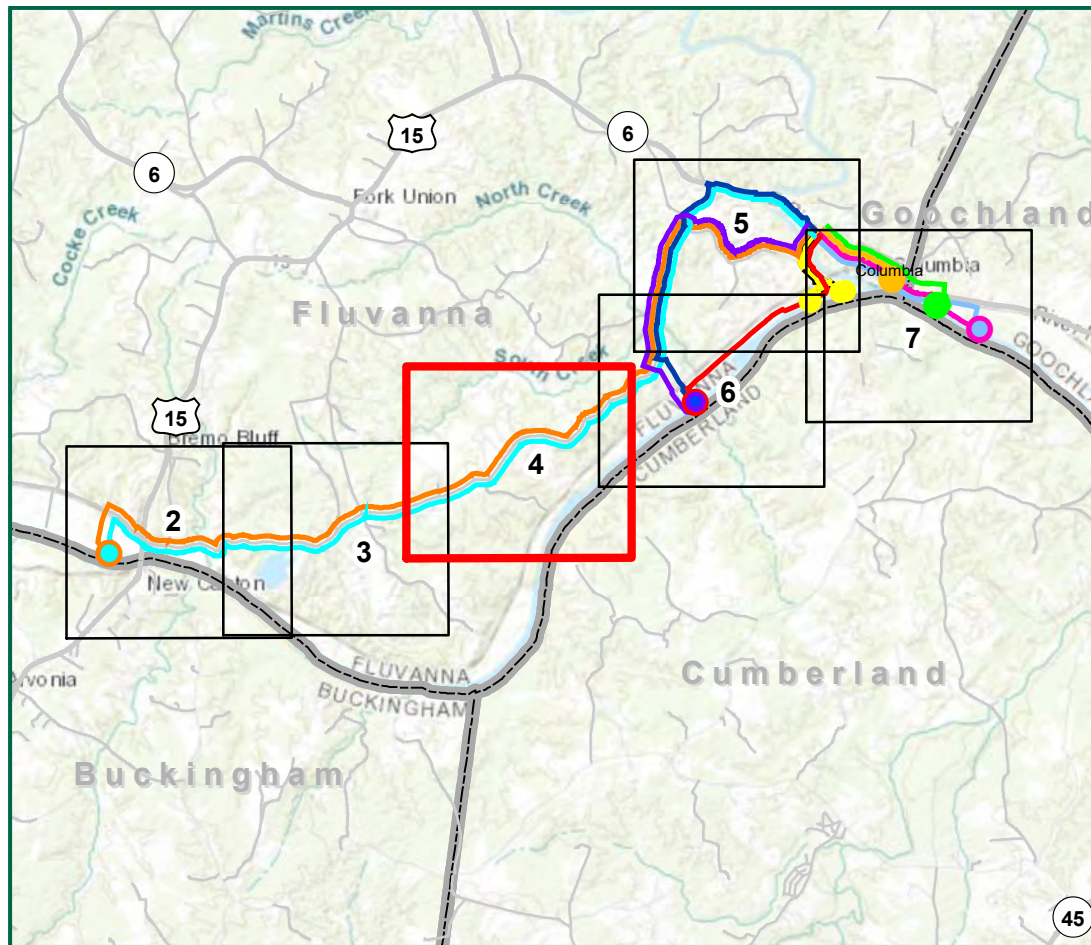
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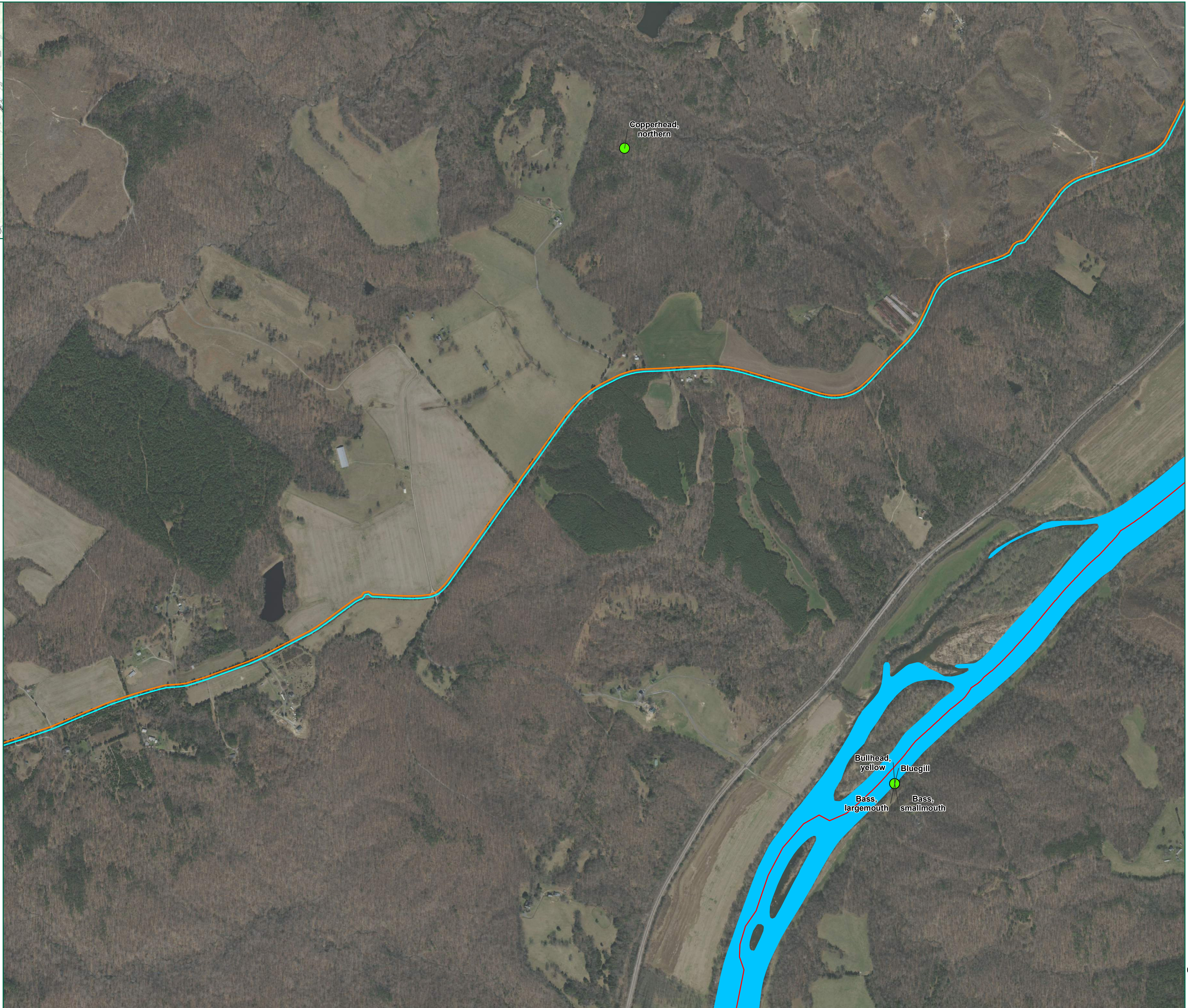






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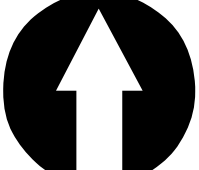
DATE	03/12/2020
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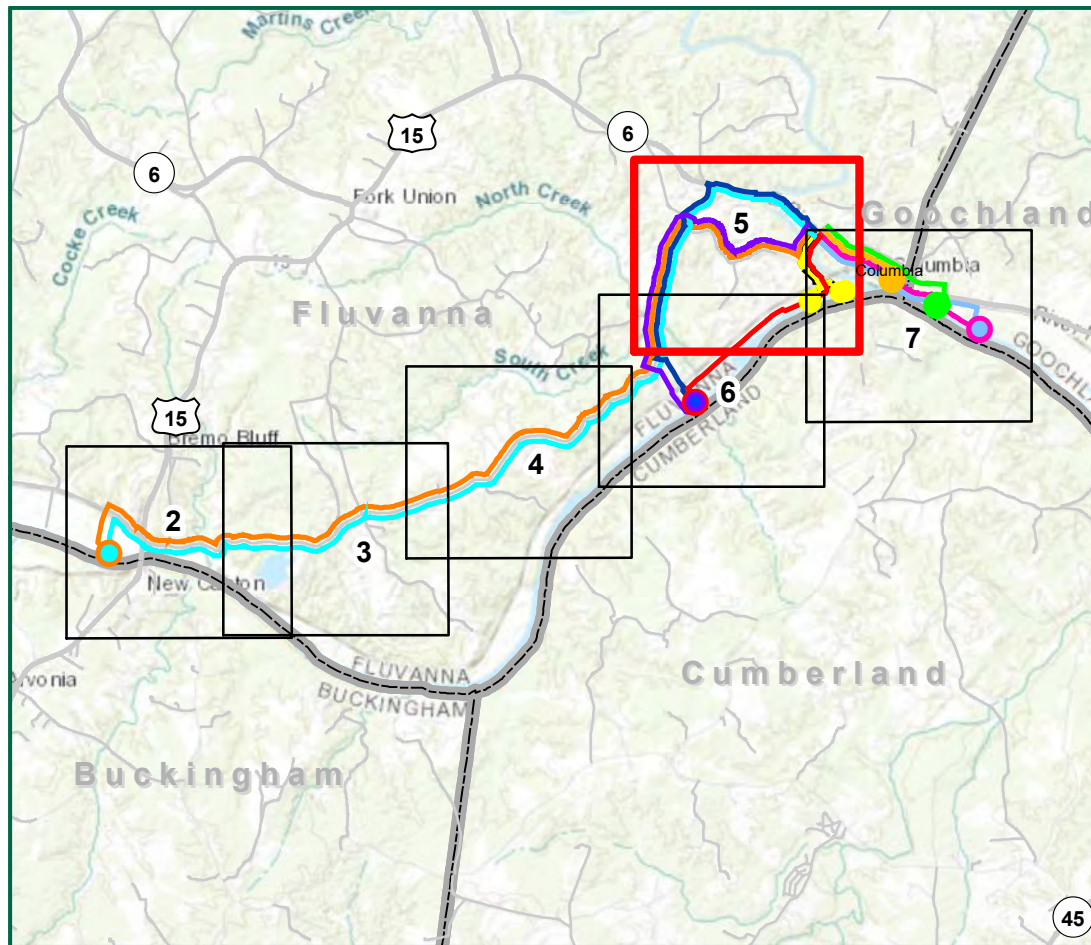
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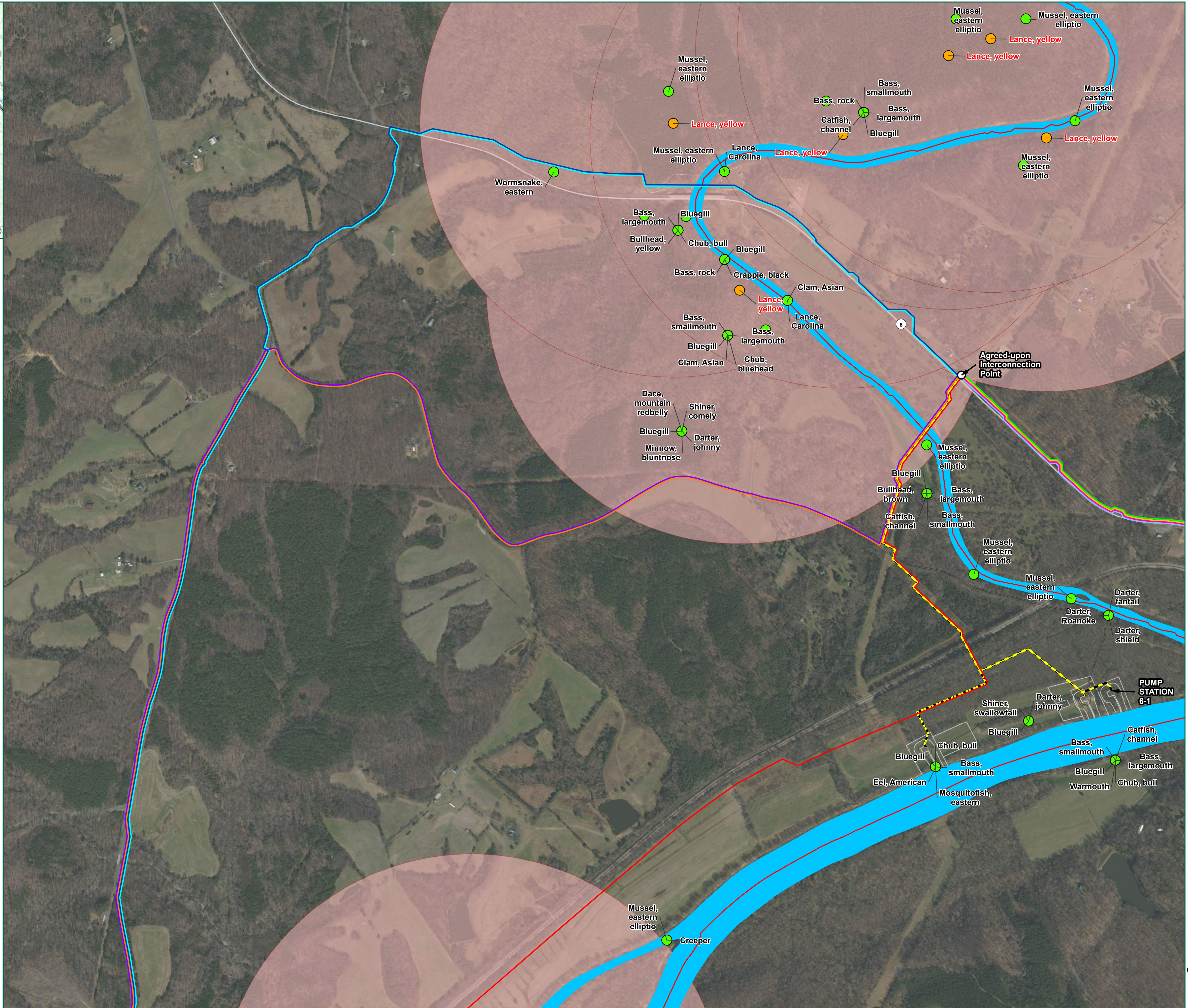
  
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 H: 1" = 500' 4 OF 7





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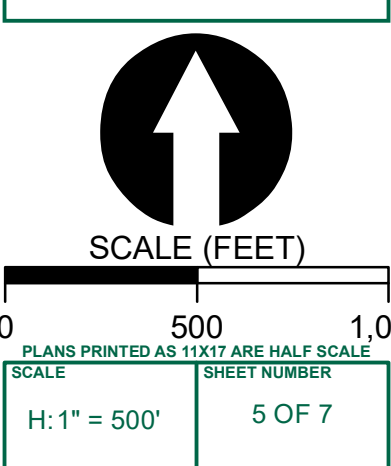
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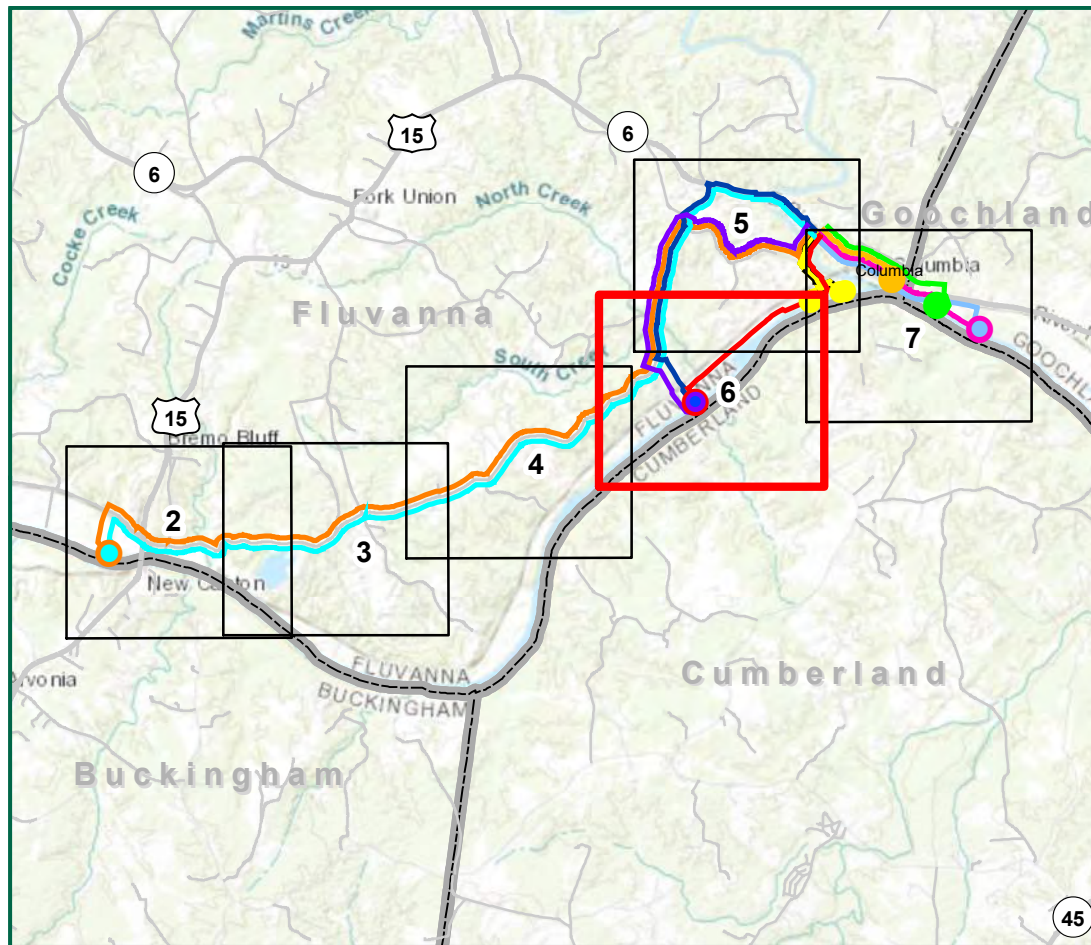
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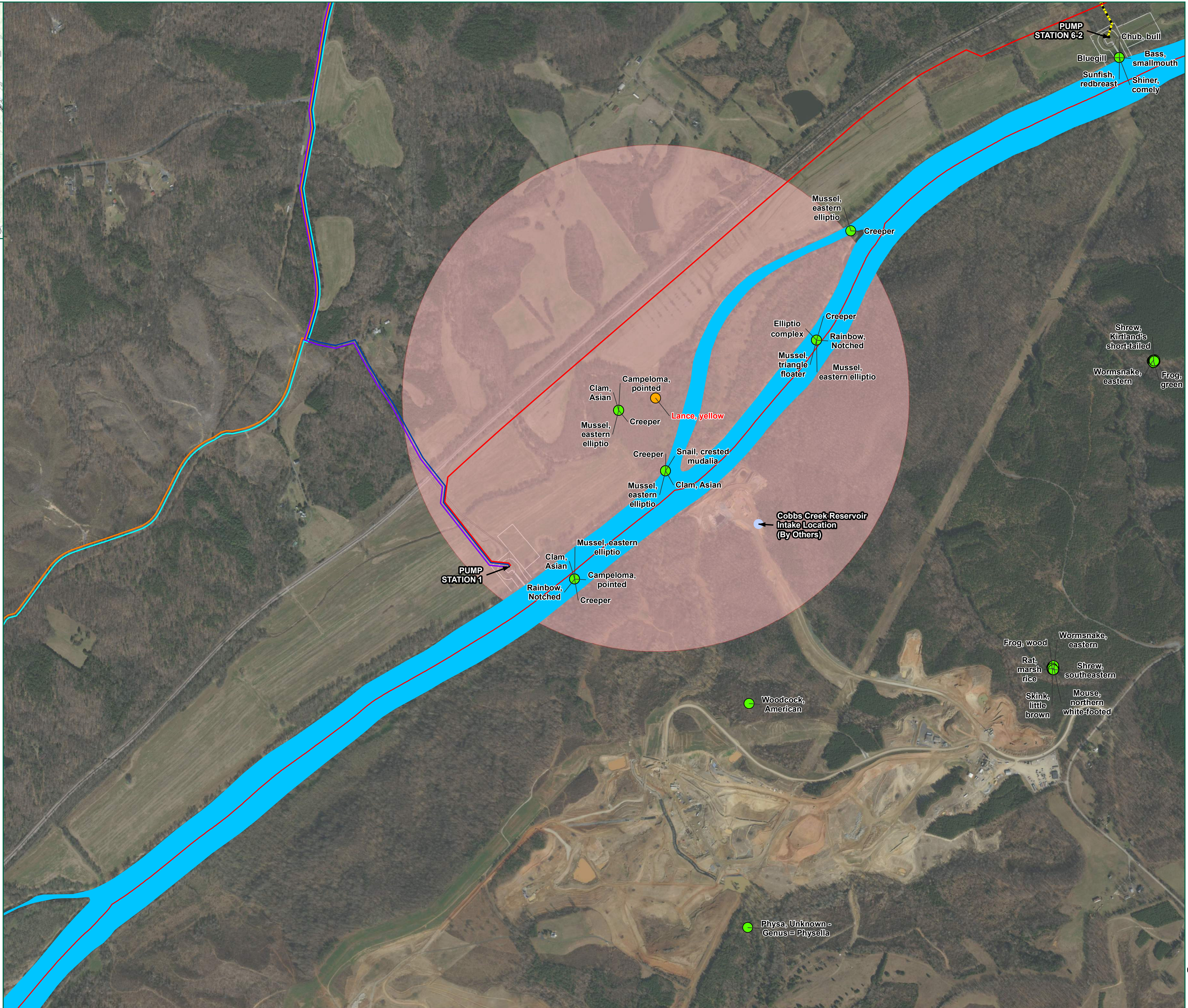






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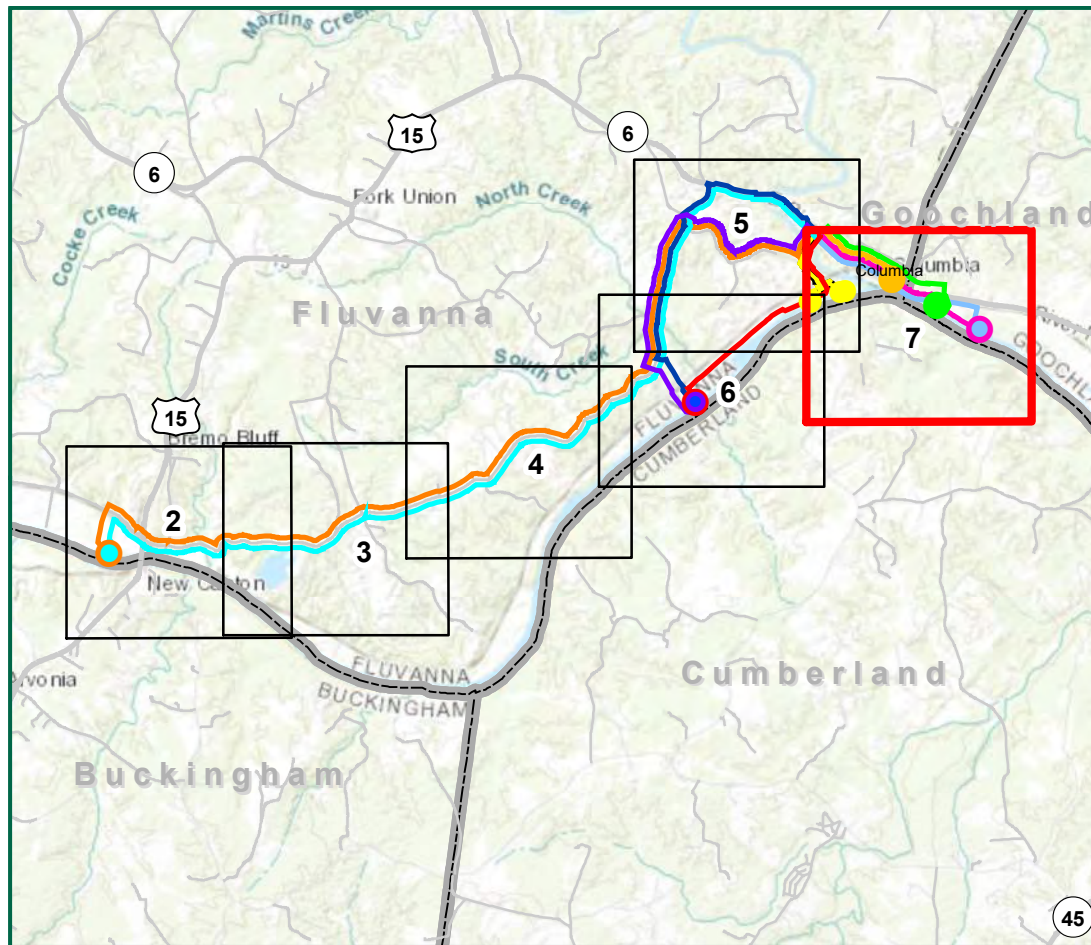
**REVISIONS**

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 WILDLIFE ENVIRONMENTAL REVIEW MAP - ALTERNATIVE SITES

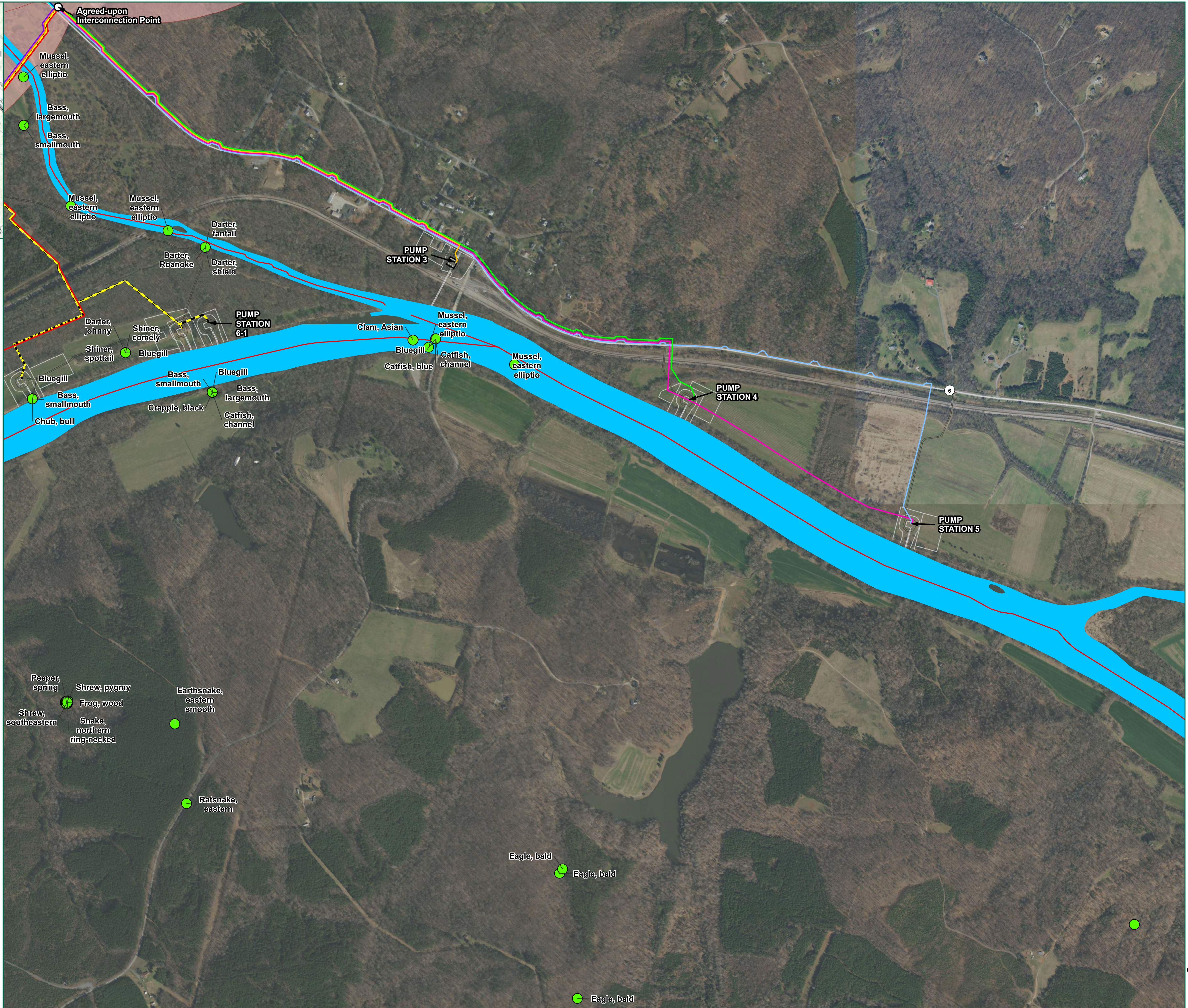
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 SCALE SHEET NUMBER  
 H: 1" = 500' 6 OF 7





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SCALE (FEET)  
 0 500 1,000  
 PLANS PRINTED AS 11x17 ARE HALF SCALE  
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 H:1" = 500' 7 OF 7

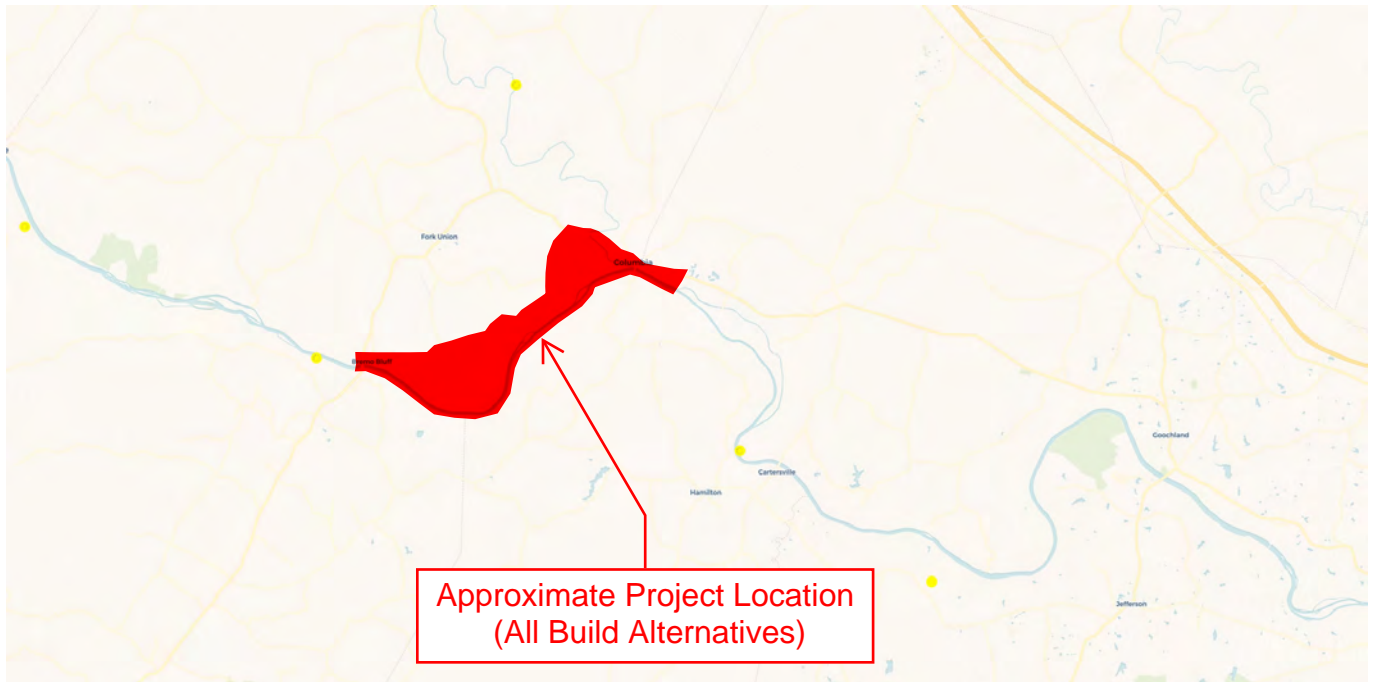








# CCB Mapping Portal



**Layers:** VA Eagle Nest Locator, VA Eagle Nest Buffers, Eagle Roosts, Eagle Roost Polygons, Eagle Roost Buffers

**Map Center [longitude, latitude]:** [-78.1680679321289, 37.74139927315054]

**Map Link:**

[https://www.ccbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&layer=Eagle+Roost+Polygons&layer=Eagle+Roost+Buffers&zoom=12&lat=37.74139927315054&lng=-78.1680679321289&legend=legend\\_tab\\_4ca7337c-c07d-11e5-93bc-0ecfd53eb7d3&base=Street+Map+%28OSM%2FCarto%29](https://www.ccbirds.org/maps/#layer=VA+Eagle+Nest+Locator&layer=VA+Eagle+Nest+Buffers&layer=Eagle+Roosts&layer=Eagle+Roost+Polygons&layer=Eagle+Roost+Buffers&zoom=12&lat=37.74139927315054&lng=-78.1680679321289&legend=legend_tab_4ca7337c-c07d-11e5-93bc-0ecfd53eb7d3&base=Street+Map+%28OSM%2FCarto%29)

**Report Generated On:** 02/17/2020

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Report generated by [The Center for Conservation Biology Mapping Portal](#).

To learn more about CCB visit [ccbirds.org](http://ccbirds.org) or contact us at [info@ccbirds.org](mailto:info@ccbirds.org)



# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

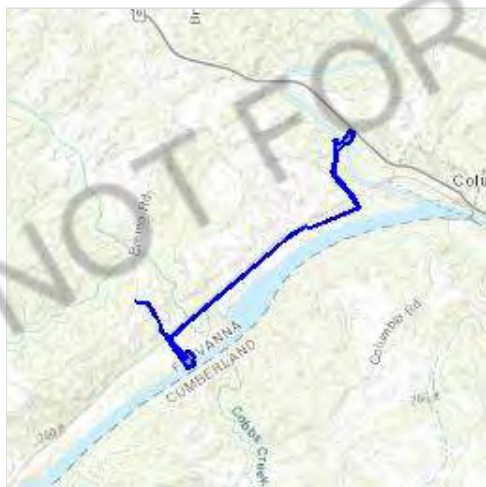
## Project information

### NAME

JRWA Build Alternative 1A

### LOCATION

Fluvanna County, Virginia



## Local office

Virginia Ecological Services Field Office

☎ (804) 693-6694

📅 (804) 693-9032

6669 Short Lane

Gloucester, VA 23061-4410



<http://www.fws.gov/northeast/virginiafield/>

NOT FOR CONSULTATION



# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME

STATUS



Northern Long-eared Bat *Myotis septentrionalis*  
 No critical habitat has been designated for this species.  
<https://ecos.fws.gov/ecp/species/9045>

Threatened

## Clams

NAME

STATUS

Atlantic Pigtoe *Fusconaia masoni*  
 There is **proposed** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/5164>

Proposed Threatened

James Spiny mussel *Pleurobema collina*  
 No critical habitat has been designated for this species.  
<https://ecos.fws.gov/ecp/species/2212>

Endangered

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>



The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the [FAQ below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
<p><b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></p>	Breeds Sep 1 to Jul 31
<p><b>Blue-winged Warbler</b> <i>Vermivora pinus</i>            This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 1 to Jun 30
<p><b>Prothonotary Warbler</b> <i>Protonotaria citrea</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Apr 1 to Jul 31
<p><b>Red-headed Woodpecker</b> <i>Melanerpes erythrocephalus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Sep 10



# Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

## Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

## Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

## Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

## No Data (—)

A week is marked as having no data if there were no survey events for that week.

## Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project



intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.



Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

### National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

### Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.



# Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1A](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PSS1/EM1Ad](#)

RIVERINE

[R2UBH](#)

[R4SBC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

## Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this



inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



**VaFWIS Initial Project Assessment Report** Compiled on 2/11/2020,[Help](#)

12:08:35 PM

Known or likely to occur within a **2 mile buffer around polygon; center 37.7511200 -78.1749999**  
**in 049 Cumberland County, 065 Fluvanna County, 075 Goochland County, VA**

[View Map of  
Site Location](#)

471 Known or Likely Species ordered by Status Concern for Conservation  
 (displaying first 21) (21 species with Status\* or Tier I\*\* or Tier II\*\* )

<a href="#">BOVA Code</a>	<a href="#">Status*</a>	<a href="#">Tier**</a>	<a href="#">Common Name</a>	<a href="#">Scientific Name</a>	<a href="#">Confirmed</a>	<a href="#">Database(s)</a>
060017	FESE	Ia	<a href="#">Spinymussel, James</a>	Parvaspina collina		BOVA
060003	FESE	Ia	<a href="#">Wedgemussel, dwarf</a>	Alasmidonta heterodon		BOVA
050022	FTST	Ia	<a href="#">Bat, northern long-eared</a>	Myotis septentrionalis		BOVA
060029	FT	IIa	<a href="#">Lance, yellow</a>	Elliptio lanceolata	<a href="#">Yes</a>	BOVA,SppObs
050020	SE	Ia	<a href="#">Bat, little brown</a>	Myotis lucifugus		BOVA
050027	SE	Ia	<a href="#">Bat, tri-colored</a>	Perimyotis subflavus		BOVA
060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa		BOVA,Habitat
040293	ST	Ia	<a href="#">Shrike, loggerhead</a>	Lanius ludovicianus		BOVA
060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	<a href="#">Yes</a>	BOVA,TEWaters,Habitat,SppObs
060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>	BOVA,TEWaters,Habitat
040292	ST		<a href="#">Shrike, migrant loggerhead</a>	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	<a href="#">Turtle, spotted</a>	Clemmys guttata		BOVA
030012	CC	IVa	<a href="#">Rattlesnake, timber</a>	Crotalus horridus		BOVA
060084		Ib	<a href="#">Pigtoe, Virginia</a>	Lexingtonia subplana		BOVA
040213		Ic	<a href="#">Owl, northern saw-whet</a>	Aegolius acadicus		BOVA
040052		IIa	<a href="#">Duck, American black</a>	Anas rubripes		BOVA
040029		IIa	<a href="#">Heron, little blue</a>	Egretta caerulea caerulea		BOVA
040320		IIa	<a href="#">Warbler,</a>	Setophaga cerulea		BOVA



			<a href="#">cerulean</a>			
040140		IIa	<a href="#">Woodcock, American</a>	Scolopax minor	<a href="#">Yes</a>	BOVA,SppObs
040203		IIb	<a href="#">Cuckoo, black-billed</a>	Coccyzus erythrophthalmus		BOVA
040105		IIb	<a href="#">Rail, king</a>	Rallus elegans		BOVA

To view **All 471 species** [View 471](#)

\*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

\*\*I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.;

b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;

c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Bat Colonies or Hibernacula: **Not Known**

#### Anadromous Fish Use Streams (2 records)

[View Map of All Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE *	Highest Tier **	
P133	<a href="#">Rivanna river</a>	Potential	0			<a href="#">Yes</a>
P189	<a href="#">James River 4</a>	Potential	0			<a href="#">Yes</a>

#### Impediments to Fish Passage (1 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
685	<a href="#">LEON HANSEN DAM</a>	HOPPER ROCK CREEK	<a href="#">Yes</a>

#### Colonial Water Bird Survey

N/A

#### Threatened and Endangered Waters (24 Reaches - displaying first 20)

[View Map of All Threatened and Endangered Waters](#)

Stream Name	Highest TE *	T&E Waters Species					View Map
		BOVA Code, Status *, Tier **, Common & Scientific Name					
<a href="#">James River (0100424)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0101762)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>



		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0105387)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0152638)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0153324)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0158741)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0187852)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090033)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090688)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092291)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092742)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092818)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe,</a>	Fusconaia masoni	



					<a href="#">Atlantic</a>		
<a href="#">James River (096387.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (097957.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (098400.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (099786.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0106316.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0129803.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0133008.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0137768.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0139872.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0141443.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	



<a href="#">Rivanna River (0151312)</a>	FPST	060081	ST	Ila	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
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To view **All 24 Threatened and Endangered Waters records** [View 24](#)

### Managed Trout Streams

N/A

### Bald Eagle Concentration Areas and Roosts

N/A

### Bald Eagle Nests ( 2 records )

[View Map of All Query Results  
Bald Eagle Nests](#)

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
<a href="#">CM0401</a>	2	May 1 2004	HISTORIC	<a href="#">Yes</a>
<a href="#">CM1001</a>	1	May 10 2010	UNKNOWN	<a href="#">Yes</a>

Displayed 2 Bald Eagle Nests

### Habitat Predicted for Aquatic WAP Tier I & II Species ( 6 Reaches )

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
James River (20802031)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	Ila	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802032)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	Ila	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802051)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>



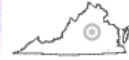




-78.2034549:37.7394664	-78.2034648:37.7396243	-78.2035683:37.7396256	-78.2035691:37.7396548	-78.2035880:37.7397791	-78.2036687:37.7398012	-78.2036831:37.7398107	-78.2036895:37.7398199
-78.2036963:37.7398199	-78.2036963:37.7398290	-78.2037035:37.7399154	-78.2037748:37.7399189	-78.2037779:37.7399223	-78.2037810:37.7399256	-78.2037843:37.7399288	-78.2037877:37.7399319
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**VaFWIS - Department of Game and Inland Fisheries**



37.74600 -78.19002  
is the Search Point

[back](#)

Map Click **Pan** **To** **M**

Map Scale **In** **Zoom** **Out**

[Refresh Browser Page](#)

Screen Size **Small** **Size** **Big**

[Help](#)

**Search Point**

- Change** to "clicked" map point
- Fixed** at 37.74600 -78.19002

**Show Position Rings**

- Yes  No
- 1 mile and 1/4 mile at the **Search Point**

**Show Search Area**

- Yes  No
- 2 Search distance miles buffer

Search Point is at map center

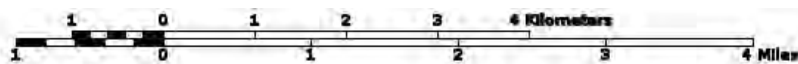
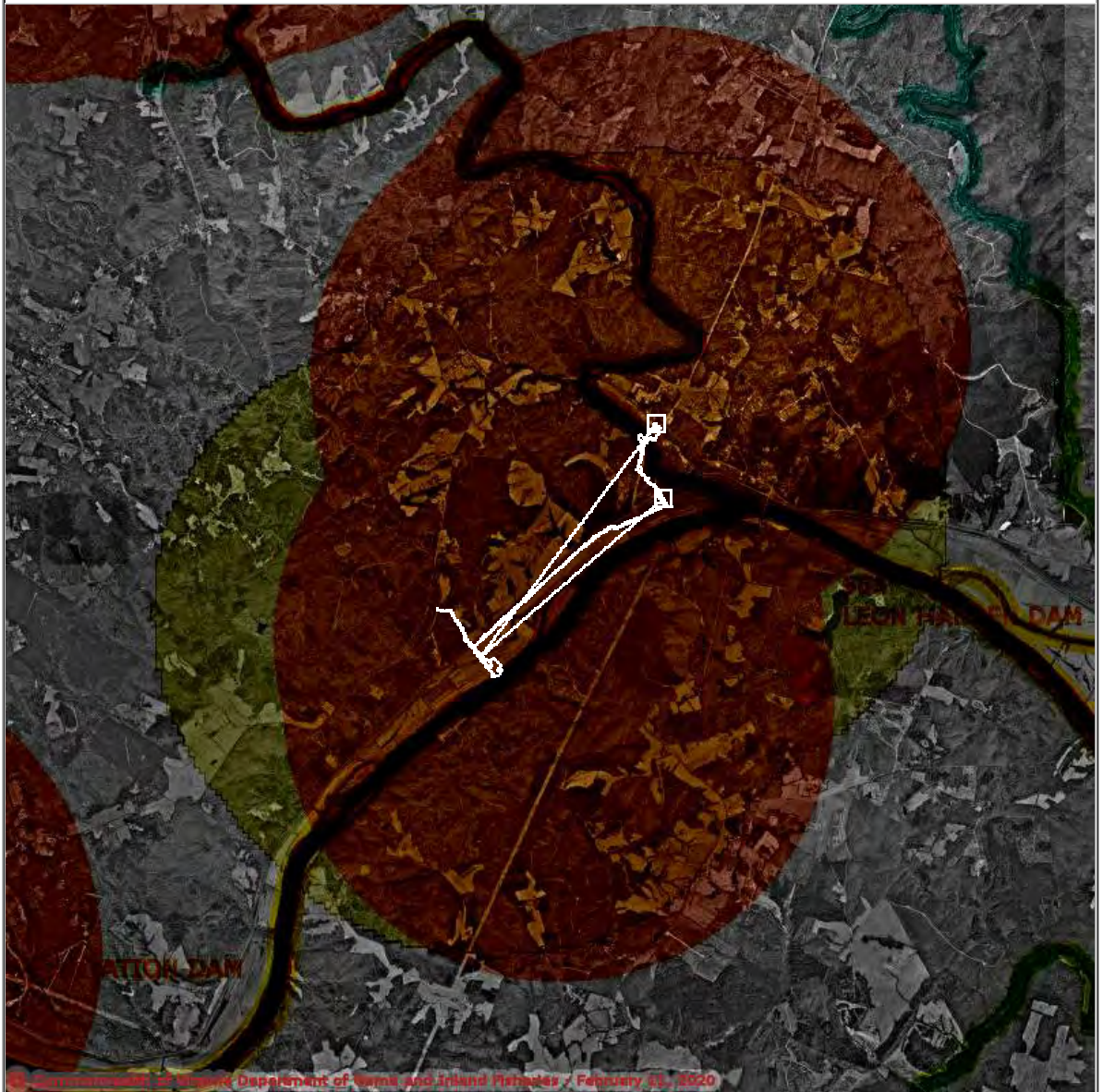
**Base Map Choices**

BW Aerial Photography

**Map Overlay Choices**

Current List: Anadromous, TEWaters, BAEANests, BECAR, Trout, TierII, Habitat, Search

**Map Overlay Legend**



Point of Search 37.74600 -78.19002  
Map Location 37.74600 -78.19002

- Select **Coordinate System**:
- Degrees,Minutes,Seconds Latitude - Longitude
  - Decimal Degrees Latitude - Longitude
  - Meters UTM NAD83 East North Zone
  - Meters UTM NAD27 East North Zone

Base Map source: Black & White USGS Aerial Photography (see [Microsoft terraserver-usa.com](http://Microsoft terraserver-usa.com) for details)

Map projection is UTM Zone 17 NAD 1983 with left 741182 and top 4187753. Pixel size is 15. .  
Coordinates displayed are decimal Degrees North and West. Map is currently displayed as 800 columns by 800 rows for a total of 640000 pixles. The map display represents 12800 meters east to



**T & E Waters**

- Federal
- State

**Predicted Habitat WAP Tier I & II**

- Aquatic
- Terrestrial

**Trout Waters**

- Class I - IV
- Class V - VI

**Anadromous Fish Reach**

- Confirmed
- Potential

**Impediment**

**2 mile radius Search Area**

**Bald Eagle Concentration Areas and Roosts**

- Bald Eagle nests 660 and 330 foot management zones
- Data Observation Site

west by 12800 meters north to south for a total of 163.8 square kilometers. The map display represents 42001 feet east to west by 42001 feet north to south for a total of 63.2 square miles.

Topographic maps and Black and white aerial photography for year 1990+ are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.

Shaded topographic maps are from TOPO! ©2006 National Geographic <http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2020-02-11 12:07:43 (qa/qc March 21, 2016 12:20 - tn=1015007 dist=32181 )  
\$poi=37.7511200 -78.1750000



### Threatened and Endangered Waters where Pigtoe, Atlantic (060173) observed

37,45,04.0 -78,10,30.0 is the Search Point

#### Show Position Rings

Yes  No

1 mile and 1/4 mile at the Search Point

#### Show Search Area

Yes  No

2 Search distance miles buffer

Display	Search Point is
at center	not at map center

#### Base Map [Choices](#)

BW Aerial Photography ▾

#### Map Overlay [Choices](#)

Current List: Search, TEWaters

#### Map Overlay Legend

##### T & E Waters

- Federal
- State



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Point of Search 37,45,04.0 -78,10,30.0

Map Location 37,44,45.6 -78,11,24.0

Select **Coordinate System:**  Degrees,Minutes,Seconds Latitude - Longitude

Decimal Degrees Latitude - Longitude

Meters UTM NAD83 East North Zone

Meters UTM NAD27 East North Zone

Base Map source: Black & White USGS Aerial Photography (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)



Map projection is UTM Zone 17 NAD 1983 with left 739582 and top 4189353. Pixel size is 15. .  
Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed  
as 1000 columns by 1000 rows for a total of 1000000 pixels. The map display represents 16000  
meters east to west by 16000 meters north to south for a total of 256.0 square kilometers. The map  
display represents 52502 feet east to west by 52502 feet north to south for a total of 98.8 square  
miles.

Topographic maps and Black and white aerial photography for year 1990+  
are from the United States Department of the Interior, United States Geological Survey.  
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia  
Geographic Information Network.

Shaded topographic maps are from TOPO! ©2006 National Geographic  
<http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland  
Fisheries.

map assembled 2020-02-11 12:26:31 (qa/qc March 21, 2016 12:20 - tn=1015007.1 dist=3218  
I )  
\$poi=37.7511200 -78.1749999

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# Virginia Department of Game and Inland Fisheries

2/11/2020 12:27:12 PM

## Fish and Wildlife Information Service

**VaFWIS Search Report** Compiled on 2/11/2020, 12:27:12 PM

[Help](#)

Known or likely to occur within a **2 mile buffer around polygon; center 37.7511200 -78.1749999**  
 in **049 Cumberland County, 065 Fluvanna County, 075 Goochland County, VA**  
 where (060173) [Pigtoe, Atlantic](#) observed.

[View Map of Site Location](#)

### Threatened and Endangered Waters where Pigtoe, Atlantic (060173) observed

( 24 Reaches - displaying first 20 )

[View Map of All Threatened and Endangered Waters](#)

Stream Name	Highest TE*	T&E Waters Species					View Map
		BOVA Code, Status*, Tier**, Common & Scientific Name					
<a href="#">James River (0100424.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0101762.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0105387.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0152638.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0153324.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0158741.)</a>	FPST	060081	ST	Ia	<a href="#">Floater,</a>	Lasmigona	<a href="#">Yes</a>



					<a href="#">green</a>	subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0187852)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090033)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090688)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092291)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092742)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092818)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (096387)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (097957)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (098400)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (099786)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>



		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0106316.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0129803.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0133008.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0137768.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0139872.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0141443.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0151312.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>

To view **All 24 Threatened and Endangered Waters records** [View 24](#)

\*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

\*\*I=VA Wildlife Action Plan - Tier I - Critical Conservation Need;  
 II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;  
 III=VA Wildlife Action Plan - Tier III - High Conservation Need;  
 IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

- a - On the ground management strategies/actions exist and can be feasibly implemented.;
- b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
- c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

**Species Observations where Pigtoe, Atlantic (060173) observed** ( 1 records , 1 Observation with Threatened or Endangered species )



[View Map of All Query Results](#)

[Species Observations where Pigtoe, Atlantic \(060173\) observed](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE *	Highest Tier **	
<a href="#">3551</a>	SppObs	Jan 1 1900	Div. Natural Heritage	1	FPST	I	<a href="#">Yes</a>

Displayed 1 Species Observations where Pigtoe, Atlantic (060173) observed

### Habitat Predicted for Aquatic WAP Tier I & II Species where Pigtoe, Atlantic (060173) observed

( 6 Reaches )

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE *	BOVA Code, Status *, Tier **, Common & Scientific Name					
James River (20802031)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802032)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802051)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802052)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	



Rivanna River (20802041)	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
Rivanna River (20802042)	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	

### Habitat Predicted for Terrestrial WAP Tier I & II Species where Pigtoe, Atlantic (060173) observed

N/A

Compiled on 2/11/2020, 12:27:12 PM 11015007.1 report=BOVA searchType= P dist= 3218 poi= 37.7511200 -78.1749999

audit no. 1015007 2/11/2020 12:27:12 PM Virginia Fish and Wildlife Information Service  
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### Threatened and Endangered Waters where Floater, green (060081) observed

37,45,04.0 -78,10,30.0 is the Search Point

#### Show Position Rings

Yes  No

1 mile and 1/4 mile at the Search Point

#### Show Search Area

Yes  No

2 Search distance miles buffer

Display	Search Point is
at center	not at map center

#### Base Map [Choices](#)

BW Aerial Photography ▾

#### Map Overlay [Choices](#)

Current List: Search, TEWaters

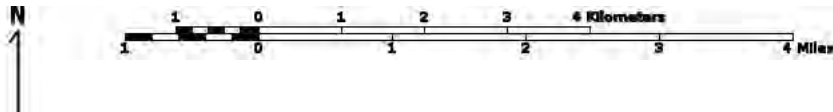
#### Map Overlay Legend

##### T & E Waters

- Federal
- State



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Point of Search 37,45,04.0 -78,10,30.0

Map Location 37,44,45.6 -78,11,24.0

Select **Coordinate System:**  Degrees,Minutes,Seconds Latitude - Longitude

Decimal Degrees Latitude - Longitude

Meters UTM NAD83 East North Zone

Meters UTM NAD27 East North Zone

Base Map source: Black & White USGS Aerial Photography (see [Microsoft terraserver-usa.com](http://Microsoft.terraserver-usa.com) for details)



Map projection is UTM Zone 17 NAD 1983 with left 739582 and top 4189353. Pixel size is 15. .  
Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed  
as 1000 columns by 1000 rows for a total of 1000000 pixels. The map display represents 16000  
meters east to west by 16000 meters north to south for a total of 256.0 square kilometers. The map  
display represents 52502 feet east to west by 52502 feet north to south for a total of 98.8 square  
miles.

Topographic maps and Black and white aerial photography for year 1990+  
are from the United States Department of the Interior, United States Geological Survey.  
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia  
Geographic Information Network.

Shaded topographic maps are from TOPO! ©2006 National Geographic  
<http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland  
Fisheries.

map assembled 2020-02-11 12:27:40 (qa/qc March 21, 2016 12:20 - tn=1015007.1 dist=3218  
I )  
\$poi=37.7511200 -78.1749999

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# Virginia Department of Game and Inland Fisheries

2/11/2020 12:28:12 PM

## Fish and Wildlife Information Service

**VaFWIS Search Report** Compiled on 2/11/2020, 12:28:12 PM

[Help](#)

Known or likely to occur within a **2 mile buffer around polygon; center 37.7511200 -78.1749999**  
 in **049 Cumberland County, 065 Fluvanna County, 075 Goochland County, VA**  
 where (060081) [Floater, green](#) observed.

[View Map of Site Location](#)

### Threatened and Endangered Waters where Floater, green (060081) observed

( 24 Reaches - displaying first 20 )

[View Map of All Threatened and Endangered Waters](#)

Stream Name	Highest TE*	T&E Waters Species					View Map
		BOVA Code, Status*, Tier**, Common & Scientific Name					
<a href="#">James River (0100424.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0101762.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0105387.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0152638.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0153324.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0158741.)</a>	FPST	060081	ST	Ia	<a href="#">Floater,</a>	Lasmigona	<a href="#">Yes</a>



					<a href="#">green</a>	subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0187852)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090033)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090688)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092291)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092742)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092818)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (096387)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (097957)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (098400)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (099786)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>



		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0106316.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0129803.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0133008.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0137768.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0139872.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0141443.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0151312.)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>

To view **All 24 Threatened and Endangered Waters records** [View 24](#)

\*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

\*\*I=VA Wildlife Action Plan - Tier I - Critical Conservation Need;  
 II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;  
 III=VA Wildlife Action Plan - Tier III - High Conservation Need;  
 IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

- a - On the ground management strategies/actions exist and can be feasibly implemented.;
- b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;
- c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

### Species Observations where Floater, green (060081) observed



N/A

**Habitat Predicted for Aquatic WAP Tier I & II Species where Floater, green (060081) observed**

( 6 Reaches )

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
James River (20802031)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802032)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802051)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802052)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
Rivanna River (20802041)	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
Rivanna River (20802042)	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe,</a>	Fusconaia	



					<a href="#">Atlantic</a>	masoni	
--	--	--	--	--	--------------------------	--------	--

**Habitat Predicted for Terrestrial WAP Tier I & II Species where Floater, green (060081) observed**

N/A

Compiled on 2/11/2020, 12:28:12 PM 11015007.1 report=BOVA searchType= P dist= 3218 poi= 37.7511200 -78.1749999

**audit no. 1015007 2/11/2020 12:28:12 PM Virginia Fish and Wildlife Information Service**  
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### 7 Species Observations where Lance, yellow (060029) observed

37,45,04.0 -78,10,30.0 is the Search Point

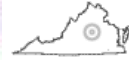
[back](#)

[Refresh Browser Page](#)

Map Click **Pan** **To** **M**

Map Scale **In** **Zoom** **Out**

Screen Size **Small** **Size** **Big** [Help](#)



#### Show Position Rings

Yes  No

1 mile and 1/4 mile at the Search Point

#### Show Search Area

Yes  No

2 Search distance miles buffer

Display Search Point is at center not at map center

#### Base Map Choices

BW Aerial Photography

#### Map Overlay Choices

Current List: Search, SppObs

#### Map Overlay Legend

- 2 mile radius Search Area
- Data Observation Site



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Point of Search 37,45,04.0 -78,10,30.0

Map Location 37,44,45.6 -78,11,24.0

- Select Coordinate System:
- Degrees,Minutes,Seconds Latitude - Longitude
  - Decimal Degrees Latitude - Longitude
  - Meters UTM NAD83 East North Zone
  - Meters UTM NAD27 East North Zone

Base Map source: Black & White USGS Aerial Photography (see [Microsoft terraserver-usa.com](http://Microsoft terraserver-usa.com) for details)

Map projection is UTM Zone 17 NAD 1983 with left 741182 and top 4187753. Pixel size is 15. . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 800 columns by 800 rows for a total of 640000 pixles. The map display represents 12800 meters



east to west by 12800 meters north to south for a total of 163.8 square kilometers. The map display represents 42001 feet east to west by 42001 feet north to south for a total of 63.2 square miles.

Topographic maps and Black and white aerial photography for year 1990+ are from the United States Department of the Interior, United States Geological Survey. Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.

Shaded topographic maps are from TOPO! ©2006 National Geographic  
<http://www.national.geographic.com/topo>

All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2020-02-11 12:24:59 (qa/qc March 21, 2016 12:20 - tn=1015007.1 dist=3218  
I)  
\$poi=37.7511200 -78.1749999

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# Virginia Department of Game and Inland Fisheries

2/11/2020 12:25:48 PM

## Fish and Wildlife Information Service

**VaFWIS Search Report** Compiled on 2/11/2020, 12:25:48 PM

[Help](#)

Known or likely to occur within a **2 mile buffer around polygon; center 37.7511200 -78.1749999**  
 in **049 Cumberland County, 065 Fluvanna County, 075 Goochland County, VA**  
 where (060029) [Lance, yellow](#) observed.

[View Map of Site Location](#)

**Species Observations where Lance, yellow (060029) observed** ( 7 records , 7 Observations with Threatened or Endangered species )

[View Map of All Query Results](#)

[Species Observations where Lance, yellow \(060029\) observed](#)

obsID	class	Date Observed	Observer	N Species			View Map
				Different Species	Highest TE*	Highest Tier**	
<a href="#">311815</a>	SppObs	Aug 30 2005	Savidge, Timothy	10	FT	II	<a href="#">Yes</a>
<a href="#">8692</a>	SppObs	Sep 24 1992	M T O'CONNELL, VPI/SU, ANN UZEE, VPI/SU	2	FT	II	<a href="#">Yes</a>
<a href="#">8687</a>	SppObs	Sep 23 1992	M T O'CONNELL, VPI/SU, ANN UZEE, VPI/SU	2	FT	II	<a href="#">Yes</a>
<a href="#">8689</a>	SppObs	Sep 23 1992	M T O'CONNELL, VPI/SU, ANN UZEE, VPI/SU	2	FT	II	<a href="#">Yes</a>
<a href="#">8690</a>	SppObs	Sep 23 1992	M T O'CONNELL, VPI/SU, ANN UZEE, VPI/SU	2	FT	II	<a href="#">Yes</a>
<a href="#">8691</a>	SppObs	Sep 23 1992	M T O'CONNELL, VPI/SU, ANN UZEE, VPI/SU	2	FT	II	<a href="#">Yes</a>
<a href="#">8686</a>	SppObs	Sep 22 1992	M T O'CONNELL, VPI/SU, ANN UZEE, VPI/SU	2	FT	II	<a href="#">Yes</a>

Displayed 7 Species Observations where Lance, yellow (060029) observed

\*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

\*\*I=VA Wildlife Action Plan - Tier I - Critical Conservation Need;

II=VA Wildlife Action Plan - Tier II - Very High Conservation Need;

III=VA Wildlife Action Plan - Tier III - High Conservation Need;

IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.;

b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;

c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.



Compiled on 2/11/2020, 12:25:48 PM 11015007.1 report=BOVA searchType= P dist= 3218 poi= 37.7511200 -78.1749999

**audit no. 1015007 2/11/2020 12:25:48 PM Virginia Fish and Wildlife Information Service**  
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# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

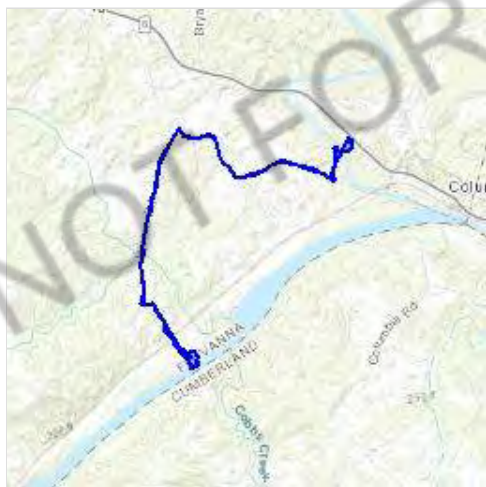
## Project information

### NAME

JRWA Build Alternative 1B

### LOCATION

Fluvanna County, Virginia



## Local office

Virginia Ecological Services Field Office

☎ (804) 693-6694

📅 (804) 693-9032

6669 Short Lane

Gloucester, VA 23061-4410



<http://www.fws.gov/northeast/virginiafield/>

NOT FOR CONSULTATION



# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME

STATUS



Northern Long-eared Bat *Myotis septentrionalis*  
 No critical habitat has been designated for this species.  
<https://ecos.fws.gov/ecp/species/9045>

Threatened

## Clams

NAME

STATUS

Atlantic Pigtoe *Fusconaia masoni*  
 There is **proposed** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/5164>

Proposed Threatened

James Spiny mussel *Pleurobema collina*  
 No critical habitat has been designated for this species.  
<https://ecos.fws.gov/ecp/species/2212>

Endangered

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

## Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>



MIGRATORY BIRD INFORMATION IS NOT AVAILABLE AT THIS TIME

### **Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

### **What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);



2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities



## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

## Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1A](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PSS1/EM1Ad](#)

[PFO1A](#)

RIVERINE

[R2UBH](#)

[R5UBH](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.



The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### **Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### **Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION



**VaFWIS Initial Project Assessment Report** Compiled on 2/11/2020,[Help](#)

12:32:45 PM

Known or likely to occur within a **2 mile buffer around line beginning 37.7599100 -78.1999199**  
**in 049 Cumberland County, 065 Fluvanna County, 075 Goochland County, VA**

[View Map of  
Site Location](#)

471 Known or Likely Species ordered by Status Concern for Conservation  
 (displaying first 21) (21 species with Status\* or Tier I\*\* or Tier II\*\* )

<a href="#">BOVA Code</a>	<a href="#">Status*</a>	<a href="#">Tier**</a>	<a href="#">Common Name</a>	<a href="#">Scientific Name</a>	<a href="#">Confirmed</a>	<a href="#">Database(s)</a>
060017	FESE	Ia	<a href="#">Spinymussel, James</a>	Parvaspina collina		BOVA
060003	FESE	Ia	<a href="#">Wedgemussel, dwarf</a>	Alasmidonta heterodon		BOVA
050022	FTST	Ia	<a href="#">Bat, northern long-eared</a>	Myotis septentrionalis		BOVA
060029	FT	IIa	<a href="#">Lance, yellow</a>	Elliptio lanceolata	<a href="#">Yes</a>	BOVA,SppObs
050020	SE	Ia	<a href="#">Bat, little brown</a>	Myotis lucifugus		BOVA
050027	SE	Ia	<a href="#">Bat, tri-colored</a>	Perimyotis subflavus		BOVA
060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa		BOVA,Habitat
040293	ST	Ia	<a href="#">Shrike, loggerhead</a>	Lanius ludovicianus		BOVA
060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	<a href="#">Yes</a>	BOVA,TEWaters,Habitat,SppObs
060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>	BOVA,TEWaters,Habitat
040292	ST		<a href="#">Shrike, migrant loggerhead</a>	Lanius ludovicianus migrans		BOVA
030063	CC	IIIa	<a href="#">Turtle, spotted</a>	Clemmys guttata		BOVA
030012	CC	IVa	<a href="#">Rattlesnake, timber</a>	Crotalus horridus		BOVA
060084		Ib	<a href="#">Pigtoe, Virginia</a>	Lexingtonia subplana		BOVA
040213		Ic	<a href="#">Owl, northern saw-whet</a>	Aegolius acadicus		BOVA
040052		IIa	<a href="#">Duck, American black</a>	Anas rubripes		BOVA
040029		IIa	<a href="#">Heron, little blue</a>	Egretta caerulea caerulea		BOVA
040320		IIa	<a href="#">Warbler,</a>	Setophaga cerulea		BOVA



			<a href="#">cerulean</a>			
040140		IIa	<a href="#">Woodcock, American</a>	Scolopax minor	<a href="#">Yes</a>	BOVA,SppObs
040203		IIb	<a href="#">Cuckoo, black-billed</a>	Coccyzus erythrophthalmus		BOVA
040105		IIb	<a href="#">Rail, king</a>	Rallus elegans		BOVA

To view **All 471 species** [View 471](#)

\*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

\*\*I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Virginia Wildlife Action Plan Conservation Opportunity Ranking:

a - On the ground management strategies/actions exist and can be feasibly implemented.;

b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.;

c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

Bat Colonies or Hibernacula: **Not Known**

**Anadromous Fish Use Streams** (2 records)

[View Map of All Anadromous Fish Use Streams](#)

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE *	Highest Tier **	
P133	<a href="#">Rivanna river</a>	Potential	0			<a href="#">Yes</a>
P189	<a href="#">James River 4</a>	Potential	0			<a href="#">Yes</a>

**Impediments to Fish Passage** (1 records)

[View Map of All Fish Impediments](#)

ID	Name	River	View Map
685	<a href="#">LEON HANSEN DAM</a>	HOPPER ROCK CREEK	<a href="#">Yes</a>

**Colonial Water Bird Survey**

N/A

**Threatened and Endangered Waters** (25 Reaches - displaying first 20)

[View Map of All Threatened and Endangered Waters](#)

Stream Name	Highest TE *	T&E Waters Species					View Map
		BOVA Code, Status *, Tier **, Common & Scientific Name					
<a href="#">James River (0100424)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0101762)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>



		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0105387)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0152638)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0153324)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (0158741)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090033)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (090688)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092291)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092742)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (092818)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (096387)</a>	FPST	060081	ST	IIa	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe,</a>	Fusconaia masoni	



					<a href="#">Atlantic</a>		
<a href="#">James River (097957.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (098400.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">James River (099786.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0106316.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0129803.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0133008.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0137768.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0139872.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0141443.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
<a href="#">Rivanna River (0151312.)</a>	FPST	060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	



<a href="#">Rivanna River (090440)</a>	FPST	060081	ST	Ila	<a href="#">Floater, green</a>	Lasmigona subviridis	<a href="#">Yes</a>
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To view **All 25 Threatened and Endangered Waters records** [View 25](#)

### Managed Trout Streams

N/A

### Bald Eagle Concentration Areas and Roosts

N/A

### Bald Eagle Nests (2 records)

[View Map of All Query Results  
Bald Eagle Nests](#)

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
<a href="#">CM0401</a>	2	May 1 2004	HISTORIC	<a href="#">Yes</a>
<a href="#">CM1001</a>	1	May 10 2010	UNKNOWN	<a href="#">Yes</a>

Displayed 2 Bald Eagle Nests

### Habitat Predicted for Aquatic WAP Tier I & II Species (5 Reaches)

[View Map Combined Reaches from Below of Habitat Predicted for WAP Tier I & II Aquatic Species](#)

Stream Name	Tier Species						View Map
	Highest TE*	BOVA Code, Status*, Tier**, Common & Scientific Name					
James River (20802031)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	Ila	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802032)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>
		060081	ST	Ila	<a href="#">Floater, green</a>	Lasmigona subviridis	
		060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
James River (20802051)	FPSE	060006	SE	Ib	<a href="#">Floater, brook</a>	Alasmidonta varicosa	<a href="#">Yes</a>



			060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	
			060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
Rivanna River (20802041)	FPST		060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	Yes
			060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	
Rivanna River (20802042)	FPST		060081	ST	Ia	<a href="#">Floater, green</a>	Lasmigona subviridis	Yes
			060173	FPST	Ia	<a href="#">Pigtoe, Atlantic</a>	Fusconaia masoni	

### Habitat Predicted for Terrestrial WAP Tier I & II Species

N/A

### Public Holdings:

N/A

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