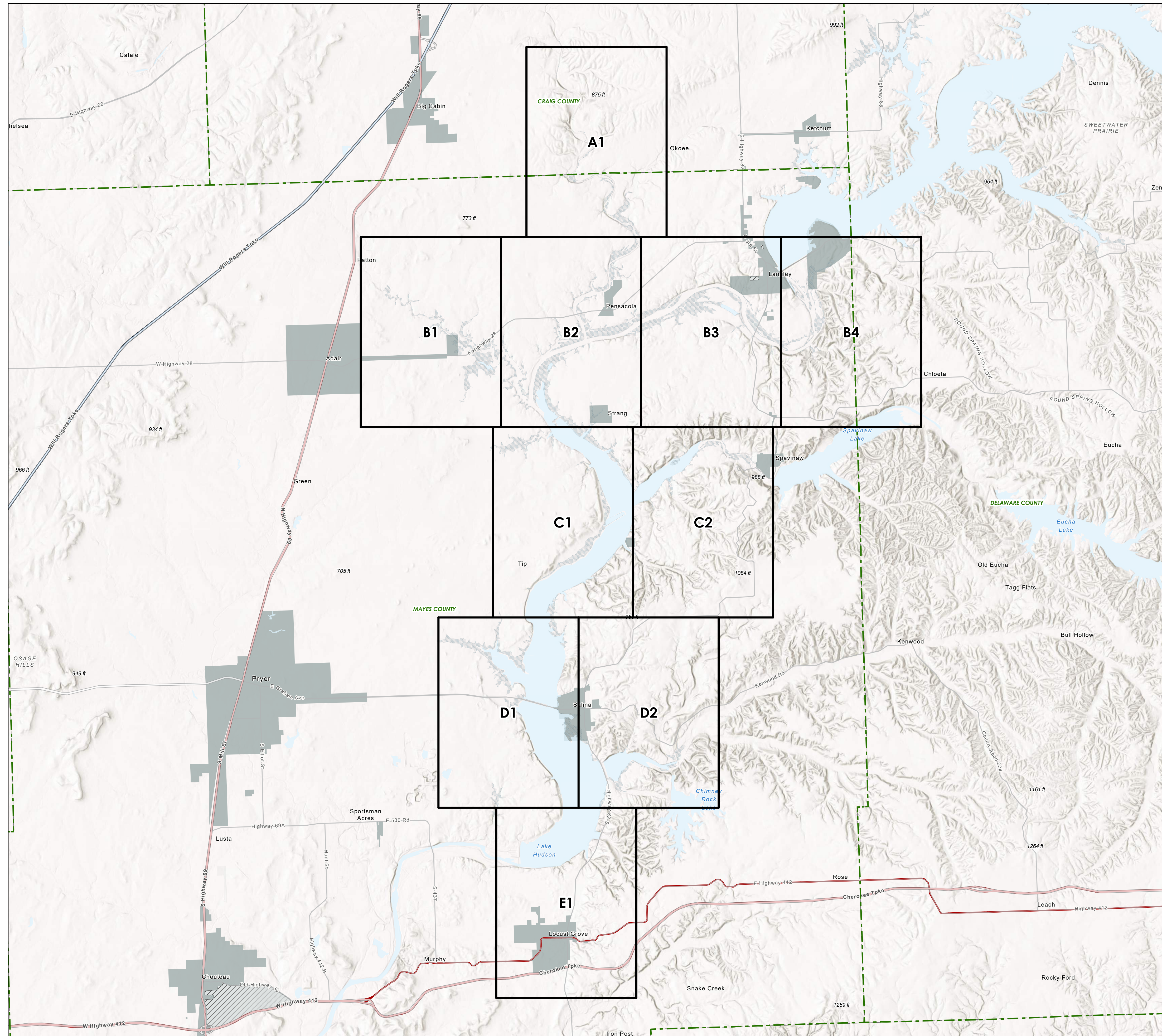

APPENDIX E.5:
DECEMBER 2015 (15 YEAR) EVENT INUNDATION MAPS

Downstream Model Results Overview Map

Pensacola Dam
GRAND RIVER DAM AUTHORITY
Date: September 2022

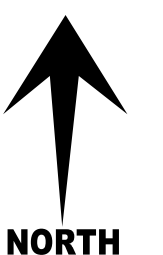
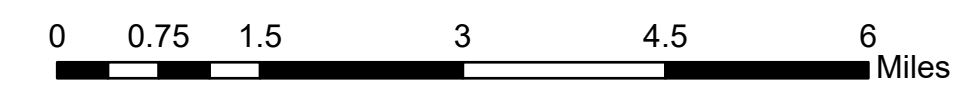
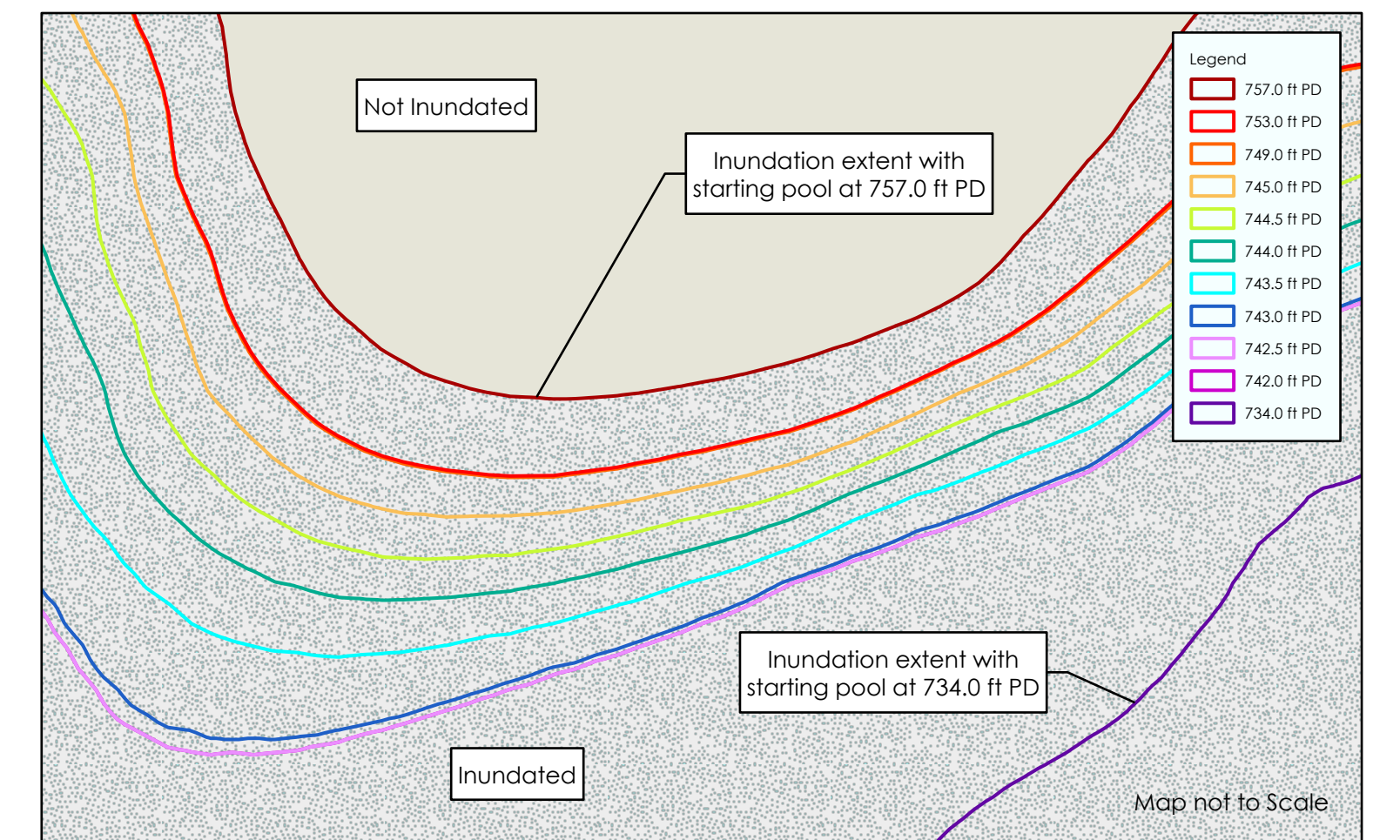


Overview Map Legend

1:24,000-scale Map Sheet	Road Class
County Boundary	Interstate
Municipality	US Highway
Unincorporated	

Inundation Scenario Mapping

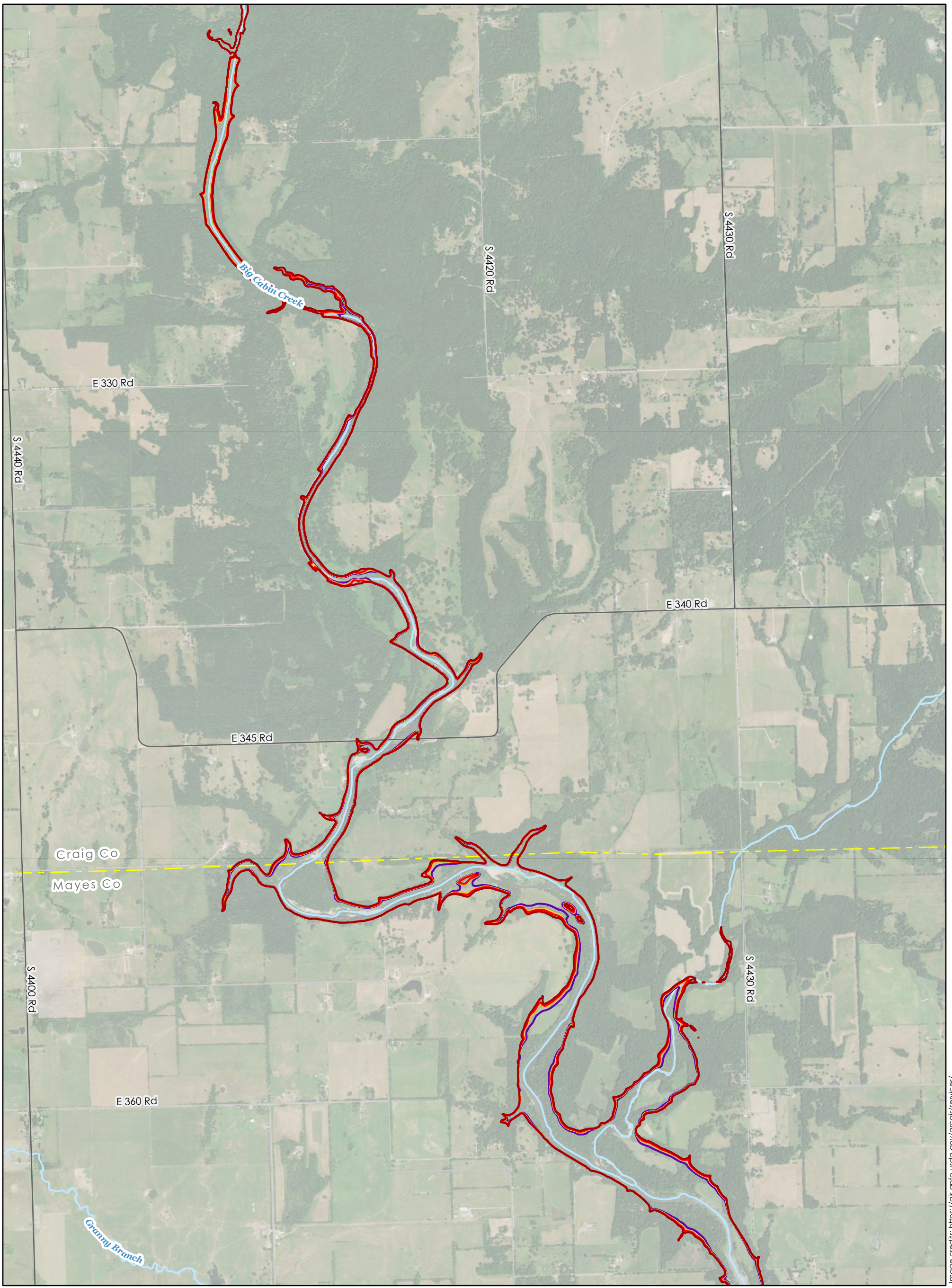
Mapping shows the extent of inundation for the selected hydraulic event under different starting pool elevations at Pensacola Dam: 734.0 ft PD, 742.0 ft PD, 742.5 ft PD, 743.0 ft PD, 743.5 ft PD, 744.0 ft PD, 744.5 ft PD, 745.0 ft PD, 749.0 ft PD, 753.0 ft PD, and 757.0 ft PD.



Map Notes

Data Sources for Maps:

1. Base map images from https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019.
2. Transportation network (major roads, local roads, and railroads) and county boundaries obtained from the Oklahoma Office of Geographic Information (<http://okmaps.org/cgi/search.aspx>).



DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO

NORTH
↑

0 500 1,000 2,000 3,000 4,000
Feet

1 inch = 2,000 feet

Legend

DEC 2015 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE
█ 757.0 ft PD	█ 743.5 ft PD	█ Interstate	█ Stream	█ Project
█ 753.0 ft PD	█ 743.0 ft PD	█ State Highway	█ US Highway	█ County
█ 749.0 ft PD	█ 742.5 ft PD	█ US Highway	█ Major Collector	█ Municipal
█ 745.0 ft PD	█ 742.0 ft PD	█ Major Collector	█ Local Road	
█ 744.5 ft PD	█ 734.0 ft PD	█ Local Road		
█ 744.0 ft PD				

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
 2. See Overview Map for notes on data sources.

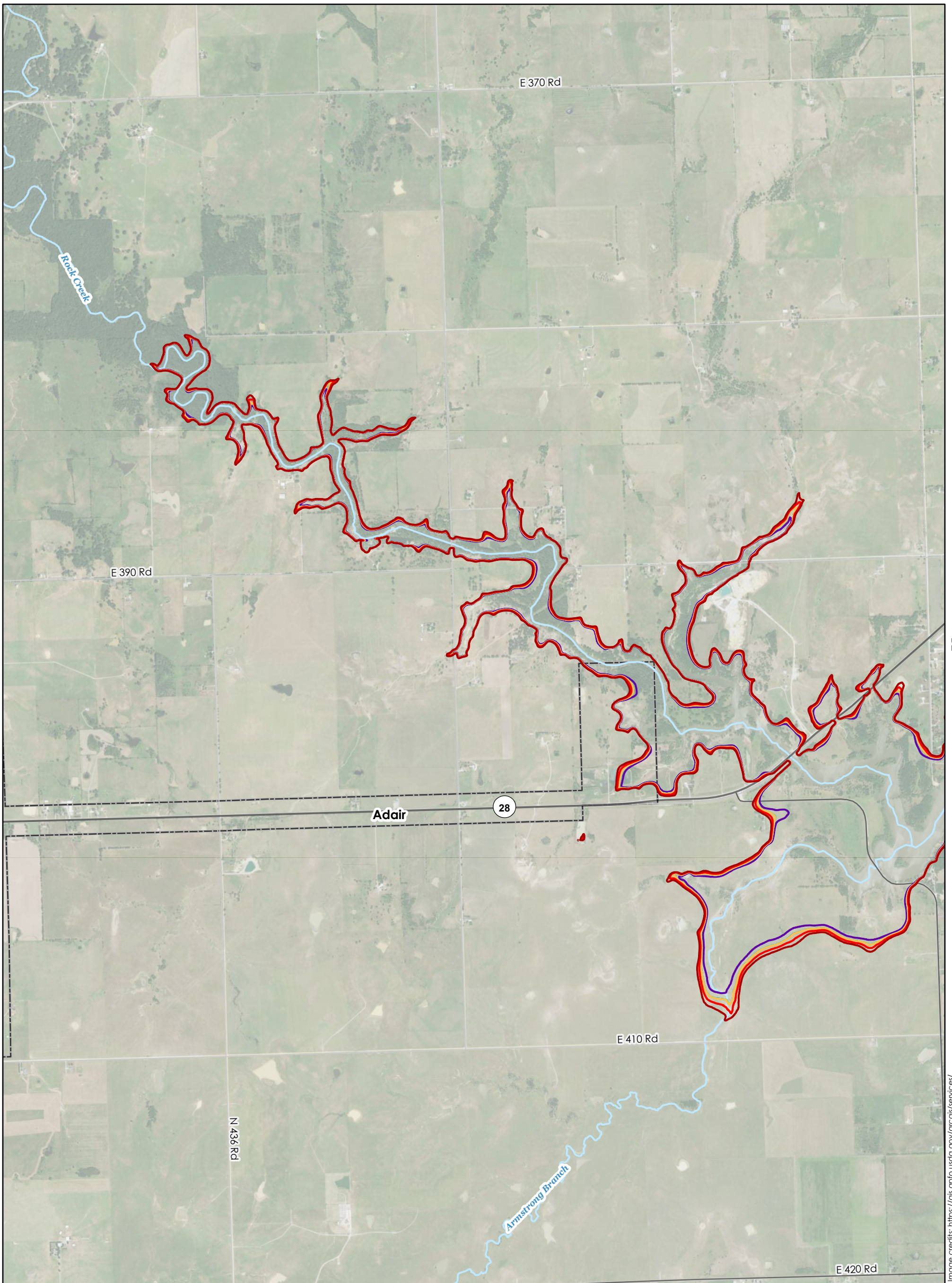
**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**

GRAND RIVER DAM AUTHORITY

MAP: A1

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022



B2

Image credits: https://gis.opfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

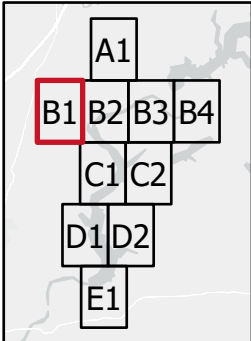
C1

DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO



0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet



DEC 2015 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

Legend

ROAD CLASS

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road

BOUNDARY TYPE

- Stream
- Project
- County
- Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**

GRAND RIVER DAM AUTHORITY

MAP: B1

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

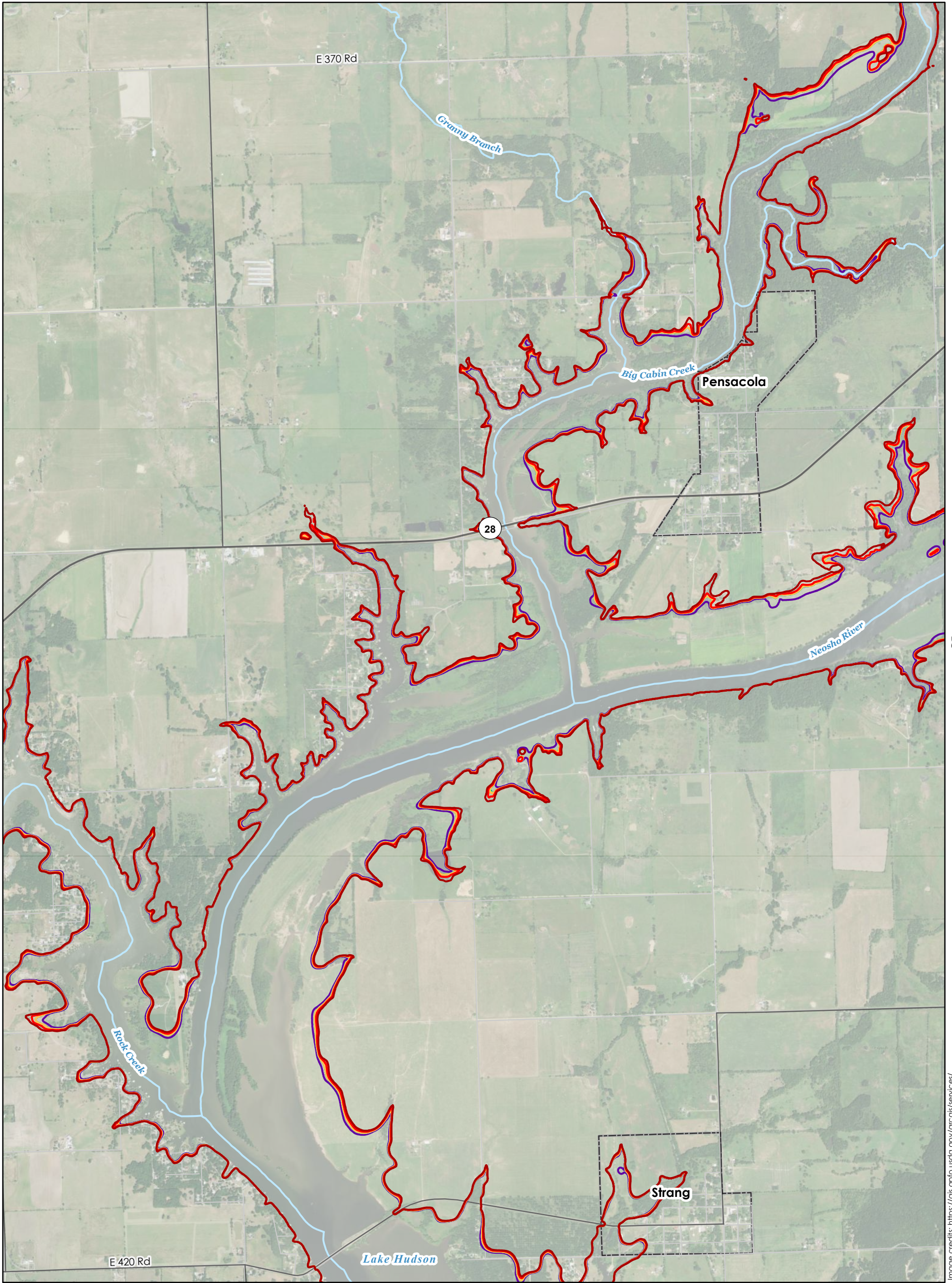


Image credits: https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

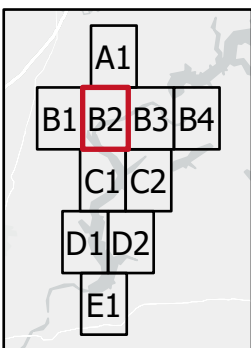
DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO



NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet



DEC 2015 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

ROAD CLASS

Interstate
State Highway
US Highway
Major Collector
Local Road

BOUNDARY TYPE

Stream
Project
County
Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

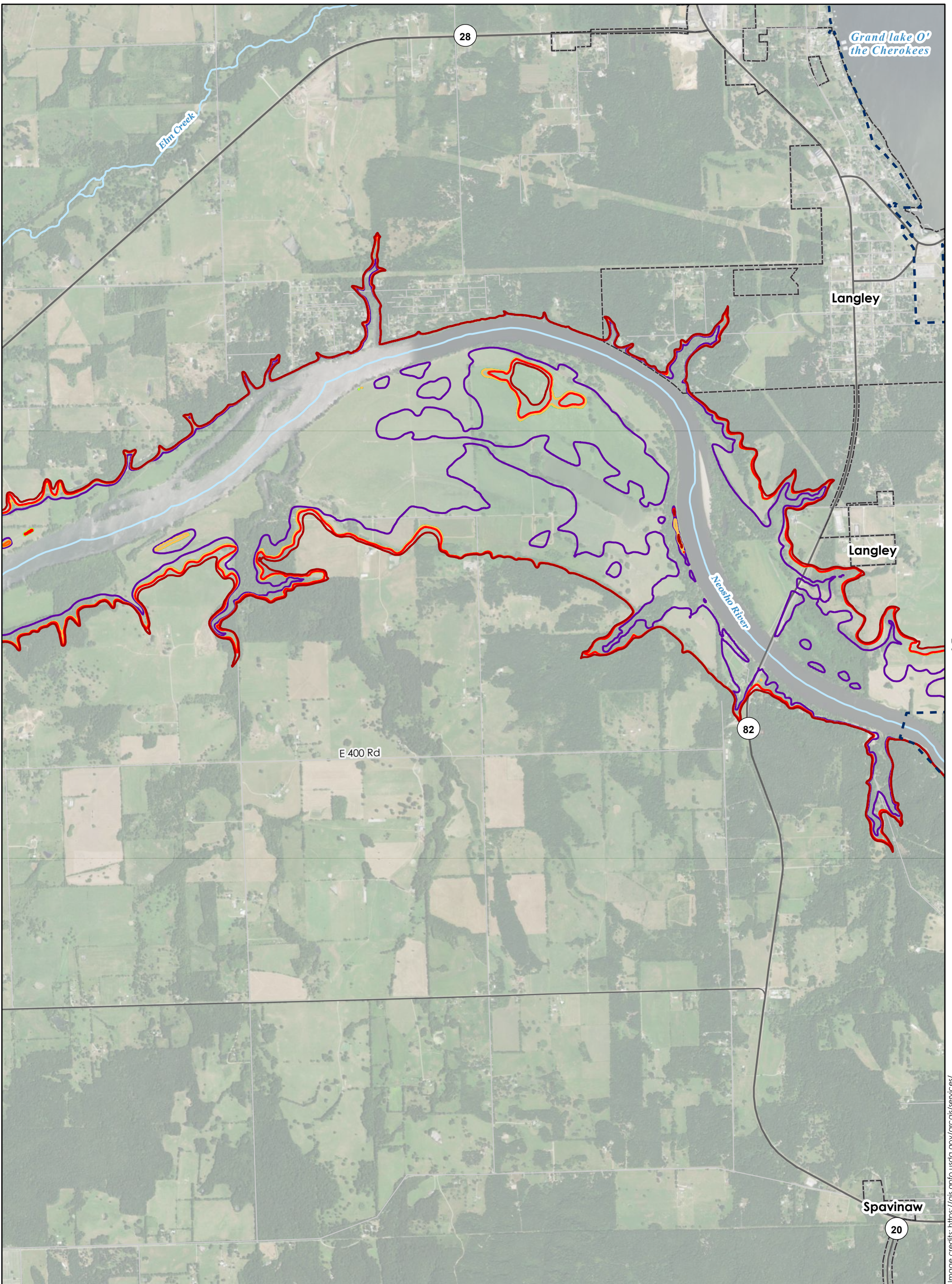
**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**
GRAND RIVER DAM AUTHORITY

MAP: B2

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

A1



C2

C2

DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

DEC 2015 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE	
— 757.0 ft PD	— 743.5 ft PD	— Interstate	— Stream	- - - Project	- - - County
— 753.0 ft PD	— 743.0 ft PD	— State Highway	— US Highway	— Municipal	
— 749.0 ft PD	— 742.5 ft PD	— Major Collector	— Local Road		
— 745.0 ft PD	— 742.0 ft PD				
— 744.5 ft PD	— 734.0 ft PD				
— 744.0 ft PD					

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

PENSACOLA DAM DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: B3

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

Image credits: https://gis.cplio.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

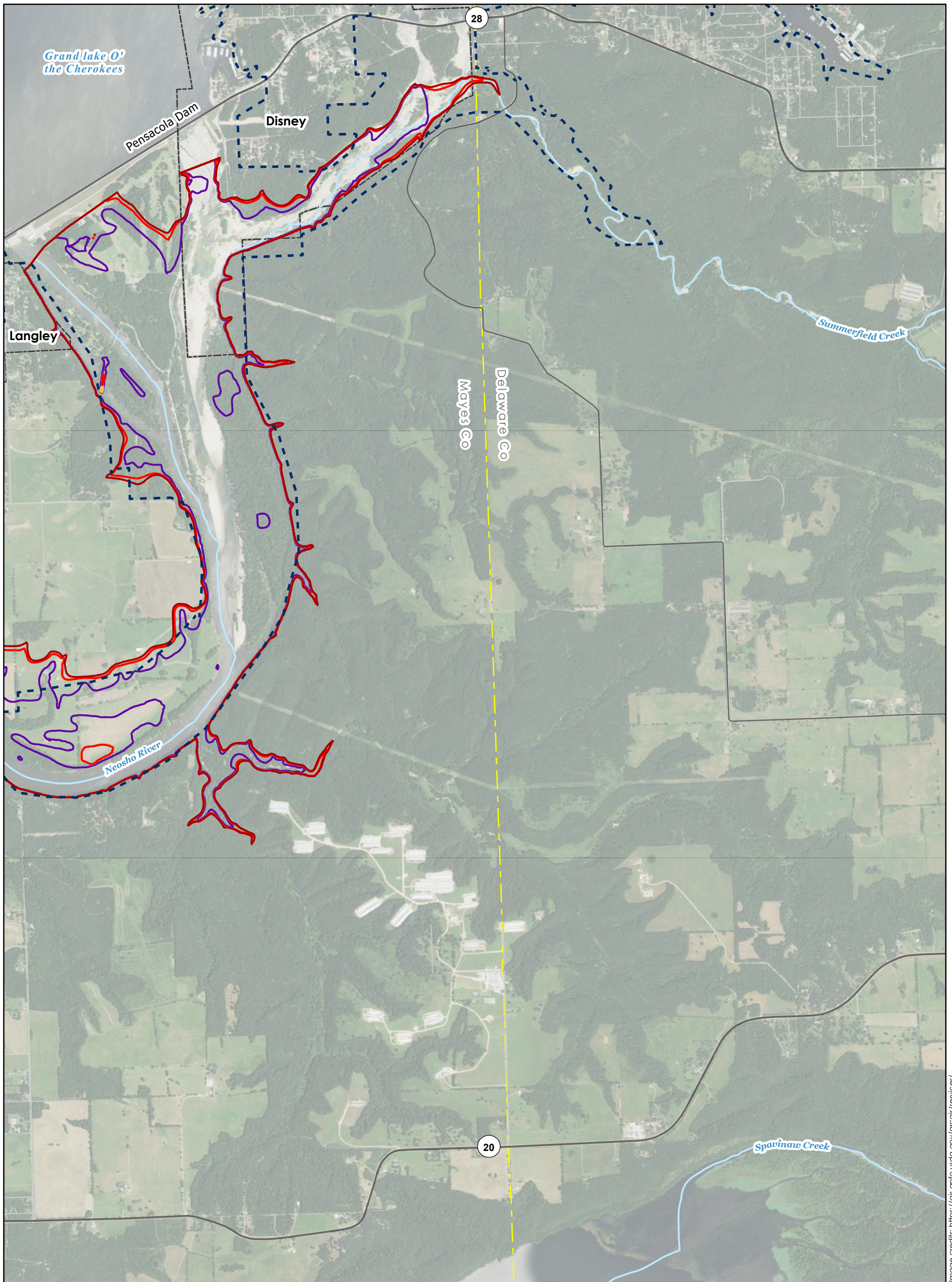


Image credits: https://gis.cplio.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

A1	A2	A3	A4
B1	B2	B3	B4
C1	C2	C3	C4
D1	D2	D3	D4
E1	E2	E3	E4

DEC 2015 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE	
— 757.0 ft PD	— 743.5 ft PD	— Interstate	— Stream	- - - Project	- - - County
— 753.0 ft PD	— 743.0 ft PD	— State Highway	— Major Collector	— Municipal	
— 749.0 ft PD	— 742.5 ft PD	— US Highway	— Local Road		
— 745.0 ft PD	— 742.0 ft PD				
— 744.5 ft PD	— 734.0 ft PD				
— 744.0 ft PD					

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

PENSACOLA DAM

DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: B4

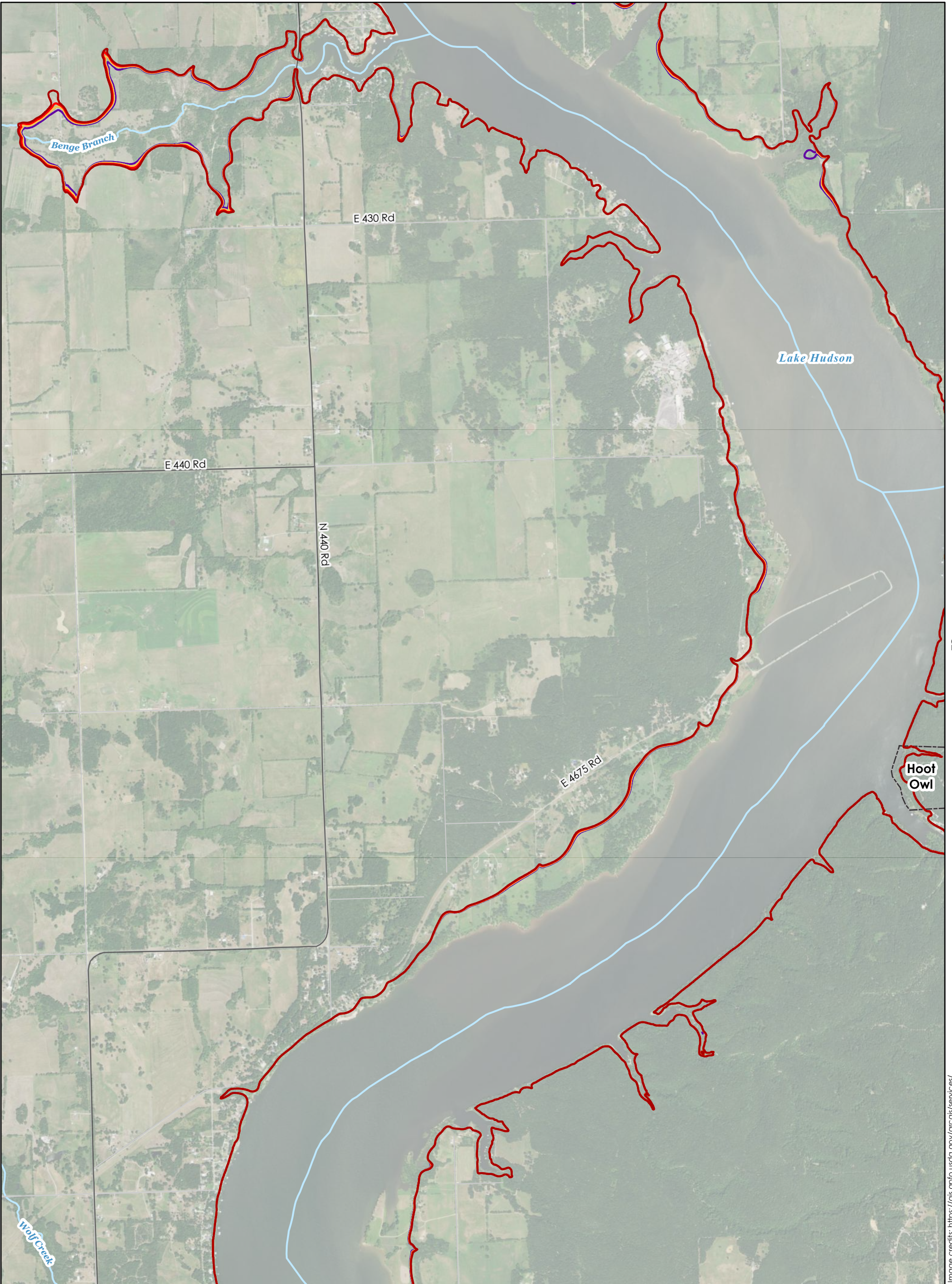
CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

B1

B2

B2



D1

D1

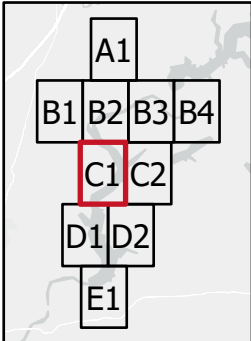
D2

**DECEMBER 2015 (15 YEAR)
INUNDATION SCENARIO**



0 500 1,000 2,000 3,000 4,000
Feet

1 inch = 2,000 feet



DEC 2015 MAX INUNDATION

- █ 757.0 ft PD
- █ 753.0 ft PD
- █ 749.0 ft PD
- █ 745.0 ft PD
- █ 744.5 ft PD
- █ 744.0 ft PD
- █ 743.5 ft PD
- █ 743.0 ft PD
- █ 742.5 ft PD
- █ 742.0 ft PD
- █ 734.0 ft PD

Legend

ROAD CLASS

- █ Interstate
- █ State Highway
- █ US Highway
- █ Major Collector
- █ Local Road

BOUNDARY TYPE

- █ Stream
- █ Project
- █ County
- █ Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

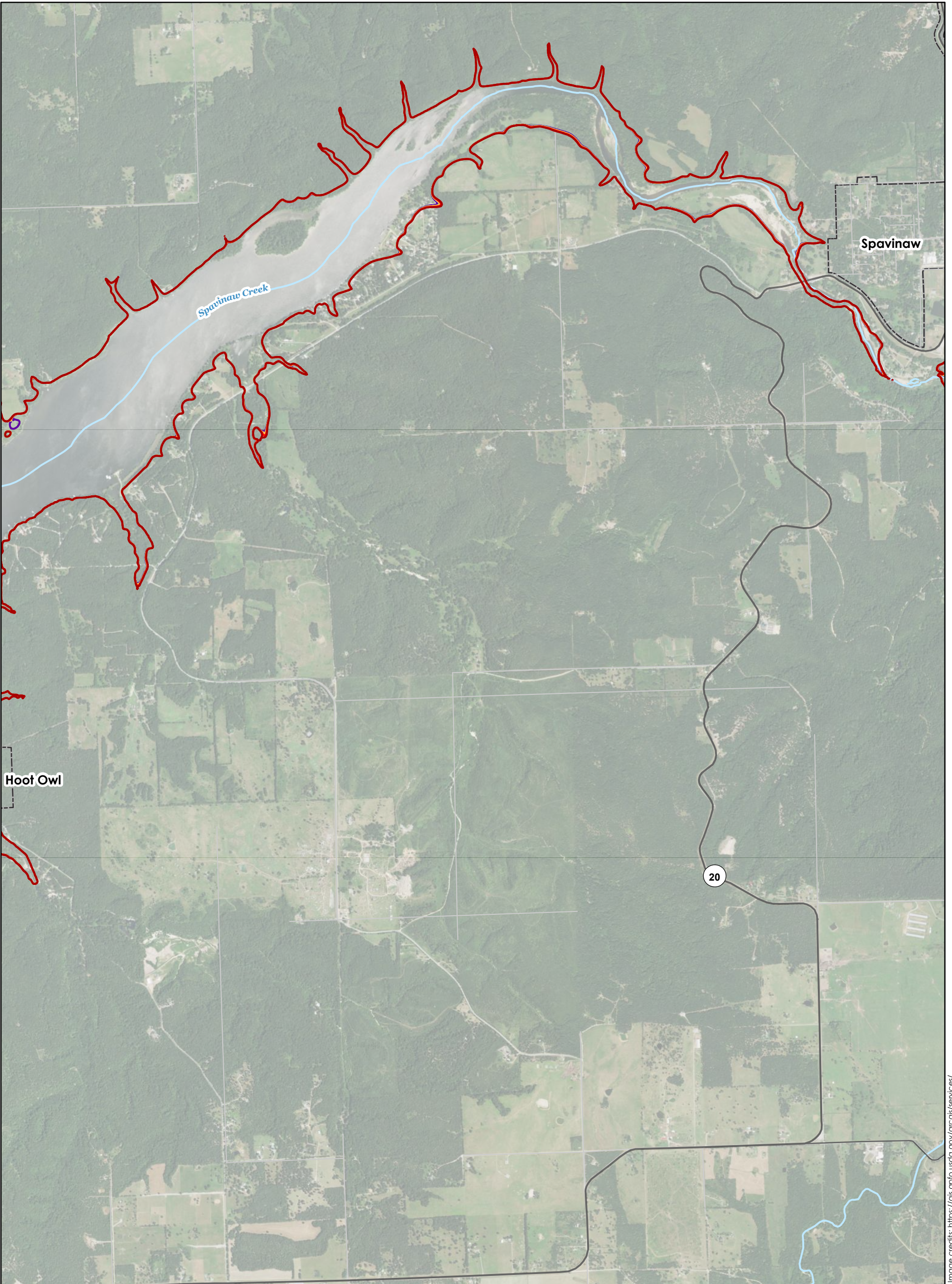
**PENSACOLA DAM
DOWNSTREAM HYDRAULIC MODEL**

GRAND RIVER DAM AUTHORITY

MAP: C1

CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022



DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

DEC 2015 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE	
█ 757.0 ft PD	█ 743.5 ft PD	█ Interstate	█ Stream	█ Project	█ County
█ 753.0 ft PD	█ 743.0 ft PD	█ State Highway	█ US Highway	█ Municipal	
█ 749.0 ft PD	█ 742.5 ft PD	█ Major Collector	█ Local Road		
█ 745.0 ft PD	█ 742.0 ft PD				
█ 744.5 ft PD	█ 734.0 ft PD				
█ 744.0 ft PD					

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

PENSACOLA DAM

DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: C2

CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA

FERC No. 1494
September 2022



DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO

NORTH

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 2,000 feet

DEC 2015 MAX INUNDATION		ROAD CLASS		BOUNDARY TYPE	
— 757.0 ft PD	— 743.5 ft PD	— Interstate	— Stream	 Project	
— 753.0 ft PD	— 743.0 ft PD	— State Highway		 County	
— 749.0 ft PD	— 742.5 ft PD	— US Highway		 Municipal	
— 745.0 ft PD	— 742.0 ft PD	— Major Collector			
— 744.5 ft PD	— 734.0 ft PD	— Local Road			
— 744.0 ft PD					

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

PENSACOLA DAM

DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: D1

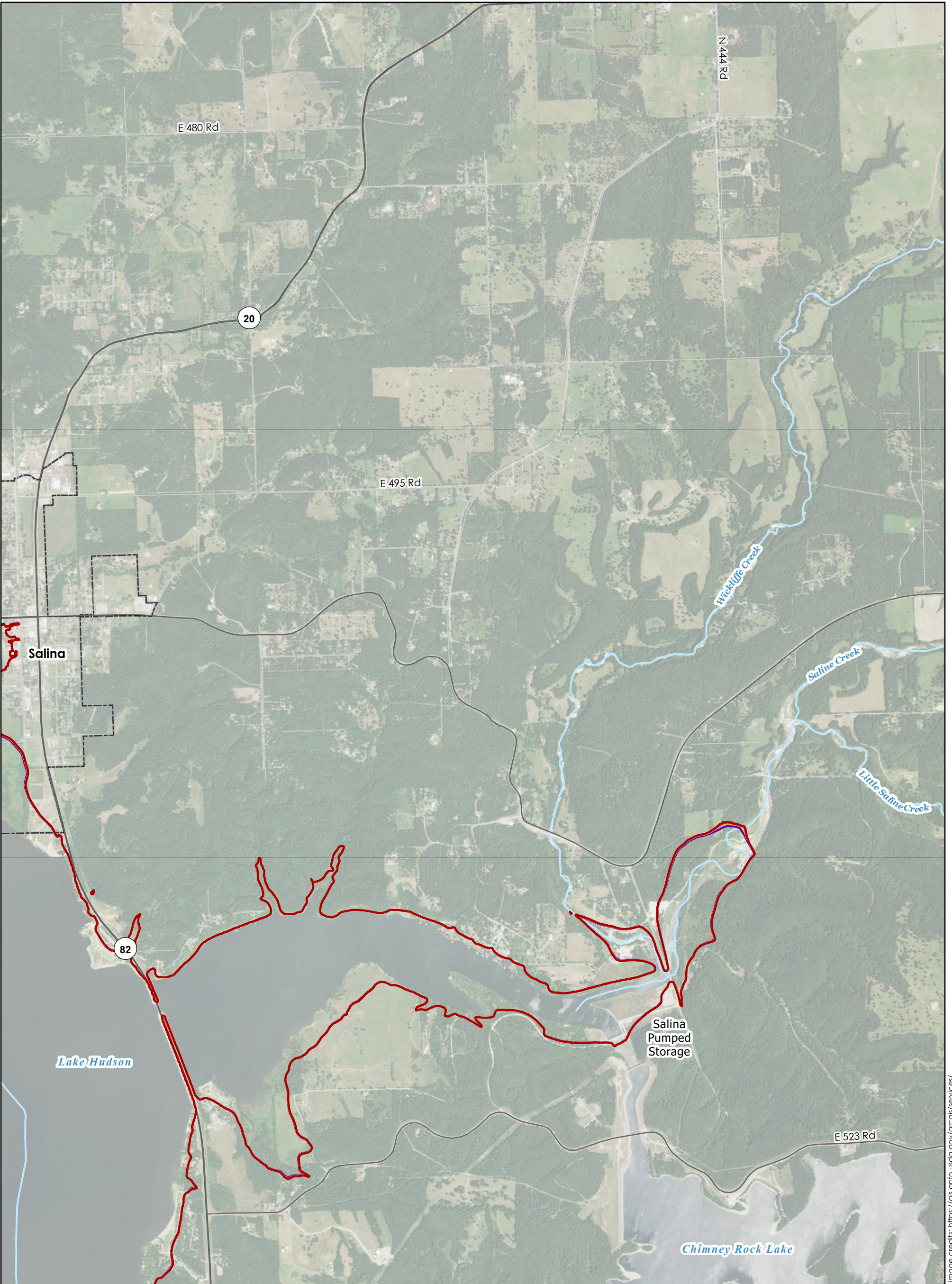
CRAIG, DELAWARE, AND MAYES
COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

C1

C2

C2



D1

Salina

82

Lake Hudson

Salina Pumped Storage

Chimney Rock Lake

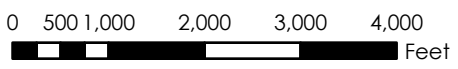
E 523 Rd

E1

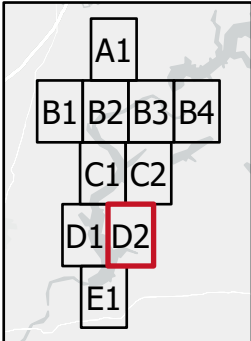
DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO



NORTH



1 inch = 2,000 feet



DEC 2015 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

Legend

ROAD CLASS

Interstate
State Highway
US Highway
Major Collector
Local Road

BOUNDARY TYPE

Stream
Project
County
Municipal

MAP AND LEGEND NOTES

1. For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
2. See Overview Map for notes on data sources.

PENSACOLA DAM DOWNSTREAM HYDRAULIC MODEL

GRAND RIVER DAM AUTHORITY

MAP: D2

CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA

FERC No. 1494
September 2022

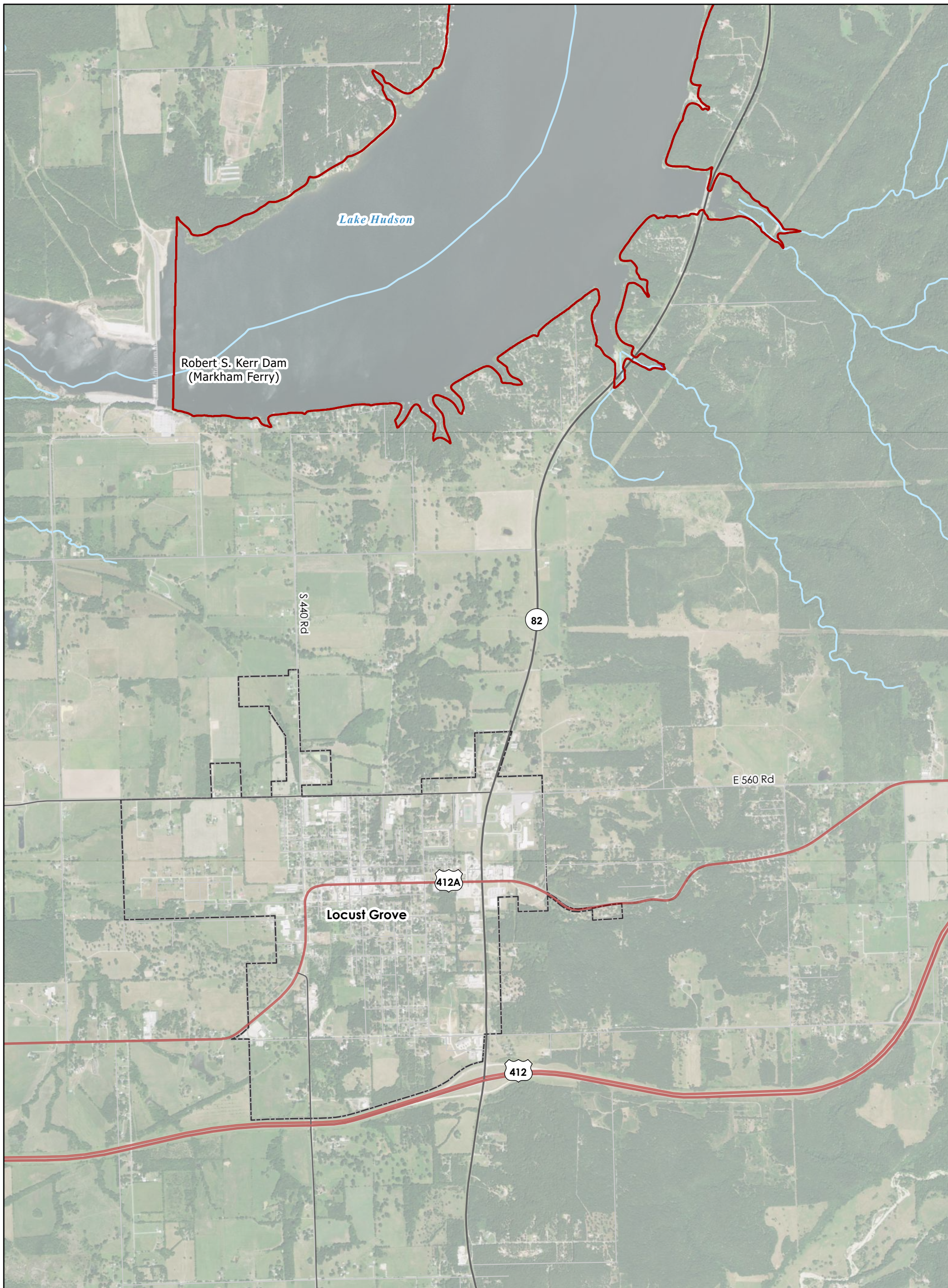
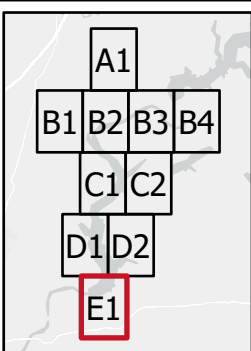
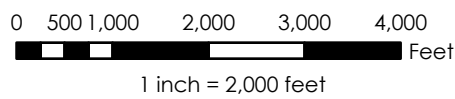


Image credits: https://gis.apfo.usda.gov/arcgis/services/NAIP/USDA_CONUS_PRIME/ImageServer, 2019

DECEMBER 2015 (15 YEAR) INUNDATION SCENARIO



DEC 2015 MAX INUNDATION

757.0 ft PD	743.5 ft PD
753.0 ft PD	743.0 ft PD
749.0 ft PD	742.5 ft PD
745.0 ft PD	742.0 ft PD
744.5 ft PD	734.0 ft PD
744.0 ft PD	

Legend

ROAD CLASS

- Interstate
- State Highway
- US Highway
- Major Collector
- Local Road

BOUNDARY TYPE

- Stream
- Project
- County
- Municipal

MAP AND LEGEND NOTES

- For areas where only the highest starting elevation inundation boundary is visible, the inundation from other starting elevations is nearly identical.
- See Overview Map for notes on data sources.

PENSACOLA DAM DOWNSTREAM HYDRAULIC MODEL
 GRAND RIVER DAM AUTHORITY

MAP: E1

CRAIG, DELAWARE, AND MAYES COUNTIES, OKLAHOMA
FERC No. 1494
 September 2022