Attachment C

Colliers Engineering & Design

Wetland Delineation Report

Central Columbus Project

Colliers Engineering & Design Project Number: 21004202A

September 20, 2023

Prepared for:

NiSource Inc.
801 E. 86th Avenue
Merrillville, IN 46410

Prepared by:

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APPENDICES

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EXECUTIVE SUMMARY

On behalf of NiSource Inc., Colliers Engineering & Design (CED) conducted field delineations for the Central Columbus Project within Franklin County, Ohio (hereinafter described as "Survey Corridor"). The Subject Property is located at latitudinal coordinates 40.011977 N and longitudinal coordinates -82.572089 W. The Survey Corridor is located approximately 5 miles north of Columbus, Ohio. Access to the Survey Corridor can be achieved from Parkwood Avenue, Minnesota Avenue, Genesee Avenue, Greenwich Street, Melrose Avenue, Bremen Street, Aberdeen Avenue, Atwood Terrace, Alamo Avenue, Akola Avenue, Osceola Avenue, Audubon Road, Edgar Place, Beulah Road, E Tulane Road, Indiana Avenue, E Weber Road, N High Road, and W Tulane Road.

The Project Study Area or "Survey Corridor" is comprised of a 100-foot-wide survey corridor centered on the proposed pipeline alignment for 4.2 miles of main line. The Survey Corridor was investigated to identify potential jurisdictional Waters of the U.S. (WOTUS) and wetlands subject to Federal or State regulatory jurisdiction. The delineation methodologies developed by the USACE and the USEPA, as described in the *1987 Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0*) and the subsequently issued USACE regulatory guidance regarding the identification of jurisdictional stream channels through the recognition of field indicators of an ordinary high-water mark within drainage features (Environmental Laboratory, 1987; USACE 2012; USACE 2005) were utilized during our investigation.

Based on the field investigations, no wetland or stream features were delineated within the Survey Corridor by CED on March 2nd and 3rd, 2022 and May 19, 2023, as shown on Figure 5. Delineation Results (**Appendix A**).

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1.0 PROJECT INFORMATION

Project Name	Central Columbus Project
Project Location	Parkwood Avenue, Minnesota Avenue, Genesee Avenue, Greenwich Street, Melrose Avenue, Bremen Street, Aberdeen Avenue, Atwood Terrace, Alamo Avenue, Akola Avenue, Osceola Avenue, Audubon Road, Edgar Place, Beulah Road, E Tulane Road, Indiana Avenue, E Weber Road, N High Road, and W Tulane Road
Municipality	Columbus
County	Franklin
State	Ohio
Latitude/Longitude	40.011977 N / -82.572089 W
Subject Property Size	+/- 4.2 mi 100-foot-wide survey corridor
U.S.G.S. Quadrangle	Northwest Columbus and Northeast Columbus OH
Potential Jurisdictional Waters of the U.S. (WOTUS) and wetlands	See Aquatic Resource Area Summary Table on Page 11
River Basin (HUC) & sub-watershed	Upper Scioto Basin: 8 Digit HUC Code 05060001
Nearest Stream	Alum Creek and Olentangy River
Navigable Water Nexus	Stream features delineated on the Survey Corridor would be considered jurisdictional WOTUS and wetlands since these features drain towards Alum Creek and the Olentangy River; however, none were identified
Isolated Wetlands/Waters Present (Yes/No)	No

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2.0 INTRODUCTION

On behalf of NiSource Inc., Colliers Engineering & Design (CED) conducted field delineations for the Central Columbus Project located in the greater North Columbus area within Franklin County, Ohio (hereinafter described as "Survey Corridor"). The Survey Corridor is located at latitudinal coordinates 40.011977 N and longitudinal coordinates -82.572089 W. The Survey Corridor is located approximately 5 miles north of Columbus, Ohio. Access to the Survey Corridor can be achieved from Parkwood Avenue, Minnesota Avenue, Genesee Avenue, Greenwich Street, Melrose Avenue, Bremen Street, Aberdeen Avenue, Atwood Terrace, Alamo Avenue, Akola Avenue, Osceola Avenue, Audubon Road, Edgar Place, Beulah Road, E Tulane Road, Indiana Avenue, E Weber Road, N High Road, and W Tulane Road. The Survey Corridor is bordered by residential homes, commercial properties, and small forested areas.

The Survey Corridor was investigated to identify potential jurisdictional Waters of the U.S. (WOTUS) and wetlands subject to Federal or State regulatory jurisdiction. According to the U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (USEPA) regulations described in Section 404 of the Clean Water Act (33 CFR Section 328.3 and 40 CFR Section 230.3) respectively, wetlands are "...areas that are inundated or saturated with surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

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3.0 PROPERTY DESCRIPTION

The Survey Corridor is located within the Upper Scioto River Basin (8 Digit HUC Code 05060001). Access to the Survey Corridor can be achieved from Parkwood Avenue, Minnesota Avenue, Genesee Avenue, Greenwich Street, Melrose Avenue, Bremen Street, Aberdeen Avenue, Atwood Terrace, Alamo Avenue, Akola Avenue, Osceola Avenue, Audubon Road, Edgar Place, Beulah Road, E Tulane Road, Indiana Avenue, E Weber Road, N High Road, and W Tulane Road. The eastern and central sections of the Survey Corridor drain east southeast towards Alum Creek, and the western section of the Survey Corridor drains west towards the Olentangy River. The Survey Corridor does not contain a floodway or a floodplain according to FEMA Floodplain Panel Maps 39049C0164K and 39049C0189K (eff. 6/17/2008). The Survey Corridor contains approximately 5% forested communities and 95% urban developed land (residential properties and commercial properties). The forested areas are comprised of a mixture of oak, tulip poplar, red maple, pine, and sweetgum species that dominate the canopy layer. Alum Creek is located to the east of the Survey Corridor, flowing north to south. The Olentangy River is located to the west of the Survey Corridor and drains north to south.

4.0 BACKGROUND INFORMATION

Prior to on-site field investigations, several publicly available sources of information were reviewed to determine the likelihood of wetlands and surface waters occurring within Survey Corridor. These mapping resources generally include, but are not limited to, the United States Geological Survey (USGS) maps (Figure 1. Project Location Map, **Appendix A**), the U.S. Department of Agriculture - Natural Resource Conservation Service (NRCS) soils database (Figure 2. Soil Series Map, **Appendix A**), National Hydrography Dataset (NHD), and the U.S. Fish & Wildlife Service National Wetlands Inventory (NWI) database (Figure 3. National Wetlands Inventory Series, **Appendix A**).

4.1 U.S. GEOLOGICAL SURVEY MAP

The Survey Corridor appears on the *Northwest Columbus and Northeast Columbus* Quadrangle USGS Maps (Figure 1. Project Location Map, **Appendix A**) and is depicted as developed properties which contain approximately 5% forested areas habitat communities and 95% residential and commercial properties. Residential and forested areas are located within the vicinity of the Survey Corridor to the north, south, east, and west. Elevations at the Survey Corridor range from 750 to 950 feet above mean sea level (MSL) based on the USGS map.

4.2 SOIL SURVEY

The NRCS Web Soil Survey depicts the following four (4) Soil Series map units within the Survey Corridor and provides a description of the properties and qualities of each soil:

Table 1. Soils Section for Central Columbus Project

Map Unit Symbol	Map Unit Name	Drainage Class	Runoff Class	Depth to Water Table
BfA	Bennington-Urban land complex, 0 to 2 percent slopes	Somewhat Poorly Drained	High	About 6 to 12 inches
CbB	Cardington-urban land complex, 2 to 6 percent slopes	Moderately Well Drained	Medium	About 24 to 36 inches
CbC	Cardington-urban land complex, 6 to 12 percent slopes	Somewhat Poorly Drained	High	About 24 to 36 inches
Ut	Udorthents-Urban land complex, gently rolling	-	-	More than 80 inches

Of the four (4) mapped soil units, none are listed as being hydric.

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5.0 WETLAND & SURFACE WATER DELINEATION METHODOLOGY

The wetland delineation methodologies developed by the USACE and the USEPA, as described in the 1987 Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: *Midwest Region* (Version 2.0) and subsequently issued USACE regulatory guidance regarding the identification of jurisdictional stream channels through the recognition of field indicators of an ordinary high-water mark within drainage features (Environmental Laboratory, 1987; USACE 2012; USACE 2005), were utilized during our investigation. These methodologies generally involve the review of three parameters (vegetation, soils, hydrology) when making a wetland or non-wetland determination.

The Survey Corridor was walked, community types were characterized, and wetland and surface water boundaries were flagged. Sample stations were established along the boundaries to examine vegetation, soils, and hydrology. Using this data, boundaries were established based on changes in vegetation, soils, hydrology, and surface water characteristics.

6.0 WETLAND AND SURFACE WATER DELINEATION RESULTS

6.1 WETLAND AND SURFACE WATER SUMMARY

On-site field investigations of the Survey Corridor were conducted by CED on March 2nd & 3rd, 2022 and May 19, 2023. The on-site delineation verified that there was no presence of wetlands and surface waters within Survey Corridor. A summary of the aquatic resources identified within the Survey Corridor is provided below in Table 2: Aquatic Resource Summary. No aquatic resources were delineated as shown on Figure 5. Delineation Results (**Appendix A**).

Table 2: Aquatic Resource Area Summary Table

Aquatic Resource	PFO Area (AC)	PEM Area (AC)	Aquatic Resource	PUB Area (AC)	Aquatic Resource	R3 Length (LF)	R4 Length (LF)
	-	-	-	-	-	-	-
Total Wetlands by Class (AC)	-	-	Total Pond (AC)	-	Total Stream by Class (LF)	-	-
Total Wetlands (AC)	-				Total Stream (LF)	-	

Note 1: Cowardin Classification; PFO = palustrine forested wetland; PEM = palustrine emergent wetland; PUB = palustrine unconsolidated bottom (pond), R3 = perennial stream, R4 = intermittent stream

6.2 VEGETATION

Representative plant species within the upland areas include the following: sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus tadea*), red maple (*Acer rubrum*), American beech (*Fagus grandifolia*), Christmas fern (*Polystichum acrostichoides*), and common greenbrier (*Smilax rotundifolia*).

6.3 SOILS

Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil (USDA 2003). The soils in the upland areas varied from light yellowish brown (10YR 6/4), yellowish brown (10YR 5/6), and very dark grayish brown (10YR 3/2), within the upper 16 inches. Soil textures include silt and clay.

6.4 HYDROLOGY

On-site field investigations of the Survey Corridor were conducted by CED on March 2nd & 3rd, 2022 and May 19, 2023. The USACE Antecedent Precipitation Tool (APT) was utilized for the Survey Corridor and is provided **Appendix B**. Based on the USACE APT tool, the on-site field investigations were conducted in "Wetter than Normal" precipitation conditions with a 30-day rolling total.

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7.0 WETLAND DELINEATION CONCLUSION

No wetland or stream features were delineated within the Survey Corridor by CED on March 2nd and 3rd, 2022 and May 19, 2023. Field investigations were conducted in accordance with the manuals, methodologies, and regulatory guidance procedures as stated in Section 5.0 Wetland and Surface Water Delineation Methodology. It is CED's professional opinion that no jurisdictional areas are located on the Survey Corridor. No aquatic resources were delineated as shown on Figure 5. Delineation Results (**Appendix A**).

8.0 REFERENCES

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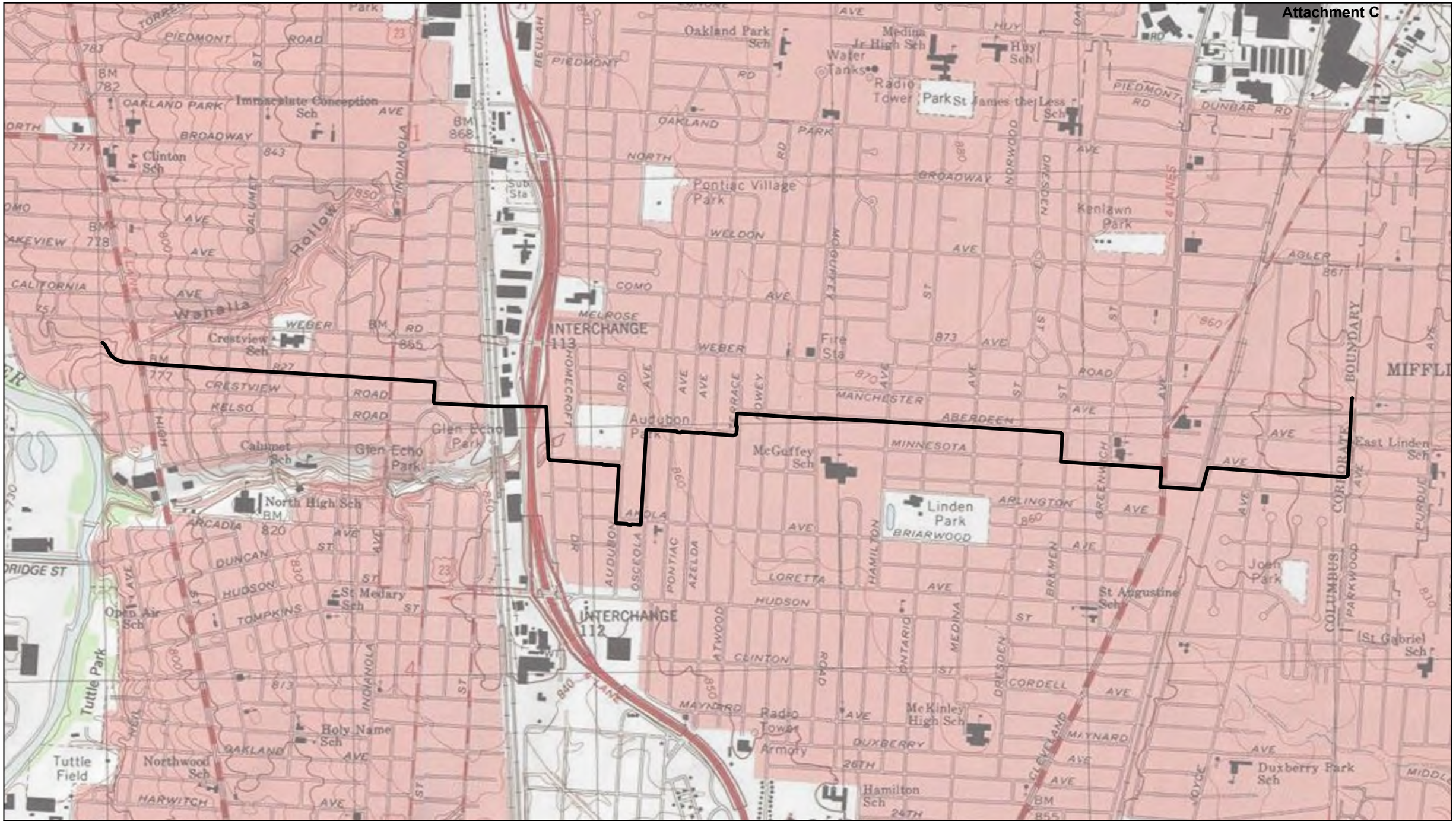
Appendix
Appendix A | Figures

Attachment C



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0 600 1,200 Feet

1" = 1,200 feet

N W E S

Source: USGS 24k Quadrangles: Northwest Columbus and Northeast Columbus, OH

Figure 1 - Project Location Map

Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

Main Line

Sheet 1 of 1

Attachment C

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0 250 500 Feet

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N W E S

Source: USDA NRCS SSURGO

Figure 2 - Soil Series Map

Central Columbus

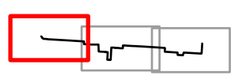
Franklin County, Ohio

Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

Main Line

Soil Map Unit (SSURGO)

Sheet 1 of 3



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Source: USDA NRCS SSURGO

Figure 2 - Soil Series Map

Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
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Main Line

Soil Map Unit (SSURGO)

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Source: USDA NRCS SSURGO

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Central Columbus

Franklin County, Ohio

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9/20/2023	21004202A	KHY

Main Line

Soil Map Unit (SSURGO)

Sheet 3 of 3

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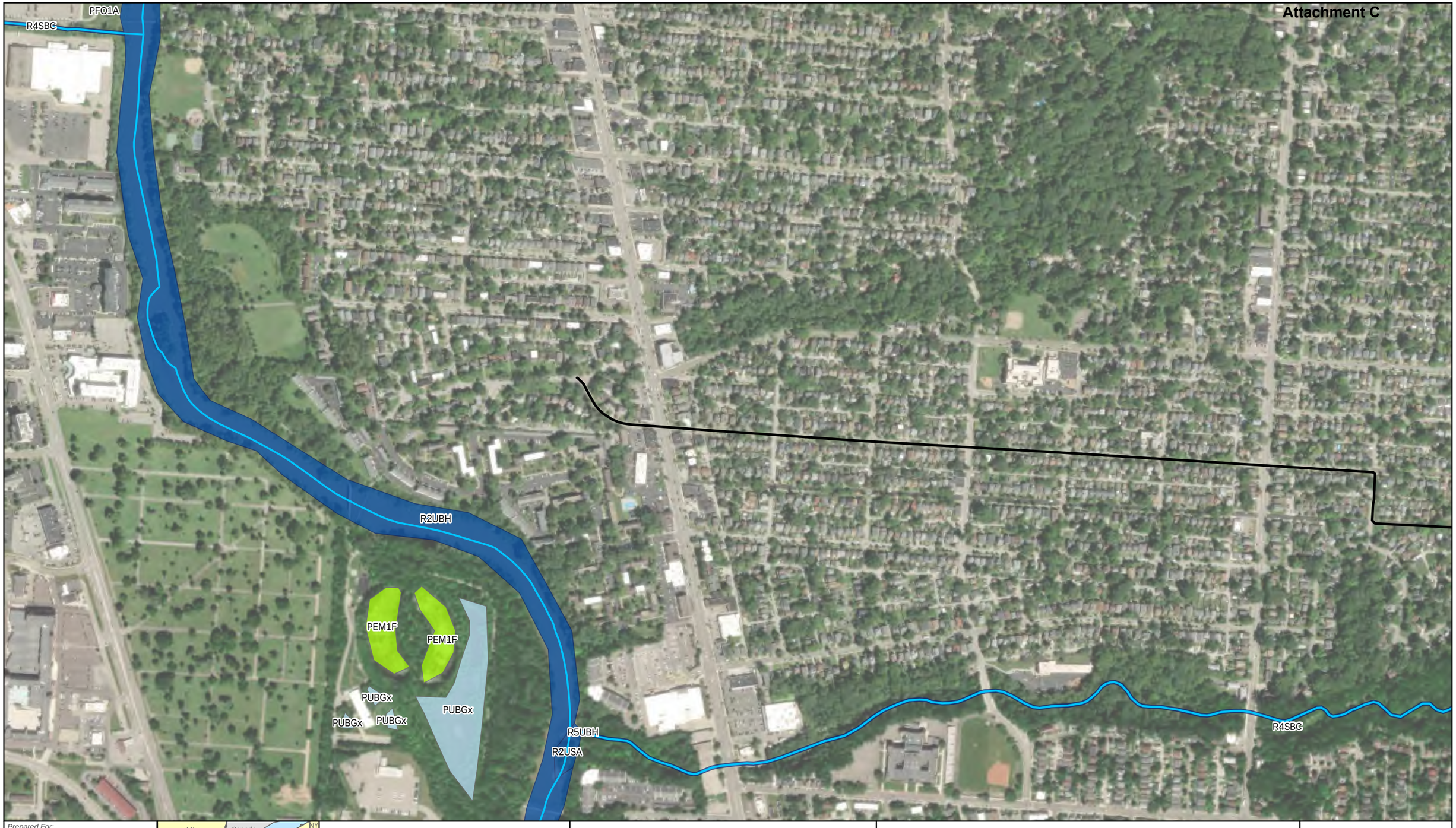

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0 250 500 Feet

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N W E S

Source: USFWS NWI, USGS NHD

Figure 3 - NWI Series Map

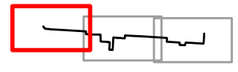
Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

- Main Line
- Stream (NHD)
- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Riverine

Sheet 1 of 3



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N W E S

Source: USFWS NWI, USGS NHD

Figure 3 - NWI Series Map

Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

- Main Line
- Stream (NHD)
- Waterbody (NHD)
- Freshwater Pond
- Riverine

Sheet 2 of 3

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N W E S

Source: USFWS NWI, USGS NHD

Figure 3 - NWI Series Map

Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
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Main Line
Stream (NHD)
Riverine

Sheet 3 of 3

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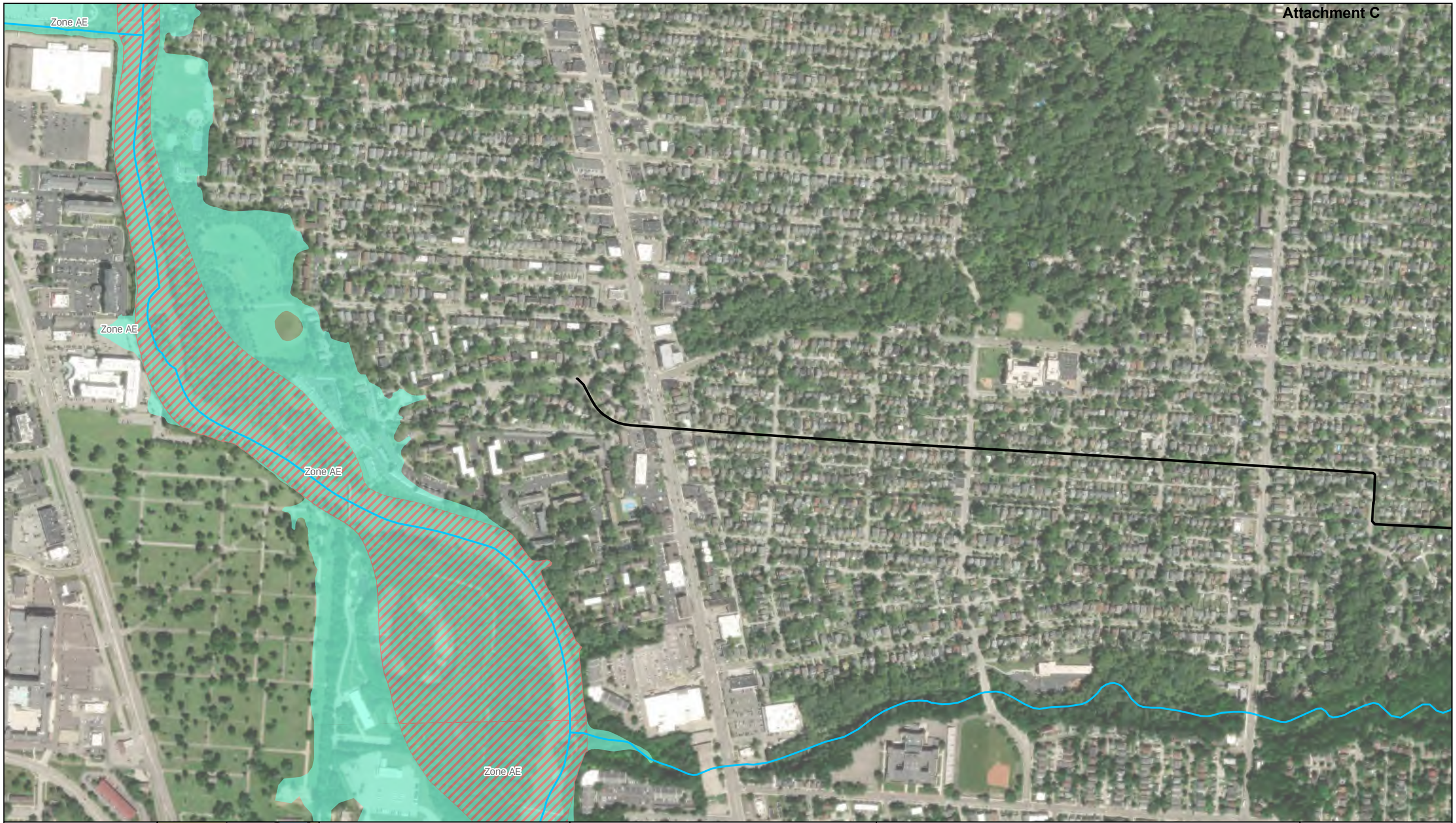

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0 250 500 Feet

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Source: FEMA, USGS NHD

Figure 4 - Floodplain Series Map

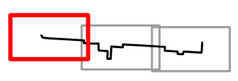
Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

- Main Line
- Stream (NHD)
- 1% Annual Chance Flood Hazard
- Regulatory Floodway

Sheet 1 of 3



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N W E S

Source: FEMA, USGS NHD

Figure 4 - Floodplain Series Map

Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

Main Line
Stream (NHD)

Sheet 2 of 3

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Source: FEMA, USGS NHD

N W E S

Figure 4 - Floodplain Series Map

Central Columbus

Franklin County, Ohio

Date:	MC Project #:	Drawn By:
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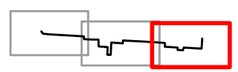
Main Line

Stream (NHD)

Sheet 3 of 3



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0 100 200 Feet

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N W E S

Source: Colliers Engineering & Design

Figure 5 - Delineation Results

Central Columbus

Franklin County, Ohio

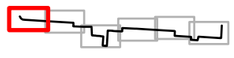
Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

Main Line

Study Corridor

Note: No features identified during field survey.

Sheet 1 of 6



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Source: Colliers Engineering & Design

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Main Line

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Figure 5 - Delineation Results

Central Columbus

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Main Line

Study Corridor

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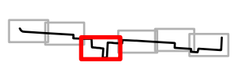

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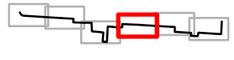

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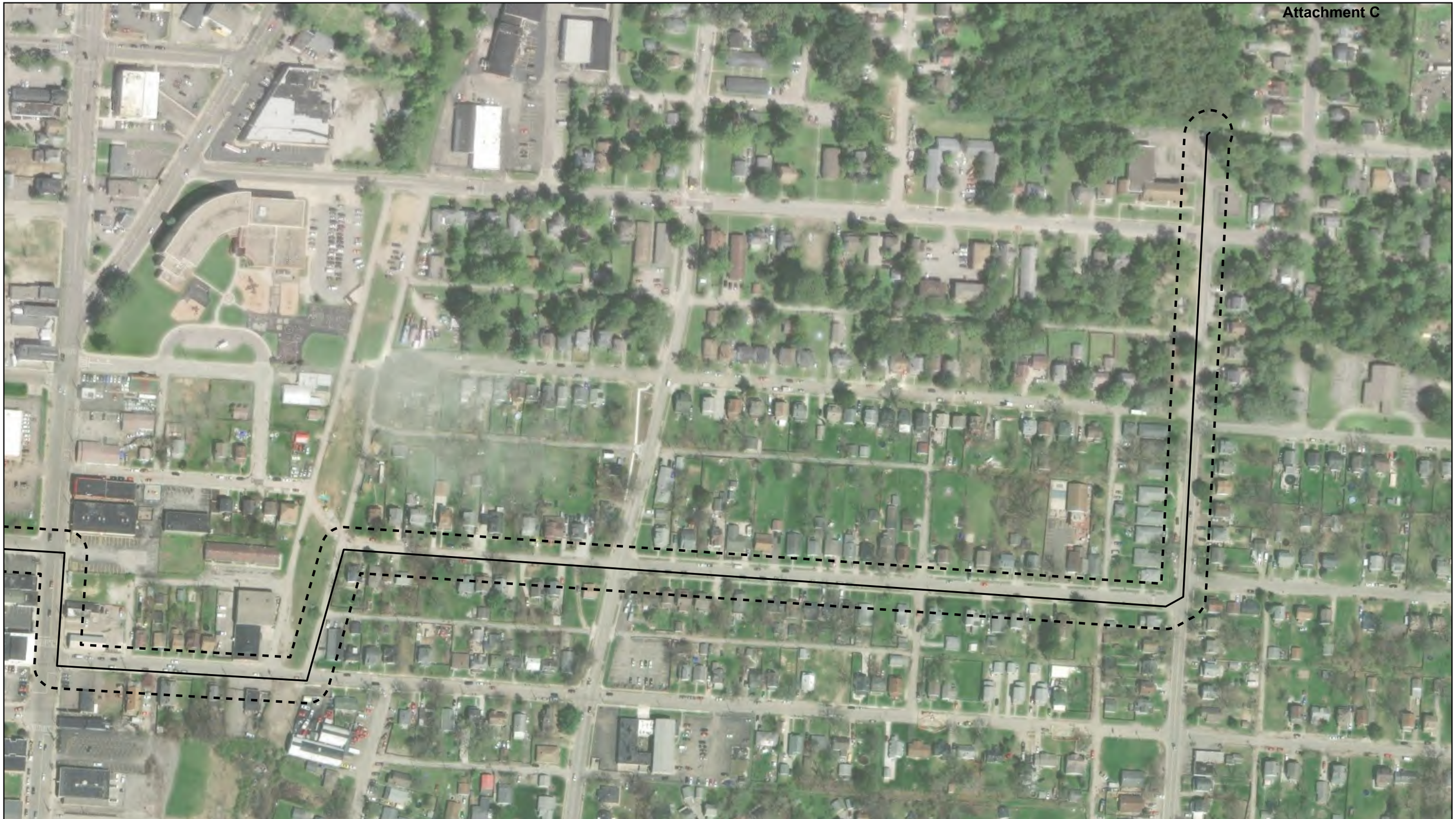

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0 100 200 Feet

1" = 200 feet

N W E S

Source: Colliers Engineering & Design

Figure 5 - Delineation Results

Central Columbus

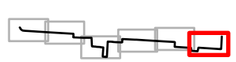
Franklin County, Ohio

Date:	MC Project #:	Drawn By:
9/20/2023	21004202A	KHY

Main Line

Study Corridor

Note: No features identified during field survey.



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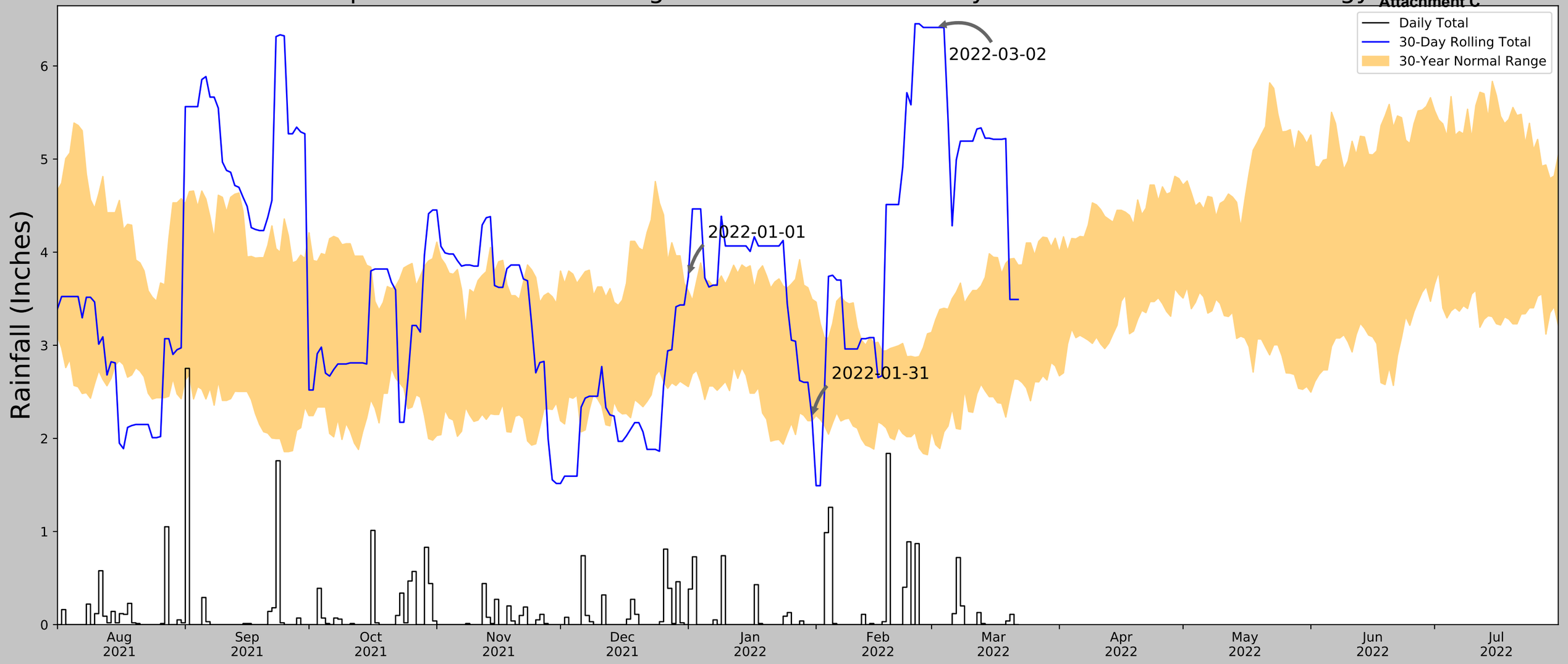
Appendix B | USACE Antecedent Precipitation Tool

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	40.011997, -82.572119
Observation Date	2022-03-02
Elevation (ft)	1094.88
Drought Index (PDSI)	Severe wetness (2022-02)
WebWIMP H_2O Balance	Wet Season

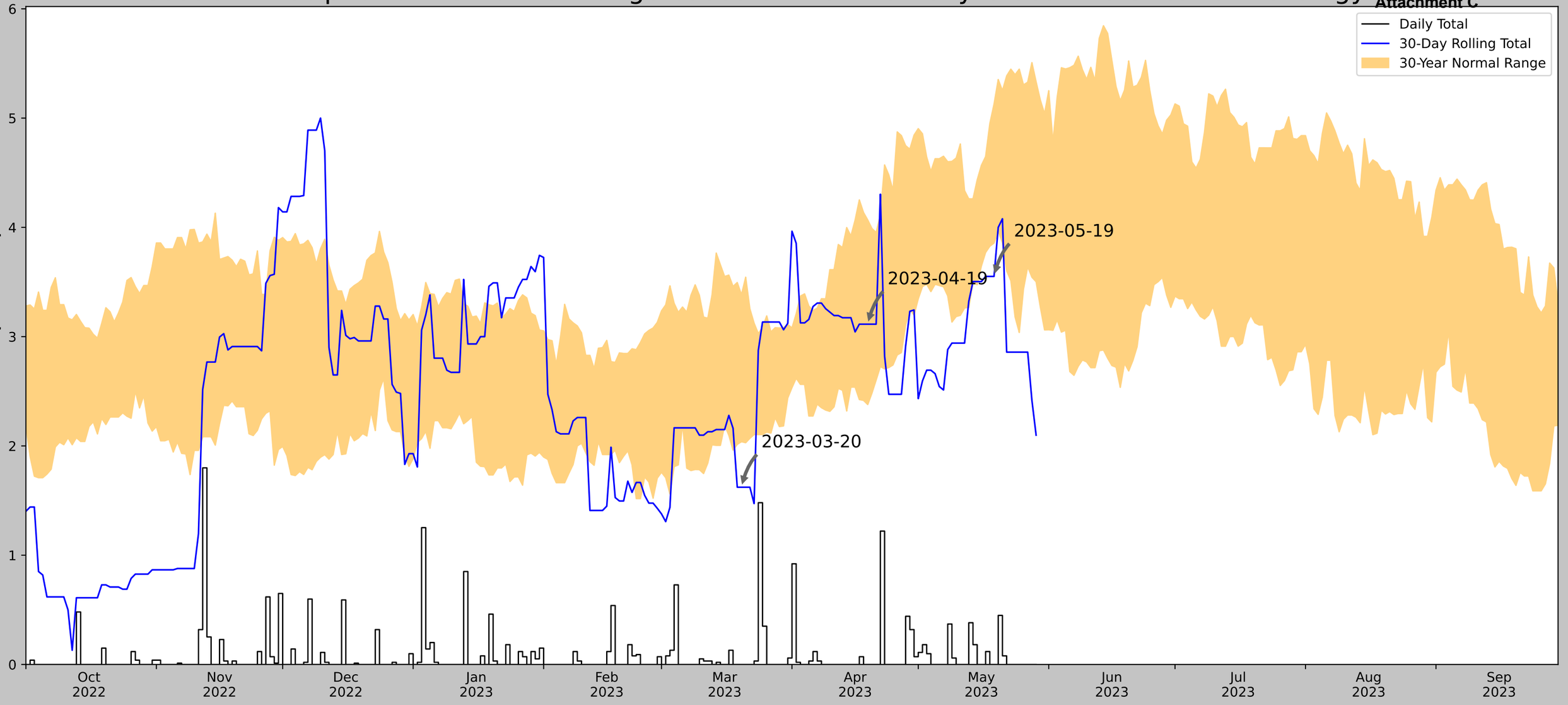
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-03-02	1.933071	3.275197	6.413386	Wet	3	3	9
2022-01-31	2.189764	3.494882	2.220473	Normal	2	2	4
2022-01-01	2.555906	3.585433	3.736221	Wet	3	1	3
Result							Wetter than Normal - 16

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days (Normal)	Days (Antecedent)
BUCKEYE LAKE 1 N	39.9522, -82.4819	888.123	6.315	206.757	4.148	11082	90
KIRKERSVILLE 3.3 N	39.998, -82.5986	1075.131	1.703	19.749	0.8	8	0
PATASKALA 3.2 E	39.998, -82.6136	1074.147	2.399	20.733	1.129	7	0
GRANVILLE 2.6 WSW	40.0527, -82.5445	1064.961	3.169	29.919	1.521	10	0
PATASKALA 2.1 ENE	40.013, -82.6381	1171.916	3.492	77.036	1.841	1	0
PATASKALA 2.0 NE	40.024, -82.6511	1216.864	4.261	121.984	2.437	36	0
ALEXANDRIA 2.1 NNW	40.1182, -82.6265	1080.053	7.881	14.827	3.663	32	0
NEWARK HEATH AP	40.0228, -82.4625	883.858	5.848	211.022	3.866	3	0
UTICA 4 WSW	40.2061, -82.52	1134.843	13.691	39.963	6.708	1	0
NEWARK WTR WKS	40.0875, -82.4128	834.974	9.911	259.906	7.036	173	0

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	40.021777, -82.950994
Observation Date	2023-05-19
Elevation (ft)	834.369
Drought Index (PDSI)	Mild wetness (2023-04)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-05-19	3.856299	5.127953	3.551181	Dry	1	3	3
2023-04-19	2.378347	4.067717	3.114173	Normal	2	2	4
2023-03-20	2.038583	3.383858	1.622047	Dry	1	1	1
Result							Drier than Normal - 8

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
LAURELVILLE	39.4706, -82.7344	759.843	39.783	74.526	20.867	11080	90
LANCASTER 4.2 SSE	39.668, -82.5636	800.853	16.394	41.01	8.05	15	0
CIRCLEVILLE	39.6103, -82.9556	674.869	15.234	84.974	8.15	227	0
LANCASTER	39.7156, -82.6072	827.1	18.232	67.257	9.431	29	0
LANCASTER FAIRFIELD CO AP	39.7572, -82.6633	849.081	20.161	89.238	10.872	2	0

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