



Lake Barton Dredging, Restoration and Riser Modification Project

Department of Public Works and Environmental Services
Working for You!

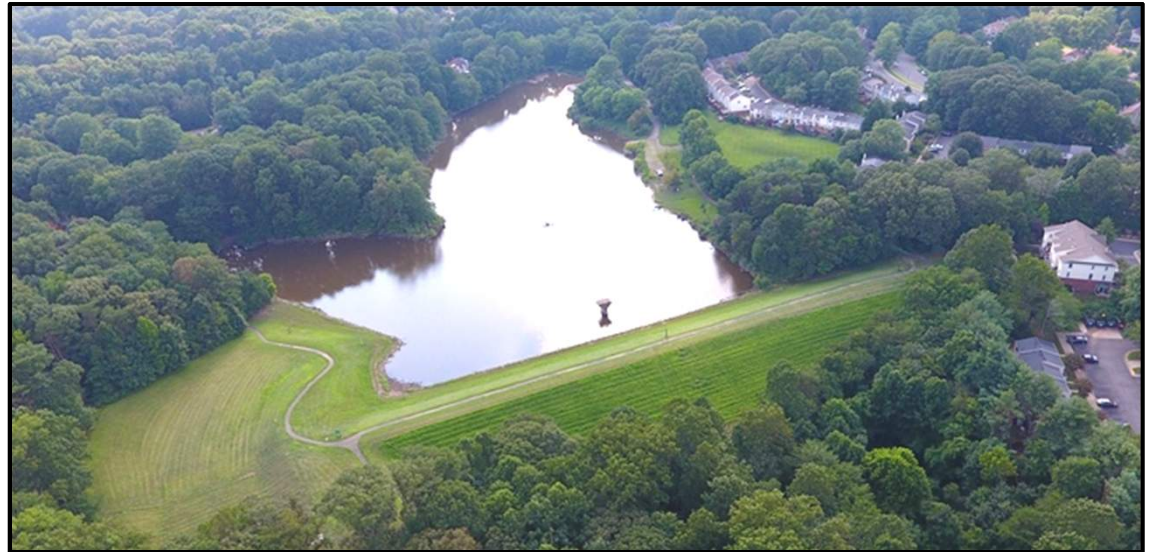


A Fairfax County, VA, publication
July 16, 2019

Meeting Agenda

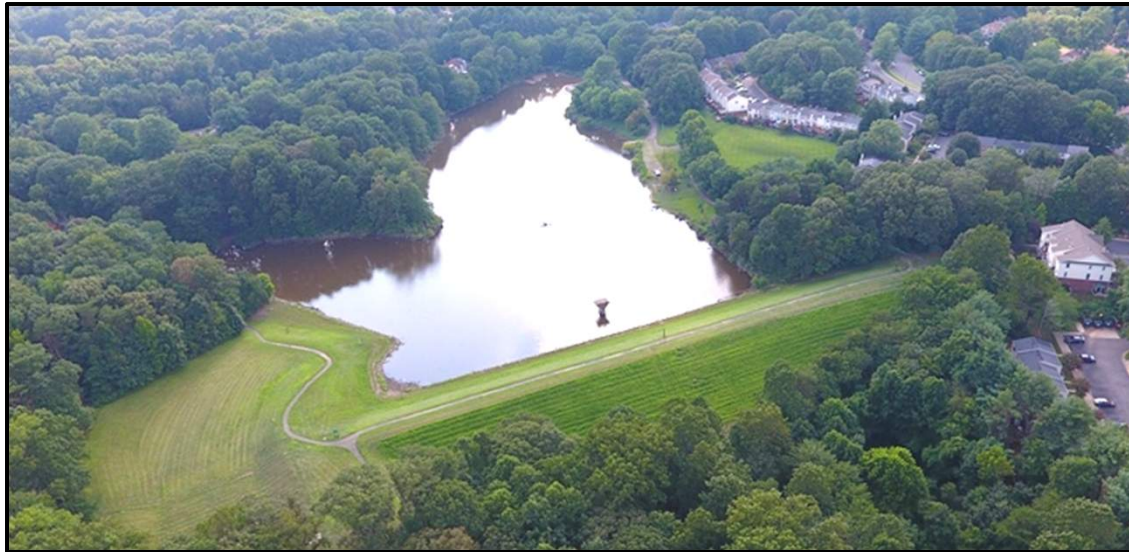
Meeting Agenda

- Introduction
- Facility Overview
- Project Need
- Project Objectives
- Work Completed
- Construction
- Next Steps



Introduction

- **Fairfax County Staff**
 - Aaron George, PE, CFM - DPWES Maintenance and Stormwater Management Division
 - Chris Triolo, PE, CCM – DPWES Utilities Design and Construction Division
- **Design Engineering Consultant**
 - Eric Neast, PE - Gannett Fleming, Inc.



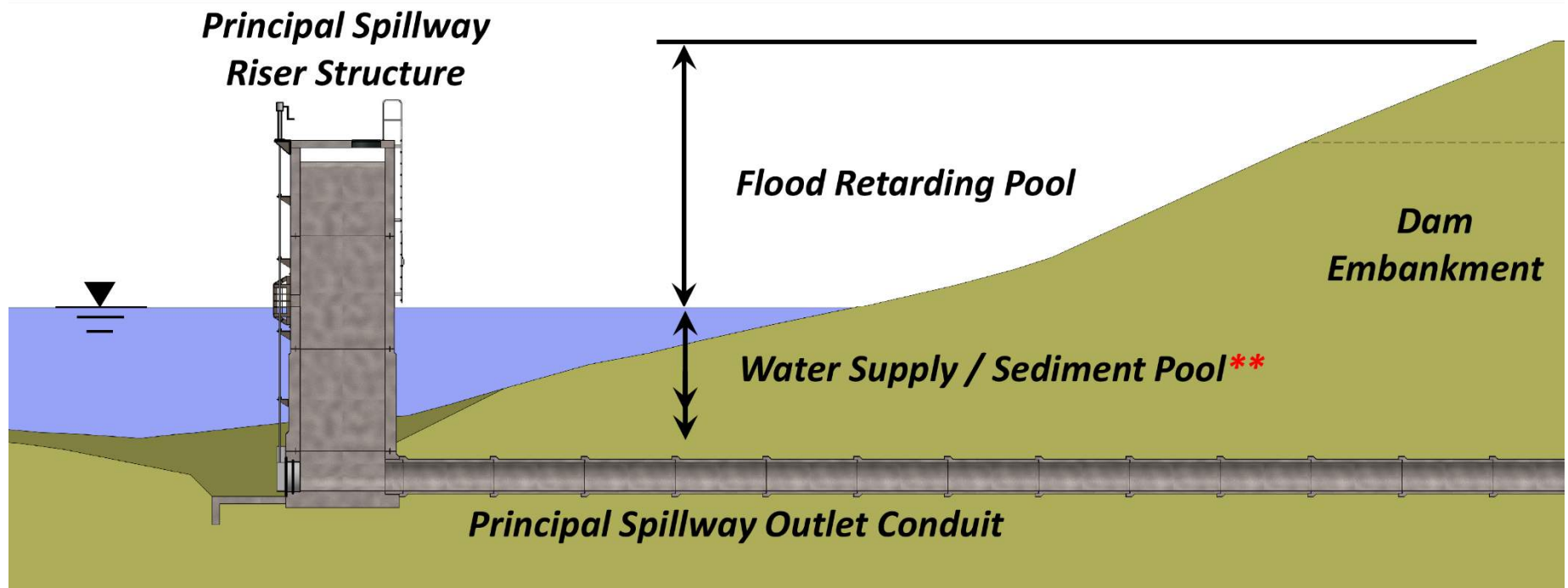
Facility Overview

Lake Barton (9992WP)

- Constructed in 1978 to provide flood control by the Natural Resources Conservation Service (NRCS) with Fairfax County and Northern Virginia Soil and Water Conservation District (NVSWCD) as local sponsors
- One of six NRCS designed flood control dams in the Pohick Watershed
- Drainage Area - 538 acres (0.8 square miles)
- Surface Area - 9.6 acres
- Lake Barton Dam is regulated by the Department of Conservation and Recreation (DCR) with operation and maintenance completed by Fairfax County
- Last dredged in 2011

Facility Overview

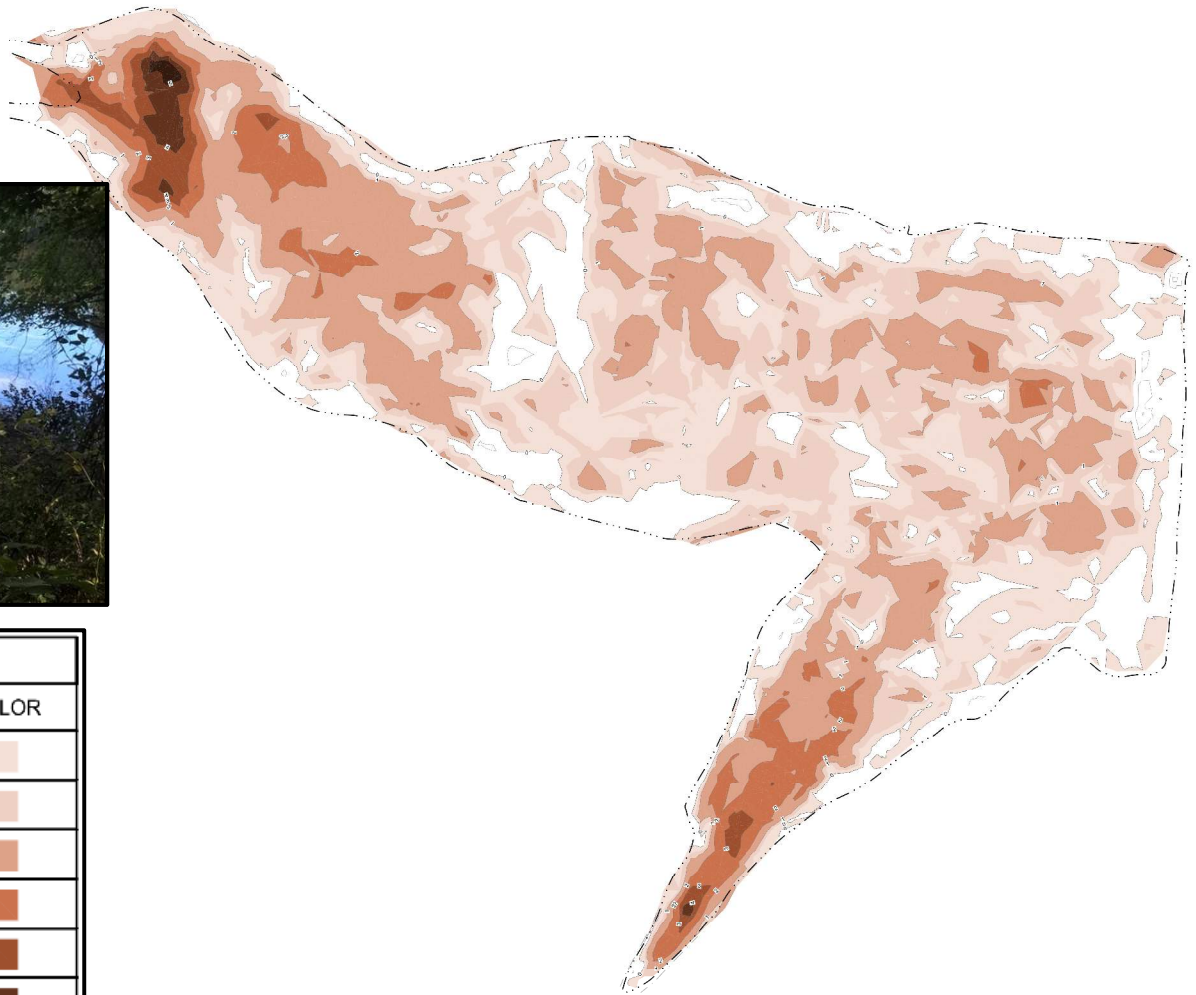
Typical Reservoir with Sediment Storage










Project Need

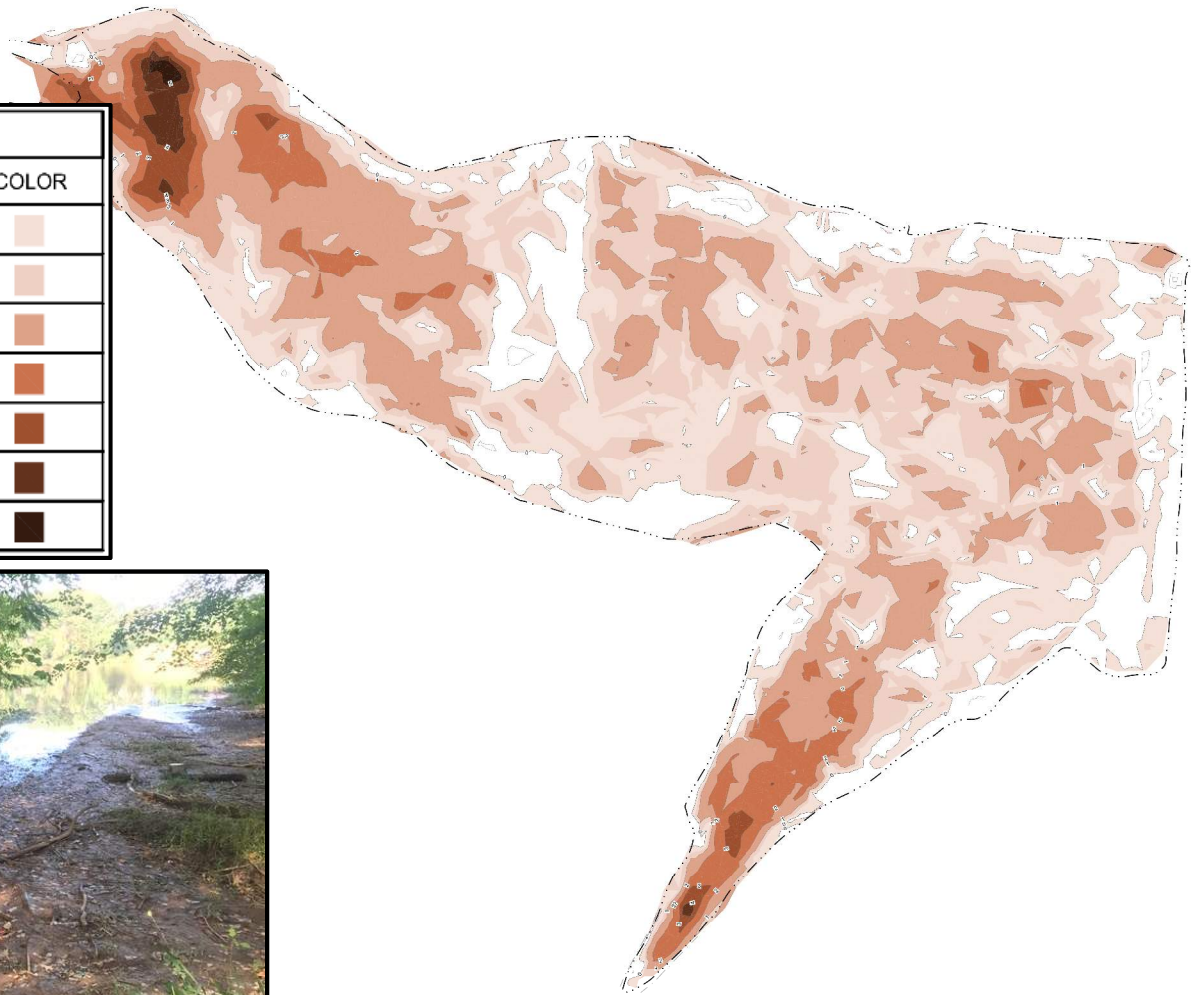


ELEVATIONS TABLE			
NUMBER	MIN ELEVATION	MAX ELEVATION	COLOR
1	0.0	0.5	
2	0.5	1.0	
3	1.0	2.0	
4	2.0	3.0	
5	3.0	4.0	
6	4.0	5.0	
7	5.0	6.2	



Project Need

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Project Need



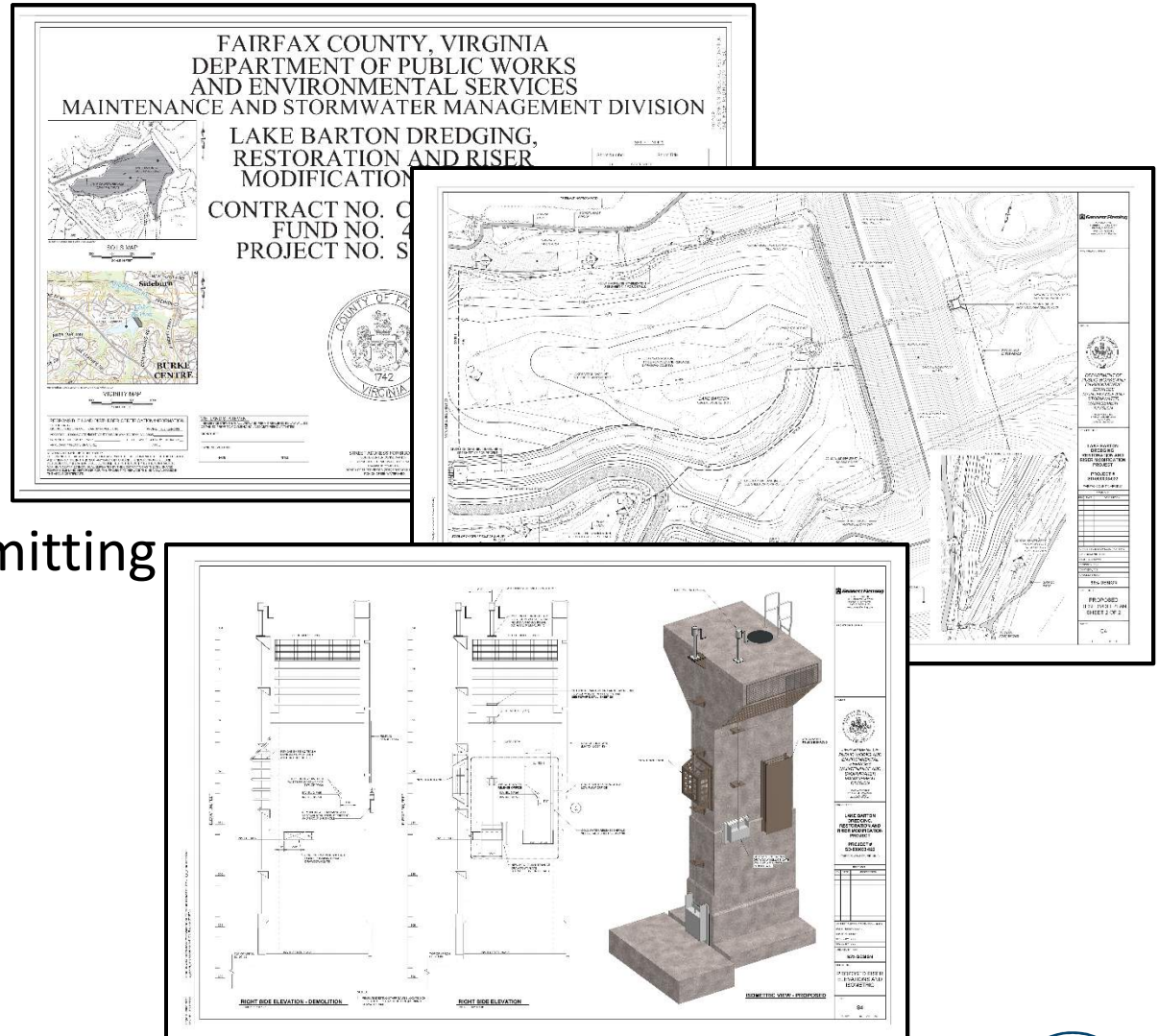
Project Objectives

- Dredge accumulated sediment
 - Currently estimated to remove 15,700 CY
- Facility restoration
 - Shoreline rehabilitation
 - Riser rehabilitation
 - Trash Rack
 - Cold Water Intake
- Facility Improvements
 - Secondary forebay
 - Improvements to existing forebay
 - Water quality benefits (forebay volume)
 - Mid-level sluice gate
 - Fish habitat

Lake Barton Dredging, Restoration and Riser Modification Project

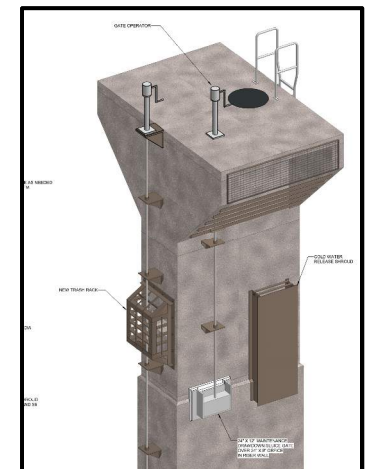
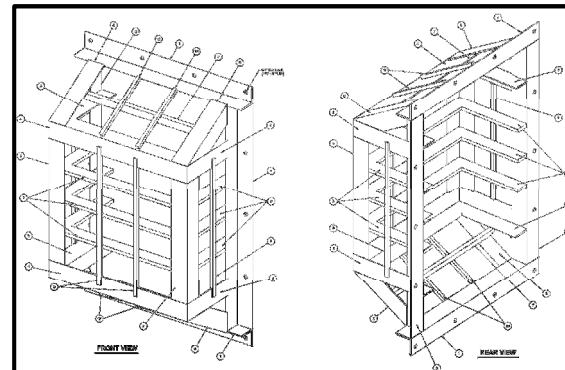
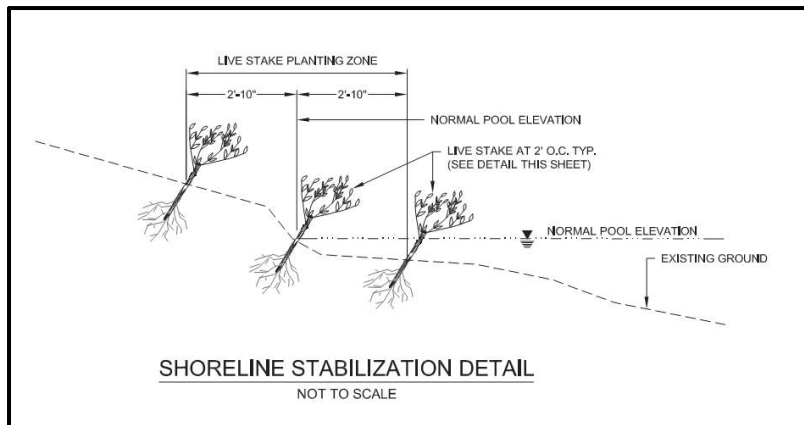
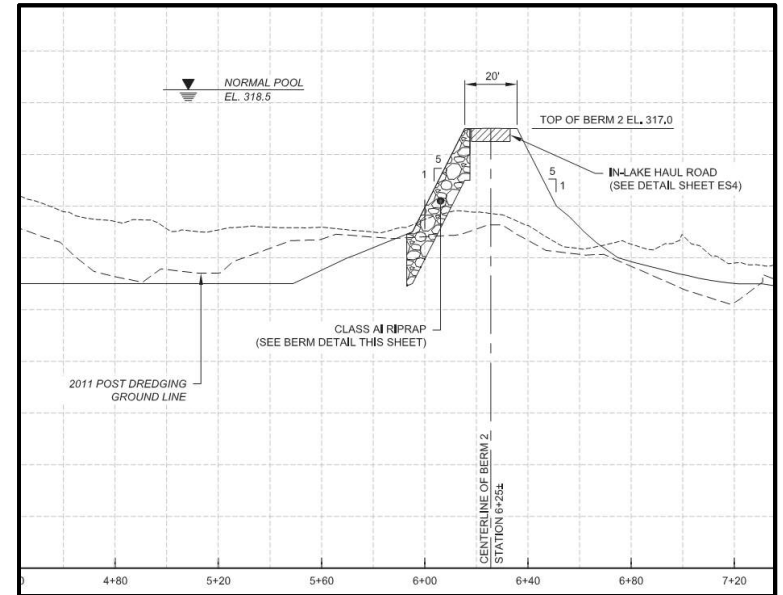
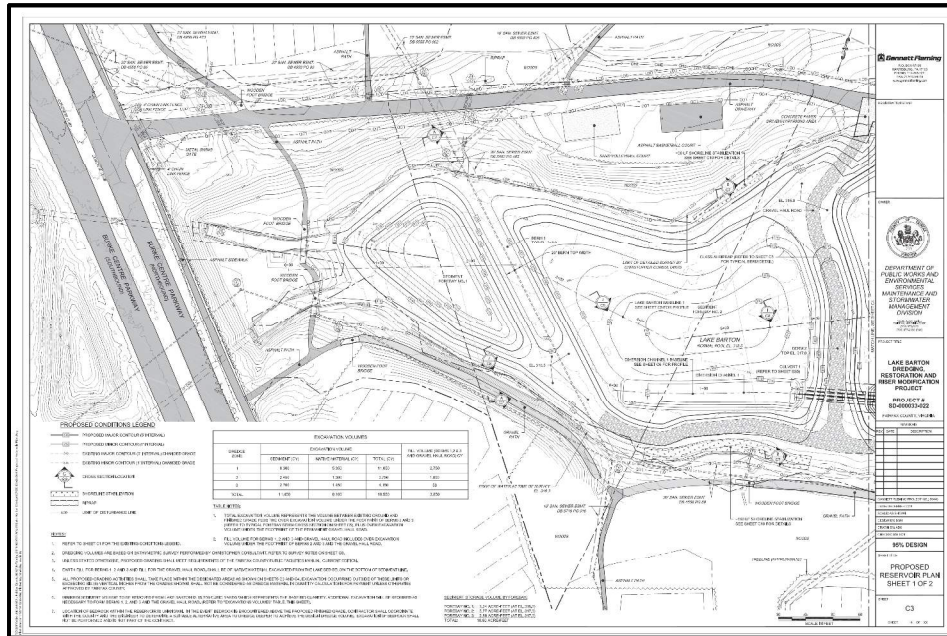
Work Completed

- Survey
 - Bathymetric
 - Topographic
 - Utility
 - Environmental
- Sediment Sampling
- Environmental Permitting
- Design
 - 95% Design Plan
 - Specifications
 - Permitting

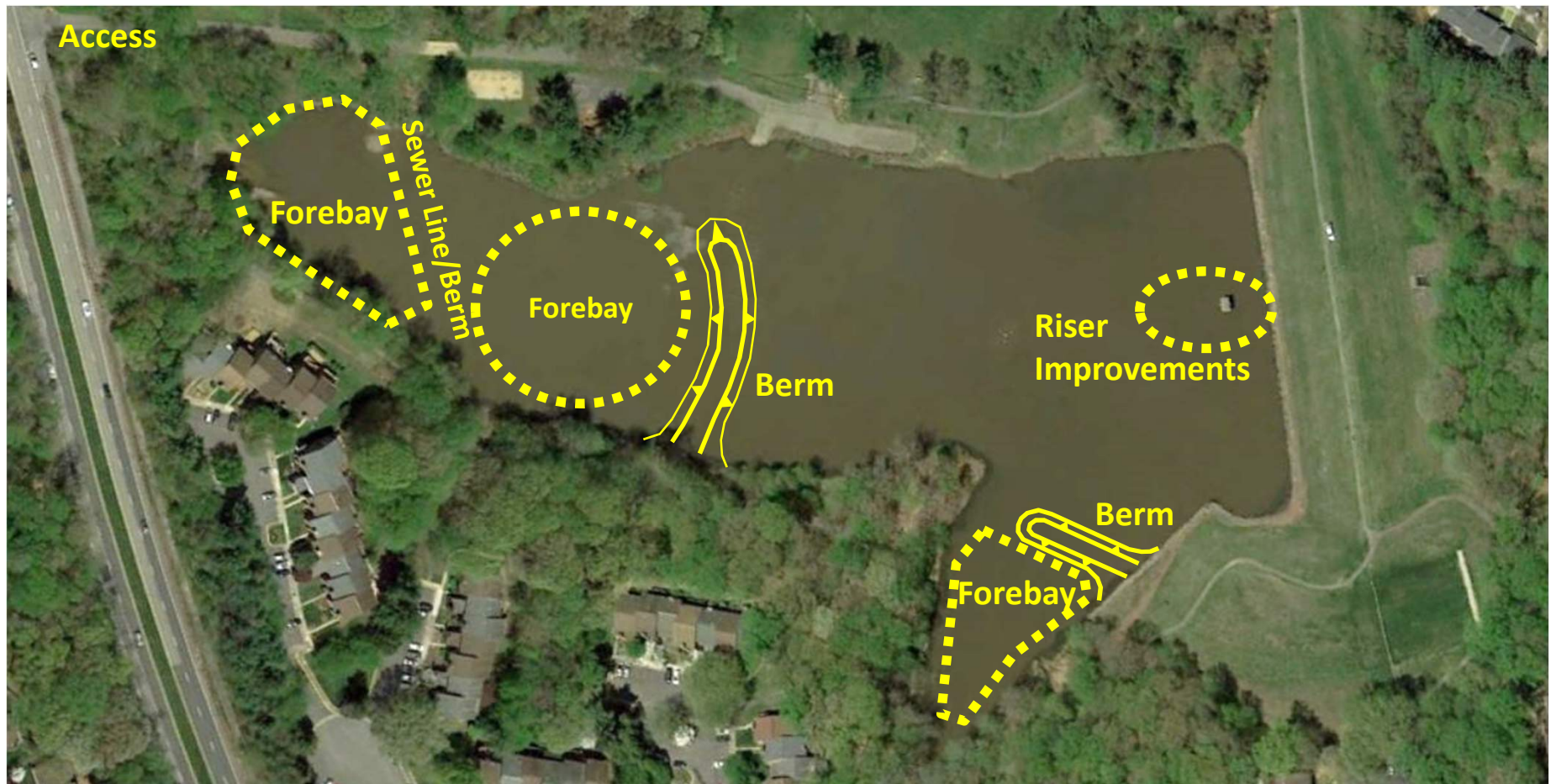


Lake Barton Dredging, Restoration and Riser Modification Project

Work Completed



Work Completed



Construction

Mechanical Dredge (Dry)

- General Sequence
 - Initiate drawdown of lake
 - Establish access and staging areas
 - Establish diversion channels within lake
 - Conduct dredging
- Benefits
 - Higher daily sediment removal rates
 - Minimal sediment handling effort at disposal area
 - Potentially lower cost
 - Constructability of improvements
- Challenges
 - Very weather dependent
 - Higher potential for delays due to weather
 - Potential for odor from lake bottom being exposed
 - Need to relocate/salvage fish



Construction

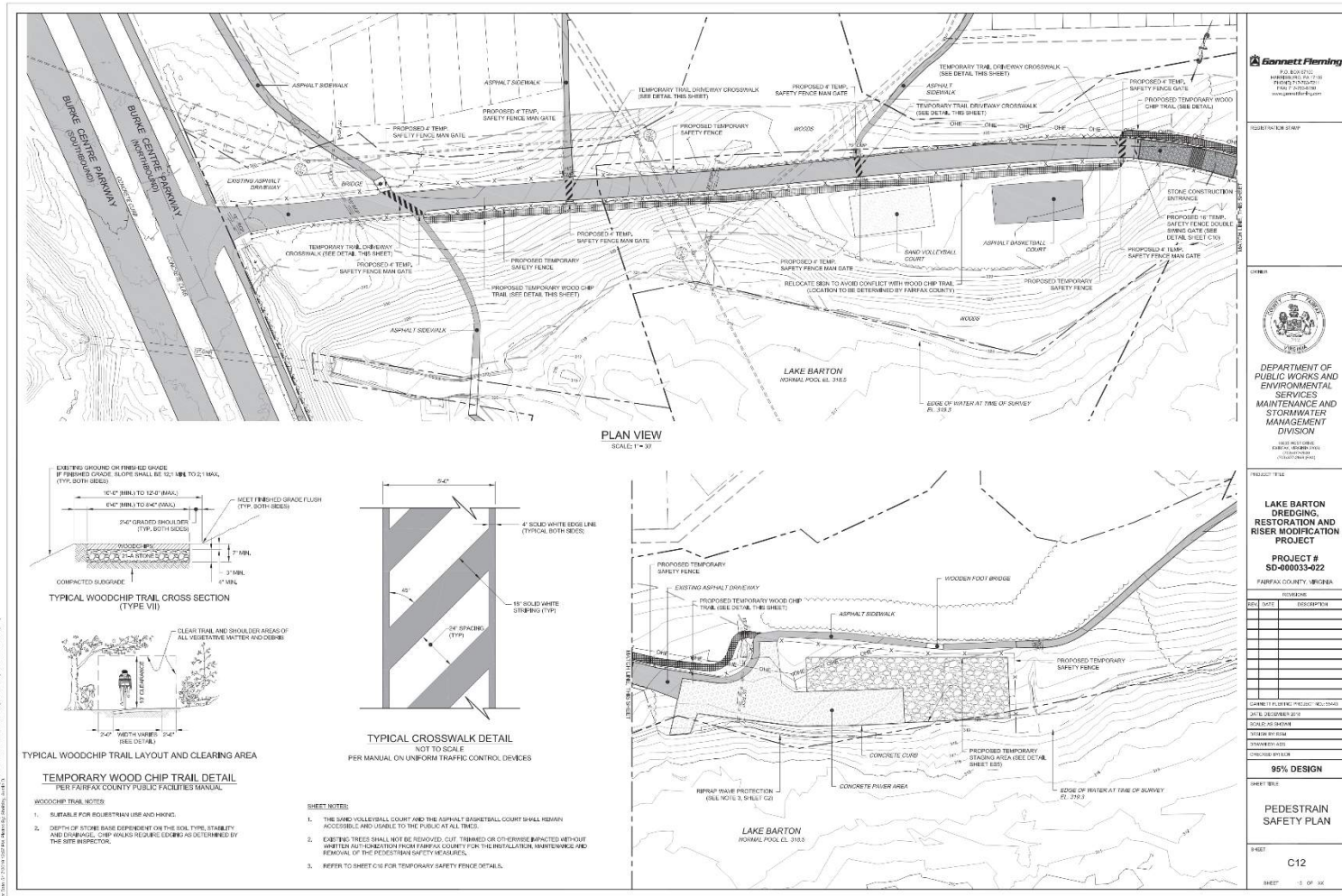
Similar Projects

- Huntsman Lake
- Woodglen Lake
- Royal Lake



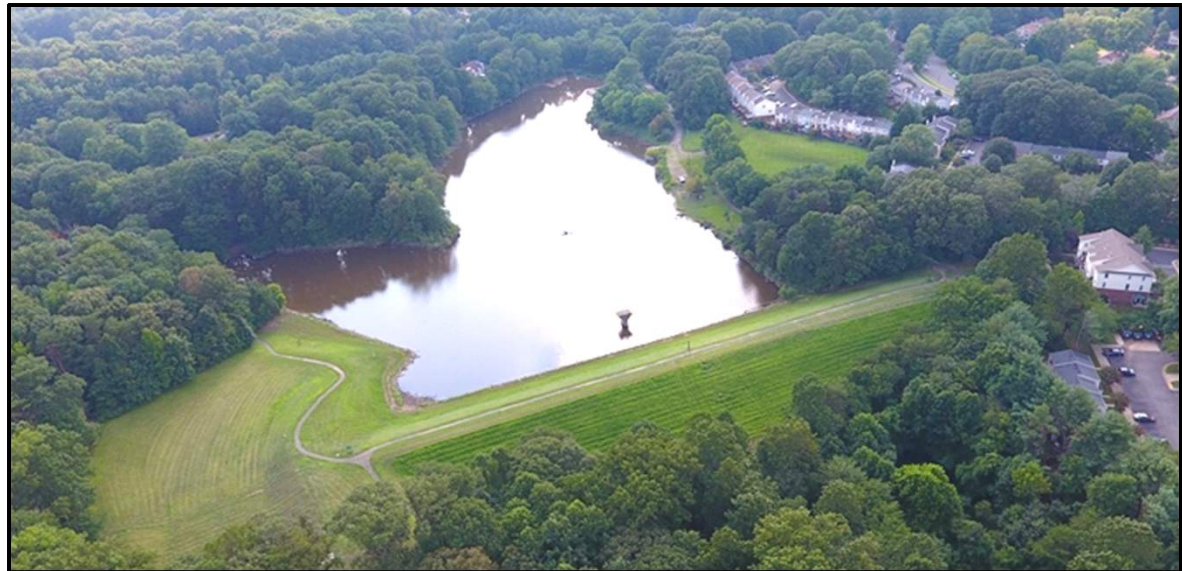
Lake Barton Dredging, Restoration and Riser Modification Project

Construction



Next Steps

- Finalize Design / Permitting / Disposal Options
 - Plan, specifications, and permits to be acquired for construction
 - 3 months
- Bid
 - Acquire bids from qualified contractors
 - 3-4 months
- Construction
 - 12 months



Additional Information

For additional information, please contact

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www.fairfaxcounty.gov/dpwes

