



Navigating Natural Resources Permitting: Upper Marlboro Flood Protection System

Adam Tatone, PWS

MAFSM
12th Annual Conference
October 20, 2016

Discussion Topics

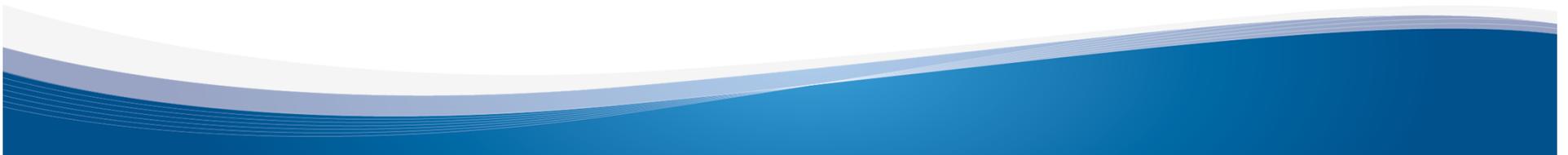
- **Project Overview**
- **Permitting**
- **RTE Issues**
- **Mitigation**
- **Monitoring**
- **Lessons Learned**

1 **PROJECT OVERVIEW**



Project Overview

- **Located Along the Western Branch of the Patuxent River and Collington Branch**
- **Events Resulting in Flooding Conditions**
 - **Storm Events (May 2008)**
 - **Hurricane Irene (August 2011)**
 - **Tropical Storm Lee (September 2011)**
 - **Hurricane Sandy (October 2012)**









Project Overview

- **To Cure Deficiencies Identified by the USACE**
- **To Perform Maintenance/Restore Conveyance to Protect the Functionality of the Levee System of the 1960 USACE Flood Risk Management Project**



Project Overview

- **Reestablish the 1960 Floodway**
- **USACE Project Design; Q=10,000 cfs**
- **100-yr Existing Condition; Q=17,000 cfs**



Project Overview

- **Design a Floodway That Conveys the Storms of Concern and Requires Minimal Impact and Maintenance**
 - How much sediment removal is required?
 - How will a newly graded floodplain function?
 - How can we minimize tree removal?
 - How can we minimize impact and optimize wetland mitigation/restoration?

Project Approach

- **Iterative Hydraulic Design and Impact Minimization Approach**
 - **Determined Effective Discharge of Channel**
 - **Estimated Sedimentation Rates Following Grading**
 - **Focused grading on hydraulically effective areas**
 - **Determine characteristics of floodplain wetlands**



2 **PERMITTING**



Permitting

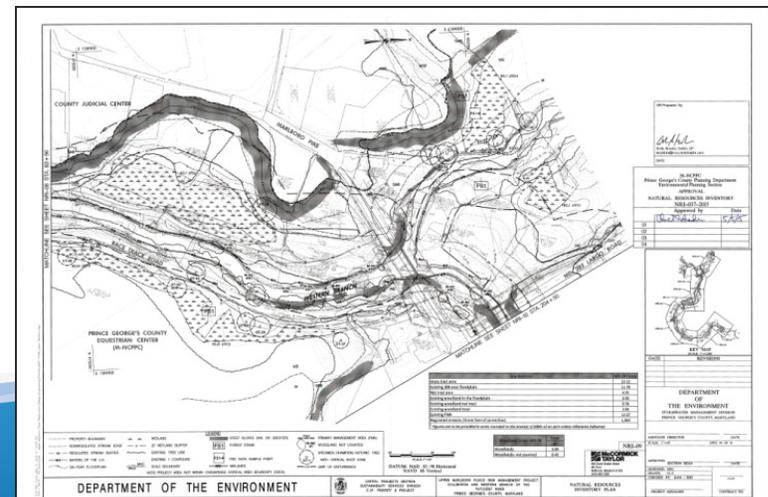
- Early Discussions
- Required Approvals
 - USACE Regulatory Branch
 - MDE Wetlands and Waterways Division
 - M-NCPPC
 - Erosion and Sediment Control
- Coordination
 - MDNR
 - USFWS
 - MHT

MARYLAND DEPARTMENT OF THE ENVIRONMENT
 Water Management Administration • Wetlands and Waterways Program
 1805 Washington Boulevard • Suite 400 • Baltimore, Maryland 21230
 410-535-7365 • 410-535-8100 • www.mde.state.md.us

Pre-Application Meeting Request

All fields with an asterisk * are required unless noted otherwise.
 Complete this form then use "Submit by Email" button below.

Project location
 Complete all of the following project location data:
 * House, lot, or location number
 * Street name
 * City
 * State
 * Zip
 * Latitude / * Longitude
 * County
 * ADC Map
 Describe project location
 * Full name
 * Mailing address
 * City, State, Zip
 Telephone Home
 Work
 Cell
 Email
 * Full name
 Company
 * Mailing address
 * City, State, Zip
 Telephone Work
 Cell
 Email
 * My project is
 Describe your project
 Submit by Email Print Form Clear Form



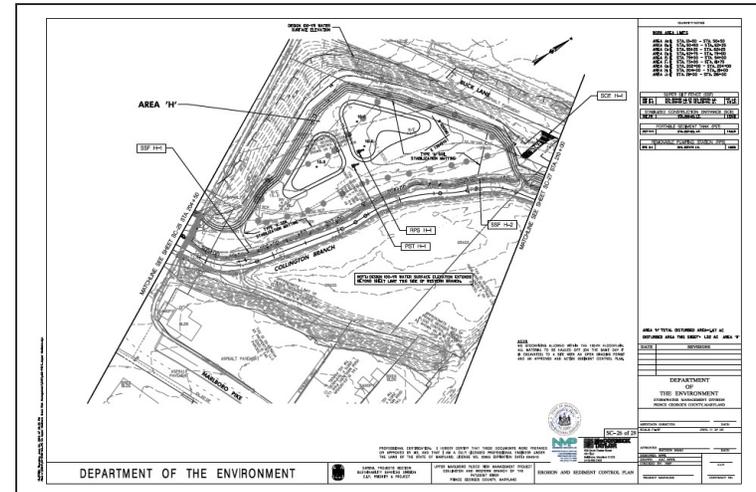
Permitting

- **Wetland and Waterway Delineation**
 - 25 Wetlands and 14 Watercourses
- **Forest Stand Delineation**
- **Erosion and Sediment Control**
- **Coordination**
 - MDNR
 - USFWS
 - MHT



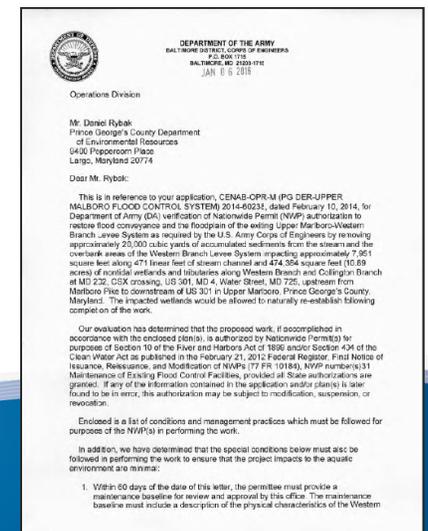
Permitting

- **Project Impacts**
 - Non-tidal Wetlands
 - Non-tidal Wetland Buffers
 - Watercourses
 - 100-year Floodplain
 - Ecological Restoration Area
 - Forests
 - Specimen Trees



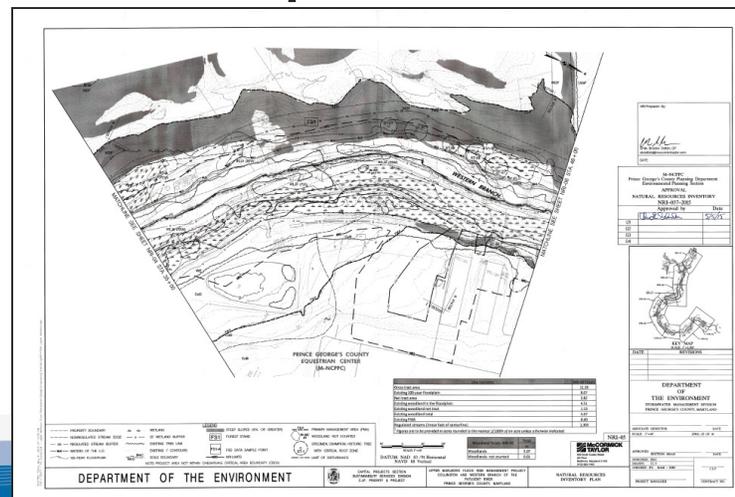
Permitting

- **USACE & MDE JD (Pre-Application)**
- **JPA**
 - **Submittal (January 22, 2014)**
 - **USACE Permit (January 6, 2016)**
 - **MDE Authorization (September 30, 2016)**
- **NRI/FSD**
- **Tree Conservation Plan II**



Permitting

- **Variance Requests**
 - **Stockpile Area Within the 100-Year Floodplain**
 - **Impacts to Two Specimen Trees**
 - **NRI/FSD Identified 44 Specimen Trees Within the Study Area**
 - **One Removal**
 - **One With Impacts to 50% Percent of CRZ**



3 RTE ISSUES



RTE Issues

- **Northern Long-Eared Bat**
- **Federally Listed as a Threatened Species as of April, 20, 2015 Under the Endangered Species Act and the Interim 4(d) Rule**



RTE Issues

- **Forest Clearing Threshold (1 acre)**
- **Discussion of Bat Surveys**
 - **Mist-Netting or Acoustic**
 - **Certified Bat Surveyor**
- **Final Response**



4 **MITIGATION**

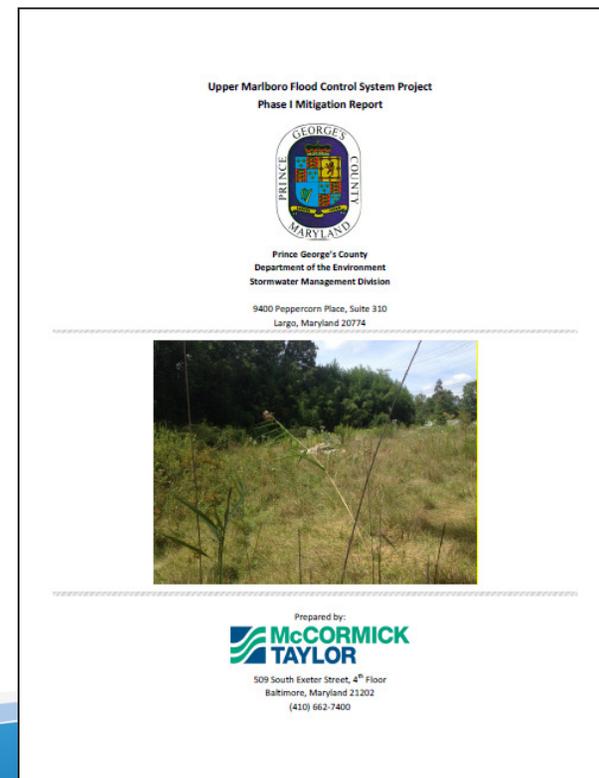


Mitigation

- **Early Discussions**
- **Required Forest Mitigation**
 - **7.99 Acres of Impact**
 - **3.14 Acres of Reforestation**
 - **4.85 Acres Fee-in-lieu**
- **Required Wetland Mitigation**
 - **112,731 Sq. Ft. of Impact**
 - **235,288 Sq. Ft. of Proposed Restoration**

Mitigation

- Phase I Mitigation Plan
- Phase II Mitigation Plan
- MDE Mitigation Required Components
 - Plans
 - Hydrology
 - Source and Reliability
 - Soils/Substrate
 - Existing and Planned
 - Planting









5 **MONITORING**



Monitoring

- **Typical Mitigation Monitoring**
 - **MDE/USACE 5 Years**
 - **Vegetation, Soils, and Hydrology**
- **Upper Marlboro Monitoring**
 - **MDE 2 Years**
 - **USACE 5 Years (Potentially 2 Years)**
 - **Vegetative Monitoring**

6 **LESSONS LEARNED**



Lessons Learned

- **On Large Complicated Projects Pull Together Stakeholders Frequently**
 - **Conflicting Goals and Functions Need to be Understood and Documented – Trade Offs**
 - **Maintenance of Floodways can be Combined with Avoidance and Minimization**
 - **Impacts to Perched Wetlands are Difficult to Manage with Current Regulations**
- 
- A decorative graphic at the bottom of the slide consisting of several overlapping, wavy bands in shades of blue and white, creating a sense of movement and depth.

Questions?