

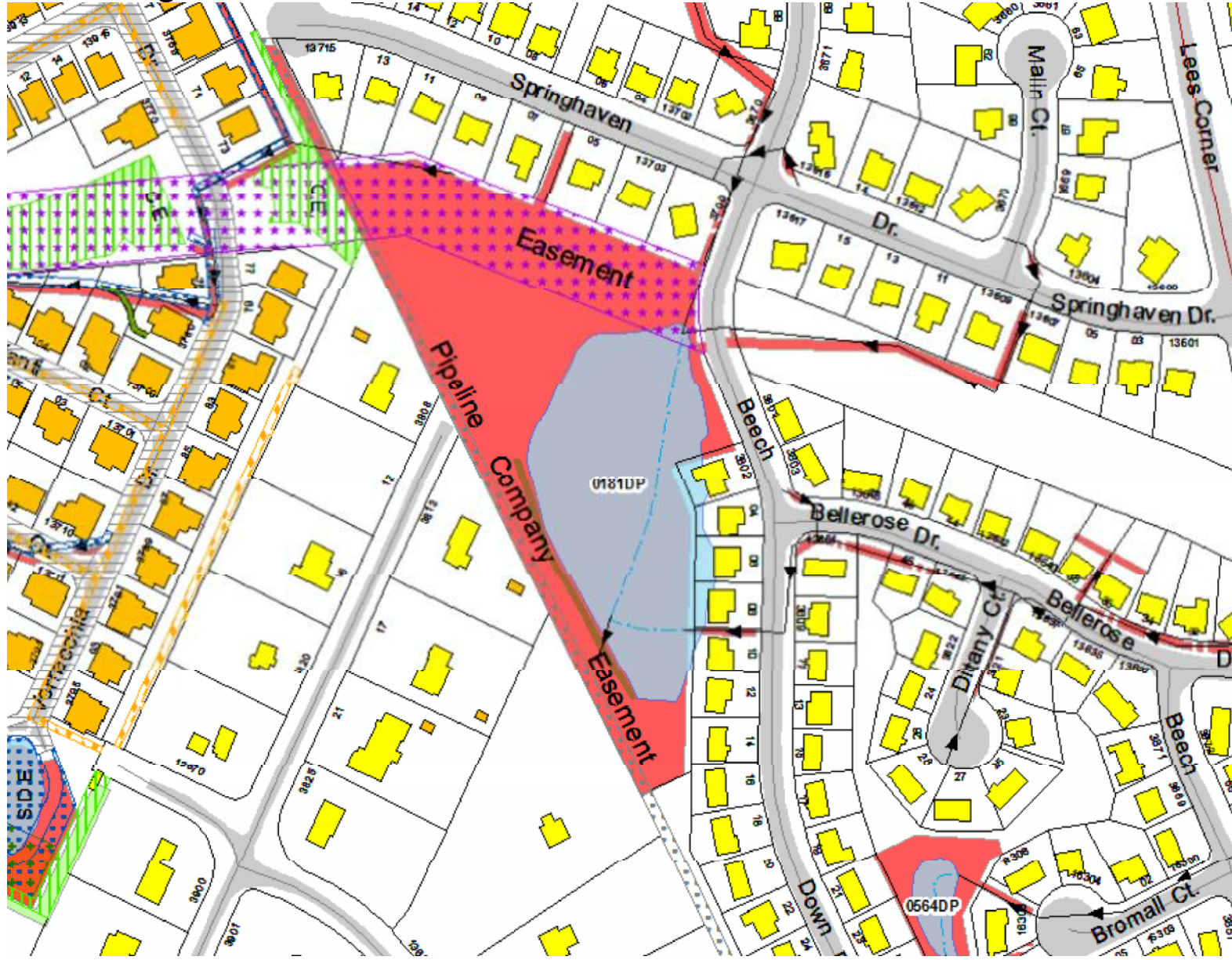
Armfield Farms Detention Basin Enhancements



Existing Conditions



Existing Conditions



Armfield Farms Proposed Stormwater Detention Basin Retrofit

Project location: Beech Down Drive & Bellerose Drive

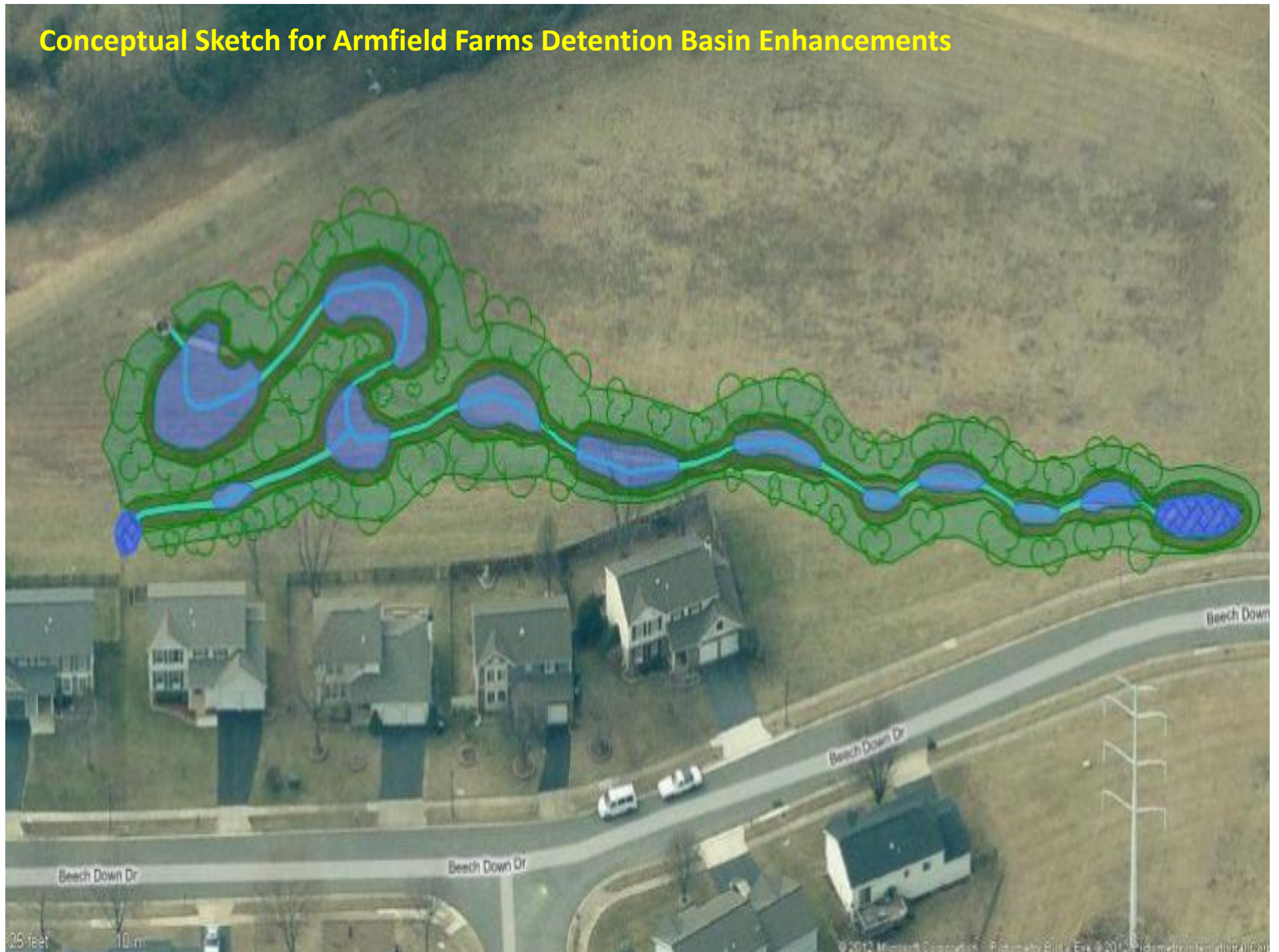
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Project narrative: The existing facility is proposed to undergo retrofitting for the purposes of water quality improvement while incorporating habitat and aesthetic quality enhancements. Improvements will include the following strategies:

- Removal of concrete trickle ditches, re-graded basin to form an extended flow path, formation of several micro-pools (maximum 18-inches deep) to detain runoff.
- Apply reinforced streambed mix underlying the extended flow path to promote vegetative growth and retard erosive action.
- Placement of imbricated stone at the inlets to provide stabilization and splash pools to dissipate runoff energy.
- Place a compost blanket over the entire disturbed area to improve soil infiltration and to provide a rich growth medium for a native plant community.
- Incorporate native aquatic plants within the micro-pools and pool floor to uptake and treat the pollutant load entering the basin. Plant a native grass/wildflower mix on the balance of the disturbed area.
- Analyze potential upgrades to the existing outfall structure to ensure all components are working effectively.
- Analyze if a maintenance access road is a necessity.

Minimal maintenance within the retrofitted pond basin is anticipated once the native vegetative community is properly established. Water quality retrofits such as this will improve nutrient uptake and increase the infiltration, uptake, and transpiration of stormwater. Overall, the proposed water quality improvement project will greatly benefit receiving waters downstream and the Chesapeake Bay.

Conceptual Sketch for Armfield Farms Detention Basin Enhancements



The background of the slide features a light blue gradient that transitions from a pale blue at the top to a slightly darker blue at the bottom. Scattered across the upper half of the image are numerous water droplets of various sizes, rendered with soft shadows and highlights to give them a three-dimensional appearance. The text is centered in the middle of the slide.

Pictures of Previously Completed Projects



Completed Stormwater Management Projects



Essex Manor Pond Retrofit

Project Name: ESSEX MANOR PLACE BMP RETROFIT(Z2214)
Fund Title: Public Works Construction, Storm Drainage Projects
Magisterial District: MOUNT VERNON Fund #: 308
Watershed: LITTLE HUNTING CREEK
Address: 7628 Essex Manor Place

Project#: Z00022

Essex Manor was a dry detention pond until 2005 when it was retrofitted for water quality purposes. The pond basin was reshaped to form micro-pools before organic compost was applied to amend the soil in preparation for planting. The pond area was then planted to a variety of native shrubs, trees and wildflower seed mix. The desired vegetative community, which serves to capture pollutants coming into the pond, is now flourishing after two years of growth.



Essex Manor

Before



After



DRY POND RETROFIT AT WASTEWATER COLLECTIONS FRED OAKS ROAD

PROJECT LOCATION



PROJECT OVERVIEW:

This is a water quality improvement project that will benefit receiving waters and the Chesapeake Bay. The completed project is a dry detention basin retrofit and includes the following: removal of concrete trickle ditches, re-graded basin to form an extended flow path to direct and retard the first flush of runoff, four shallow micro-pools (maximum 18-inches deep) to retain runoff, a gravel gallery underlying the extended flow path to intercept and cool the first flush of runoff, imbricated stone at the inlet to provide stabilization, a compost blanket over the entire disturbed area to improve soil infiltration, and reforestation of side slopes.

This project was constructed by the employees at Wastewater Collections with support from Stormwater staff.

Fred Oaks





Completed Stormwater Management Projects

McLean Community Center



Project No.: DE9120

Fund No.: 318

Stormwater Management Retrofit

Completion: FY 2010

Tax Map: 030-2

District: Dranesville

Supervisor: Foust

Watershed: Dead Run

The McLean Community Center and Department of Public Works and Environmental Services, Stormwater Management, have completed a retrofit project at 1235 Oak Ridge Avenue. This jointly sponsored project was recommended for implementation in the County's Middle Potomac Watershed Management Plan. Workers created a natural channel to dissipate energy, increase water absorption and nutrient uptake in an existing stormwater management pond. Two micro pools were installed to maximize uptake of nutrients and the settling out of sediment. Other improvements include porous pavers with underlying storage for stormwater, an improved yard inlet with bio-filtration capability, and native grass and wildflower plantings with a compost blanket to reduce runoff.



McLean Community Center
Stormwater Management Retrofit
Tax Map 30-2 Dranesville District
Project DE9120

1235 Oak Ridge Avenue



Before



After

Sycamore Ridge Section 1 & 2 Parcel B & C Water Quality BMP Retrofit Project
TAX MAP# 25-1, HUNTER MILL DISTRICT
CONTRACT NO. CN103160072-01, PROJECT NO. HC8001-HC002



Project Overview:

- 1- Remove the existing concrete ditch.**
- 2- Retrofit of a stormwater facility for improved water quality and detention by adding two Micro- Pools.**
- 3- Improve the outfalls.**
- 4- Restore the site with Seeding and Planting.**

Description:

This project retrofitted an existing stormwater management facility (09149DP) located on an out lot of the Park Authority property at Frying Pan Park. This facility drains about 72.5 acres of onsite and offsite area and provided detention only. The primary goals of this project were to retrofit the site with micro-pools to provide extended detention capability and to improve water quality. More specifically, this project provides for the treatment of the entire 72.5 acres of watershed and an estimated removal of 202 lbs/yr of nitrogen, 38 lbs/yr of phosphorus and 9.4 tons/yr of sediments from the runoff leading to the Horsepen Creek.

Sycamore Ridge

Before



After



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