Calverton Channel Rehabilitation
November 8, 2017

Presented by
Mary Abe, DPW&T Project Manager, OE&PM
Department of Public Works & Transportation (DPW&T):

- Projects include bridge reconstruction, Green/Complete Street Projects, roadway widening and realignments, repair of drainage and flood control systems.

- Maintains
  
  - 1,900 miles of County-roadway and associated sidewalks
  
  - We are responsible for 172 bridges in the County which we are responsible for as well as hundreds of smaller structures and culverts, and flood levees.
  
  - Snow removal, street tree plantings, and street lighting
DPW&T owns, operates, and maintains the County’s public stormdrain and flood control facilities

- Drainage Channels
- Stormwater Management Ponds
- Bioretention
- Flood Levee Systems
Calverton Channel conveys Galway Tributary. Less than a ¼ mile from the project site, Galway Tributary flows into Little Paint Branch. Little Paint Branch and Paint Branch then combine with Beaverdam Creek to form the Northeast Branch of the Anacostia River.
Project Drainage Area: 1.3 Sq. Miles/832 Acres
Watershed: Anacostia
Subwatershed: Little Paint Branch
Impervious Surface: 48% or 397 Acres
Pervious Surface: 52% or 434 Acres

The ratio of impervious to pervious surfaces for the Calverton Channel project area is categorized as a highly impervious drainage area. The overall average impervious area rate for the Anacostia Watershed is 25%.
CALVERTON CHANNEL’S HISTORY

1965
BEFORE THE WSSC CONSTRUCTED CONCRETE CHANNEL
CALVERTON CHANNEL’S HISTORY

1977

AFTER THE WSSC CONSTRUCTED CONCRETE CHANNEL
**WHY REHABILITATE THE CALVERTON CHANNEL NOW?**

- Calverton Channel was constructed around 1973
- It is now almost 50 years old with significant and ongoing concrete deterioration
- Degradation of the concrete slab can lead to total channel failure during a major storm event

**WHAT CAN HAPPEN WHEN A CONCRETE CHANNEL FAILS?** Broken slabs create severe blockages which can cause system surcharges, flooding, and damage to downstream bridges, box culverts, vital storm conveyances, and transportation system structures.

*Examples of deteriorating concrete channel slabs found throughout Calverton Channel*
EXISTING CHANNEL CONDITIONS FROM BELTSVILLE DR. TO CALVERTON BLVD.
# In-Kind Concrete Channel Replacement VS. Green Corridor

<table>
<thead>
<tr>
<th>REPLACEMENT DIFFERENCES</th>
<th>IN-KIND REPLACEMENT</th>
<th>GREEN CORRIDOR</th>
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<tbody>
<tr>
<td>12 to 16 month construction timeline</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fences, sheds must be removed or relocated. Tree removal required as needed to construct channel.</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mow strip next to channel with no vegetation zone to prevent future channel issues. Chain link fence boundary.</td>
<td>✓</td>
<td></td>
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<tr>
<td>Trees and vegetation to create buffer next to channel for enhanced long term views, habitat, and creation of a green corridor</td>
<td></td>
<td>✓</td>
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<tr>
<td>Water quality benefit to help clean the Anacostia River and Chesapeake Bay</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Reduced 100 Year Floodplain elevations and floodplain storage area</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
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WHY A GREEN CORRIDOR CONCEPT?

- Reduces 100 Year Floodplain
- Aesthetic improvement to support higher land values
- Water quality benefits to clean the Chesapeake Bay
- Long term sustainability and reduced maintenance
- Equivalent construction budget to in kind replacement with many more benefits
- A negative becomes a positive: The Channel becomes an asset transformed into a Green Corridor with native plants, pollinators, habitat, and flood storage
GREEN CORRIDOR CONCEPT

PERSPECTIVE 1 - BEFORE

PERSPECTIVE 1 - AFTER
GREEN CORRIDOR

APPROXIMATELY ½ MILE OF GREEN CORRIDOR
Example of a healthy urban stream
GREEN CORRIDOR TECHNIQUES
GREEN CORRIDOR TECHNIQUES
Typical 100 Year Floodplain Reductions: Channel Segment from Calverton Boulevard to Prince George’s County Boundary
100 YEAR FLOODPLAIN REDUCTIONS

Typical 100 Year Floodplain Reductions: Channel Segment from Calverton Boulevard to Beltsville Drive
A GREEN CORRIDOR HELPS RESTORE THE CHESAPEAKE BAY

The natural filtering capacity of the proposed Calverton Channel Green Corridor will treat over 250 acres of impervious surface to help restore the Chesapeake Bay.
DESIGN TO BUILD GREEN CORRIDOR PROCESS

Design to Permit
October 2017-December 2018

Construction
June 2019- August 2020

2-5 Years
Monitoring & Stabilizing
2020- 2025

Adaptive Management
Stabilization repairs and removal of blockages only as needed
NEXT STEPS

• Public Notification by DPW&T will be mailed out as required by the Prince George’s County Department of Permitting, Inspections, and Enforcement – November 2017

• Project design reviewed by local, state and federal agency as required by permit and law

• Public meeting to be scheduled to discuss the project design and receive public feedback

• Quarterly updates will be provided by DPW&T to the Calverton Citizen’s Association and other local groups
QUESTIONS?

FOR ADDITIONAL INFORMATION OR QUESTIONS
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