Windmill Hill Park
Shoreline Rehabilitation

Environmental Policy Commission May 18, 2015
Waterfront Commission May 19, 2015
Park & Recreation Commission May 21, 2015
Project Location

Windmill Hill Park Area

Potomac River
Project Area

Windmill Hill Park

Shoreline Rehabilitation Project Area

Potomac River
Why We Are Here

• Changes in Best Practices
• Evolving permitting environment
• **Recommended Concept Plan**
Project Phases & Work Scopes

Phase I (2014/15)
- Concept Development
- Public Engagement
- 30% Design

Phase II (2015/16)
- Construction Plans, Specifications, and Estimates

Phase III (2016/17)
- Construction

WE ARE HERE NOW
COMMUNITY MEETING 1 & 2

SUMMARY
Summary of Meetings

• Meeting #1
• Project Overview, Review of Approved 2003 Concept and Replacement Opportunities, Community Input

• Meeting #2
• Presentation of Three Concepts, Community Input
Overview of Feedback

• Safety important
• Move the project forward now
• Create a safe, stable, and manageable shoreline
• Respond to the changed environment of the basin
• Provide access along and to the water
• Be mindful of cost
CURRENT CONDITIONS
PERMITTING CONSIDERATIONS
Permitting Considerations

- Two principle agencies in permitting discussions – NOAA & Army Corps of Engineers
- Both interested in habitat creation
  - NOAA more interested in fishery – support for SAV
  - ACOE focus on living shoreline
- Both agencies significantly concerned with structural bulkhead
- Neither agency supports filling the basin
Sub Aquatic Vegetation (SAV)

Site Location Map and Permitting Constraints

- SAV Bed (Source: VIMS)
- Park
- Stream
Historic Shoreline

Approximate Locations
1763 Shoreline
1860’s Shoreline
Windmill Hill Park Shoreline Rehabilitation

CONCEPTS
Proposed Budget

• $5.5 million for shoreline improvements (design & construction)
• $500,000 for other planned park elements
Design Options - Examples

Structural Bulkhead

Living Shoreline

Rip-Rap/Armored Shoreline

Bulkhead/Living Shoreline Hybrid
History: Approved 2003 Plan

City Council Approved Concept Plan (2003)

- Recommended combination approach
- Accommodation for canoes/kayaks and dogs
- Included overlook accommodation
Shoreline Rehabilitation Concepts

• Concept 1: Modernized 2003 Plan
• Concept 2: Hybrid/Living Shoreline Plan
• Concept 3: Living Shoreline Plan
Modernized 2003 Plan

- $4.9 million
- Longer permitting timeline
- Greater construction complexity
- Most need for mitigation

Hybrid/Living Shoreline Plan

- $5.9 million
- Moderate permitting timeline
- Complex construction
- Some need for mitigation

Living Shoreline Plan

- $3.8 million
- Shortest permitting timeline
- Least complex construction
- Least need for mitigation
Recommended Concept

- Concept 3: Living shoreline
  - Best meets community expressed priorities
  - Lowest capital cost
  - Shortest permitting timeline
  - Least complex construction
Concept 3
Living Shoreline

- $3.8 million
- Shortest permitting timeline
- Least complex construction
- Least need for mitigation
Concept 3
Living Shoreline
Shoreline Design Options

Additional design options based on budget:

• Pier
• Boardwalk
• Boardwalk + Pier
Additional Design Options

- Varied interest was expressed resulting in a split of opinion in favor of either a pier component or none at all.
- The Pier and Boardwalk combination option was not supported as an additional component to the project.
- Other water access options were discussed including stepping stones, natural path, and boardwalk over stone sill.
MEAN HIGH WATER (MHW) STONE SILL

EXISTING BULKHEAD EDGE

1.5 x MEAN TIDE RANGE

STONE REVETMENT

EXISTING PILINGS TO REMAIN

SLOPED WATER ACCESS

BRIDGE

STREAM/OUTFALL RESTORATION

FORD'S LANDING

GIBBON ST.

S. UNION ST.

POTOMAC RIVER

HARBORSIDE

OVERLOOK POINT

EXISTING STREET TREES TO REMAIN

OPTIONAL PATH

MEAN LOW WATER (MLW)

EXISTING STREET TREES TO REMAIN

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ADDITIONAL RIPARIAN PLANTINGS

STREAM RESTORATION

BUFFER

HARBORSIDE

POTOMAC RIVER

GIBBON ST.

S. UNION ST.

FORD’S LANDING
OPTIONAL BOARDWALK OVER SILL
OPTIONAL OVERLOOKS
Concept 3 Sections

Section 1: Living Shoreline Typical – Path Option

Section 2: Living Shoreline Typical – Boardwalk Option
Concept 3 Sections

Section 3: Living Shoreline w/ Boulder Revetment

Section 4: Pedestrian Bridge and Stream Outfall
Riparian and Tidal Plantings

Lower tidal grass: *Spartina alternifolia*

Upper tidal grass: *Spartina patens*

Typical Riparian plantings
Pre-fabricated Bridges
Current Project Phase: Schedule

Data Collection

Jan

Feb

March

April

May

June

July

Aug

Sept

Community Meeting 1 (2/12/2015)

Community Meeting 2 (4/13/2015)

Concept Development and Refinement

Waterfront Commission (May 19)

Parks and Recreation Commission (May 21)

City Council (TBD)

Recommended Alternative
Questions? Contact Us

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