

Windmill Hill Bulkhead Improvements Project

Community Meeting 2

April 13, 2015



Tonight's Meeting Agenda

- A. Introductions and overview
- B. Community Meeting 1 summary
- C. Recap of current conditions
- D. Improvement Concepts
- E. Discussion

Project Team

City of Alexandria

- **Tony Gammon**, Project Manager
Department of Project Implementation
- **Jack Browand**
Department of Recreation, Parks and Cultural Activities

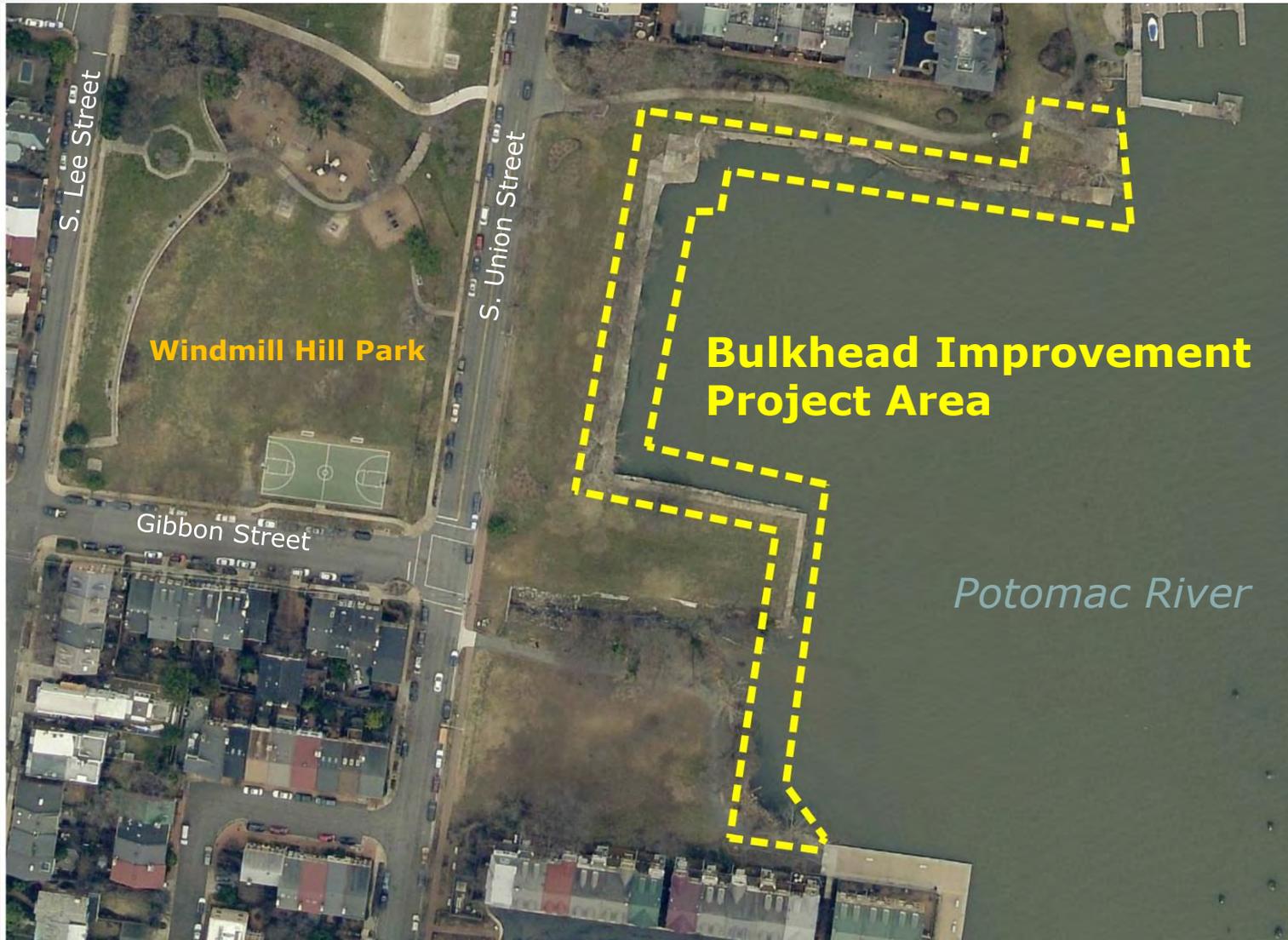
Consultant Design Team

- **Kevin Van Hise**, Project Manager
Kimley-Horn

Project Location



Bulkhead Improvement Project Area





Why We Are Here

- Changes in Best Practices
- Evolving permitting environment
- **Concept Plans**
 - **Modernized 2003 Plan**
 - **Hybrid/Living Shoreline Plan**
 - **Living Shoreline Plan**

Project Phases & Work Scopes

WE ARE HERE NOW

- Concept Development
- Public Engagement
- 30% Design

Phase I
(2014/15)

- Construction Plans, Specifications, and Estimates

Phase II
(2015/16)

- Construction

Phase III
(2016/17)



Community Meeting 1

SUMMARY

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





SHORELINE TREATMENT ELEMENTS & PERMITTING CONSIDERATIONS

Sub Aquatic Vegetation (SAV)

Site Location Map and Permitting Constraints

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



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

Historic Shoreline



Approximate Locations
1763 Shoreline
1860's Shoreline

Coastal Report

- Considered tides & wind
 - Both contribute to movement of debris into corners of existing basin
- 2003 design did not adequately address need for basin flushing
- Water access needs to be stable



Windmill Hill Bulkhead Improvements Project

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

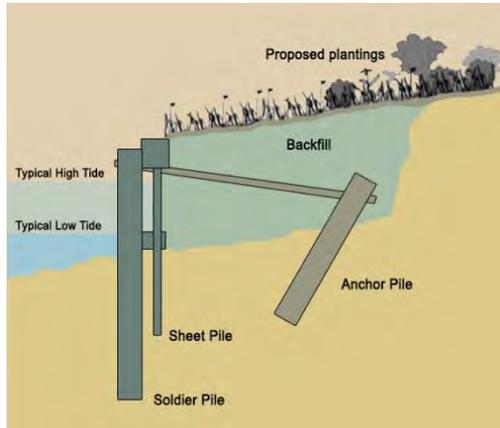


Rip-Rap/Armored Shoreline

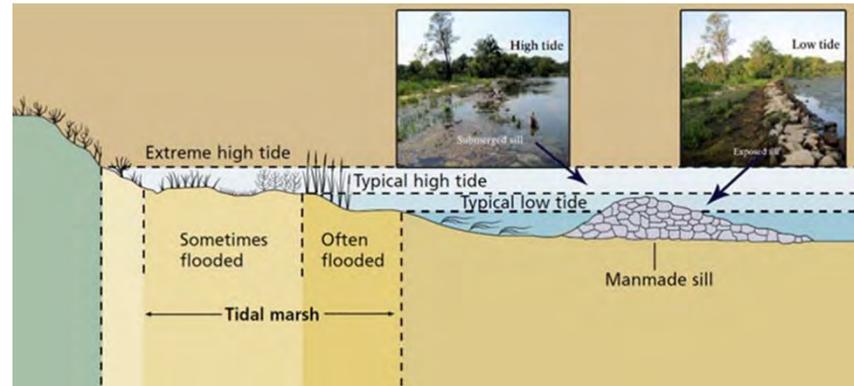


Bulkhead/Living Shoreline Hybrid

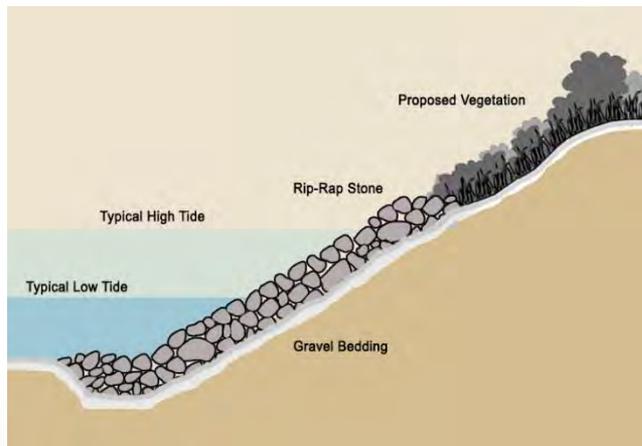
Design Options - Sections



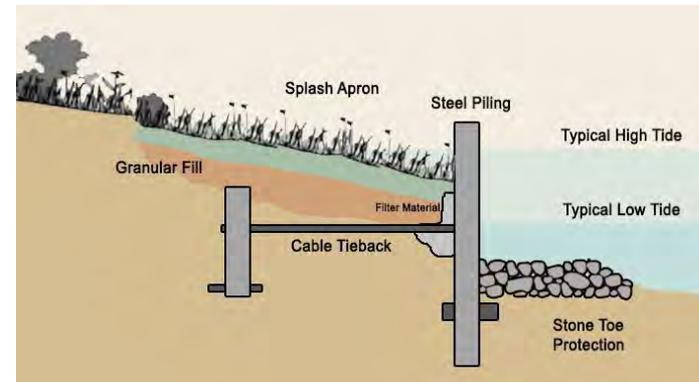
Bulkhead



Living Shoreline



Rip-Rap / Armored



Bulkhead/Living Shoreline Hybrid

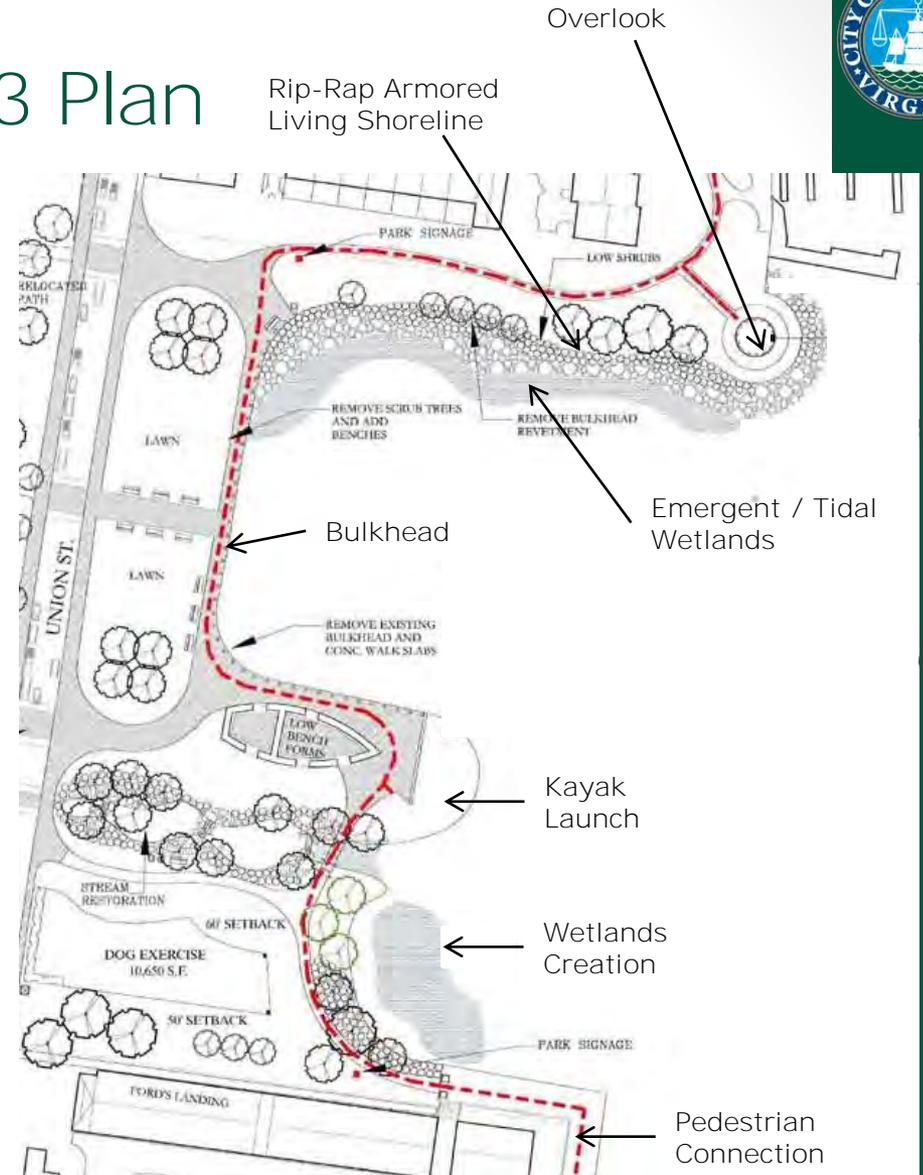
Shoreline Improvement Concepts

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

History: Approved 2003 Plan

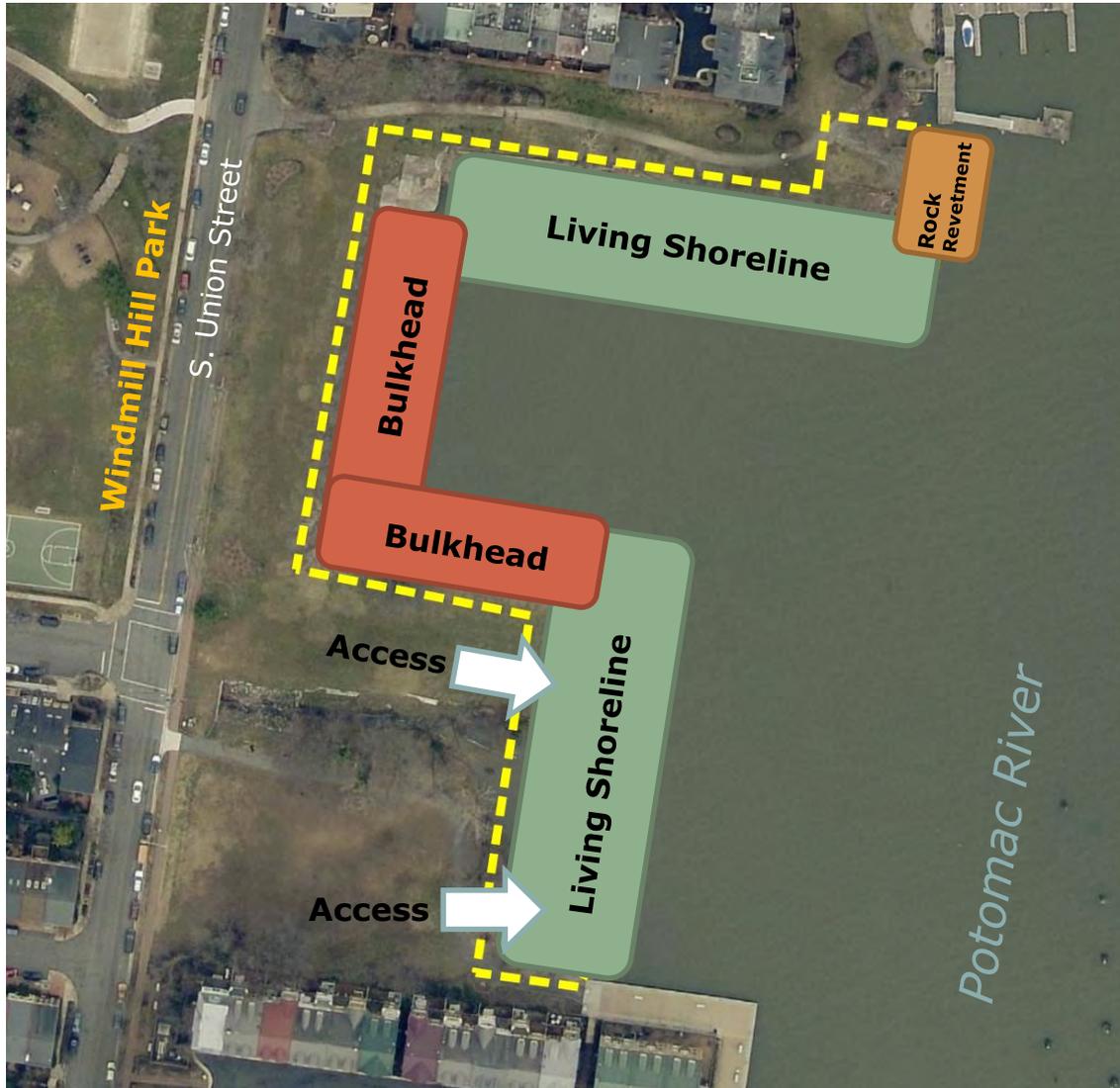
City Council Approved Concept Plan (2003)

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



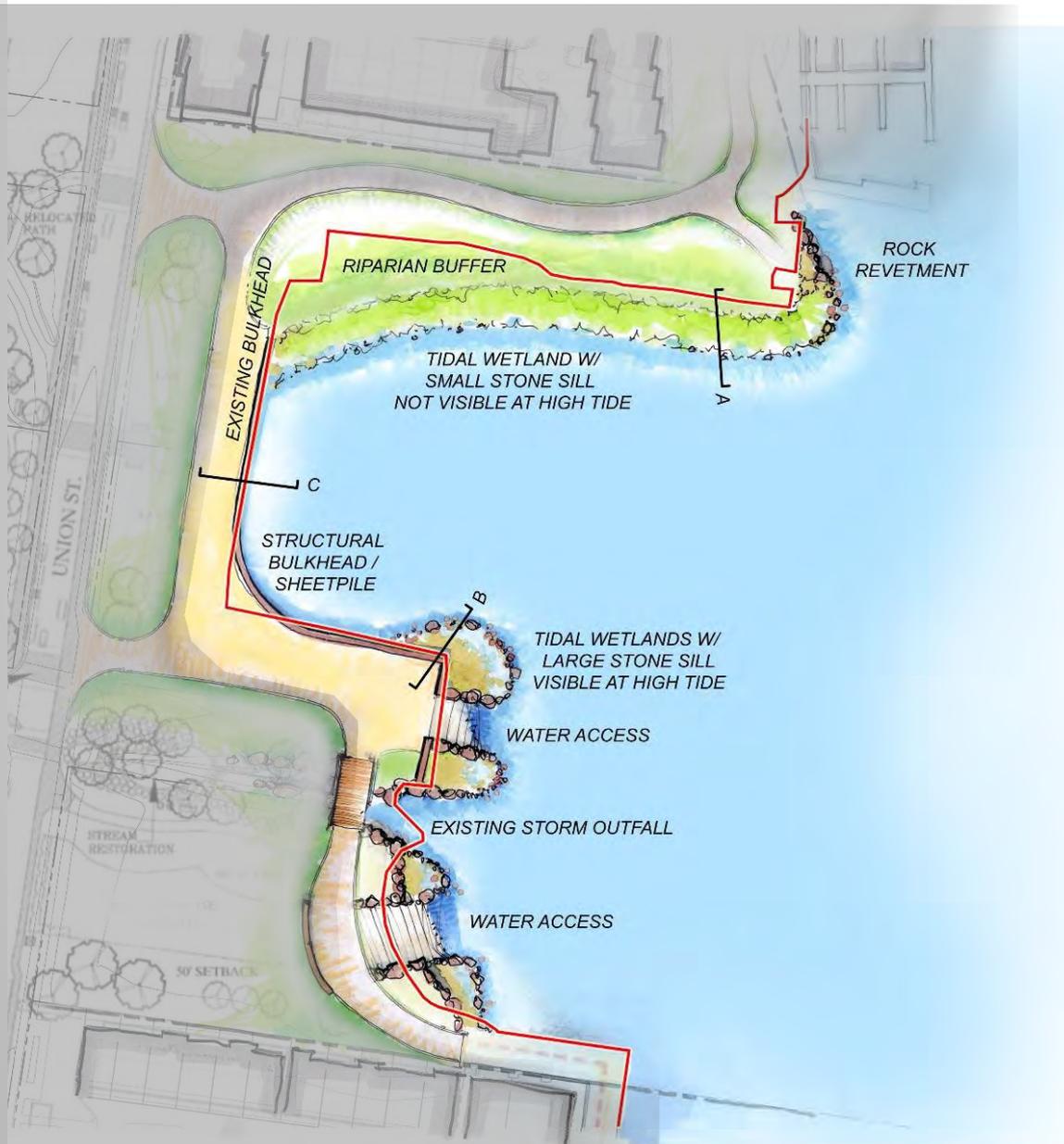
Concept 1

Modernized 2003 Plan



Concept 1

Modernized 2003 Plan



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



A. LIVING SHORELINE - SMALL STONE SILL



B. LIVING SHORELINE - LARGE STONE SILL



C. STRUCTURAL BULKHEAD - SHEETPILE



Concept 1 Modernized 2003 Plan



Concept 2

Hybrid/Living Shoreline



Concept 2

Hybrid/Living Shoreline

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



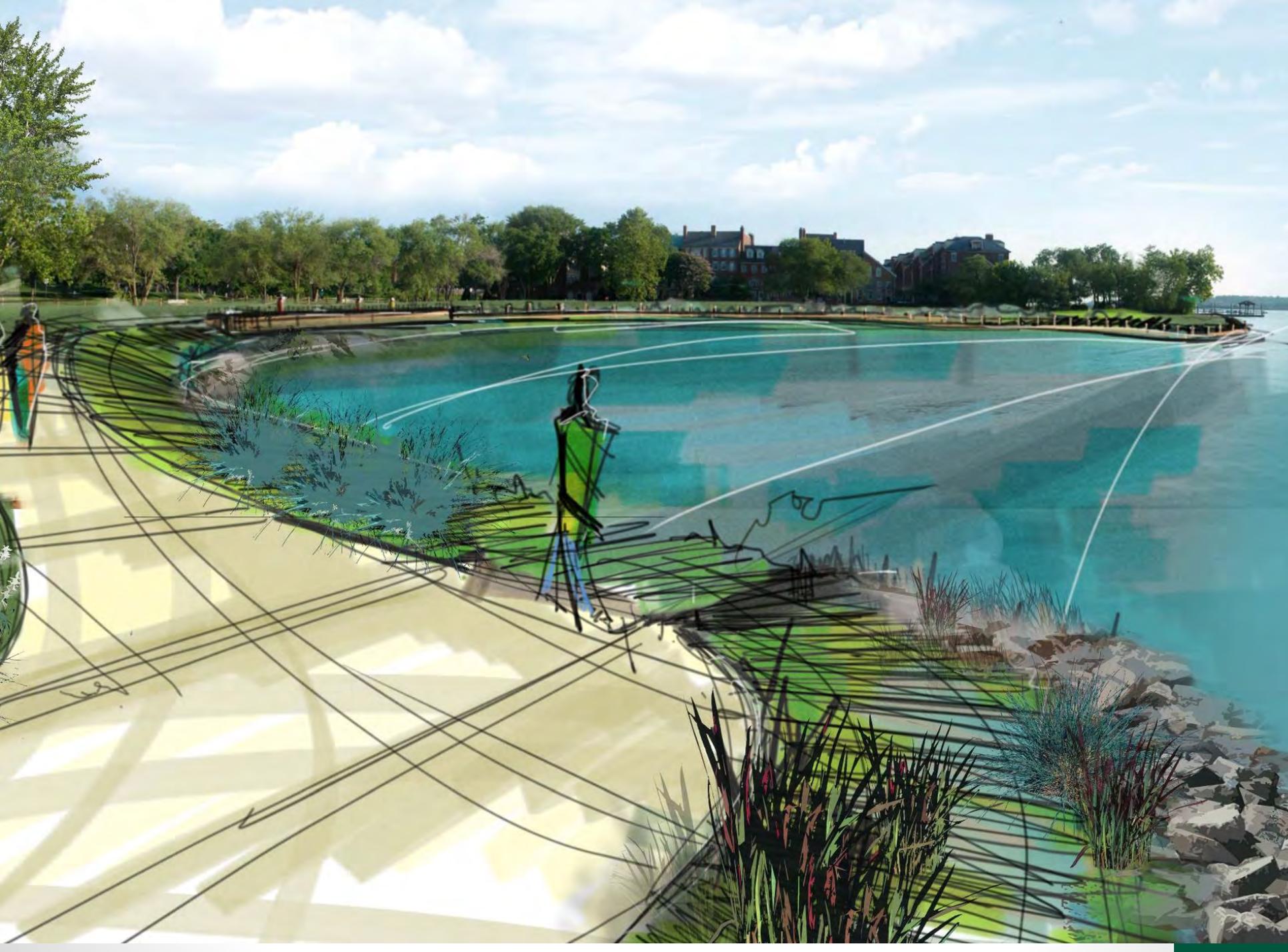
A. LIVING SHORELINE - SMALL STONE SILL



B. LIVING SHORELINE - LARGE STONE SILL



C. HYBRID BULKHEAD



Concept 2 Hybrid/Living Shoreline



Concept 3

Living Shoreline



S. Union Street

Windmill Hill Park

Living Shoreline

Living Shoreline

Rock Revetment

Living Shoreline

Access

Potomac River

Concept 3 Living Shoreline



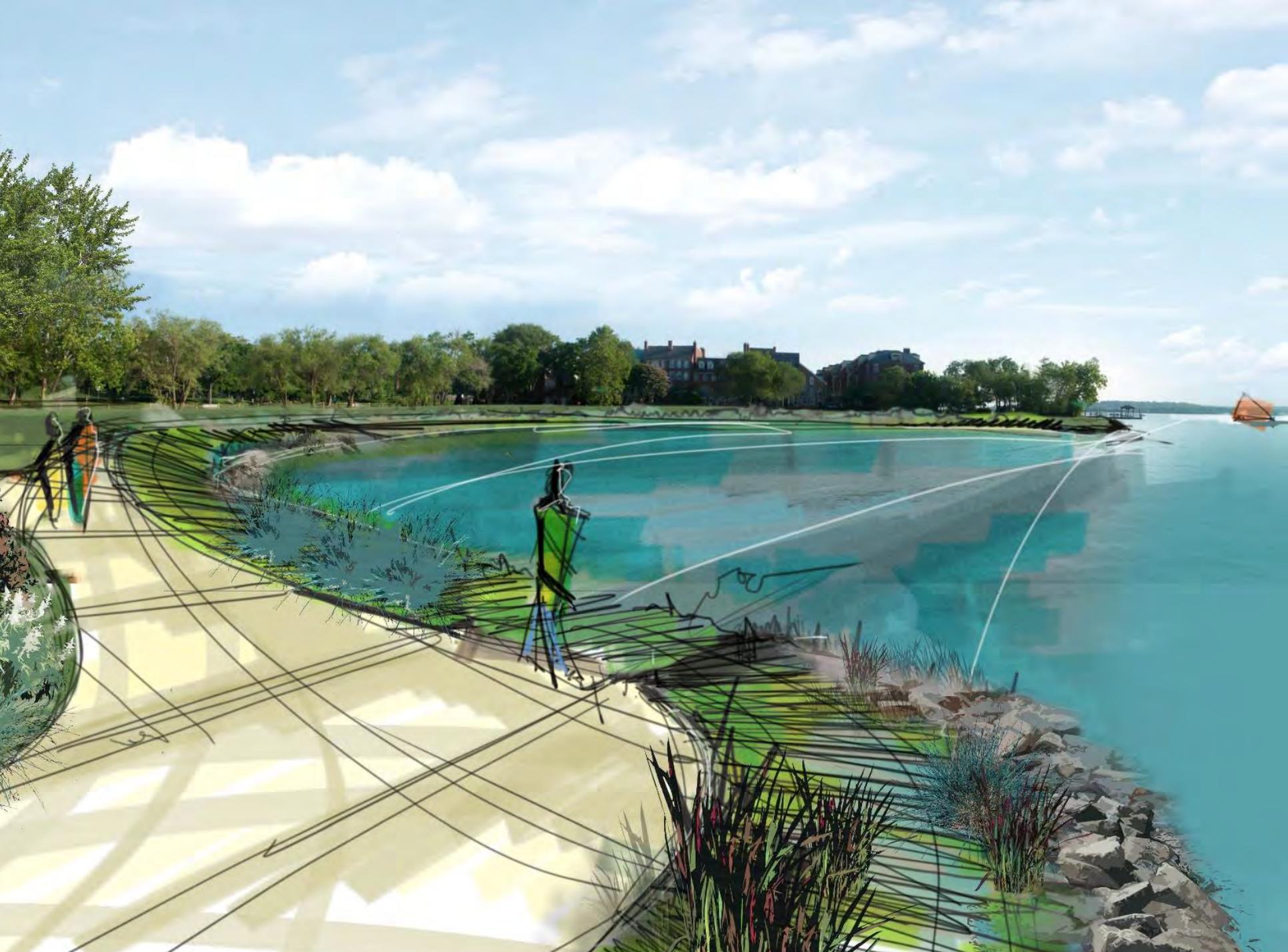
- \$3.8 million
- Shortest permitting timeline
- Least complex construction
- Least need for mitigation



A. LIVING SHORELINE - SMALL STONE SILL



B. LIVING SHORELINE - LARGE STONE SILL



Concept 3 Living Shoreline





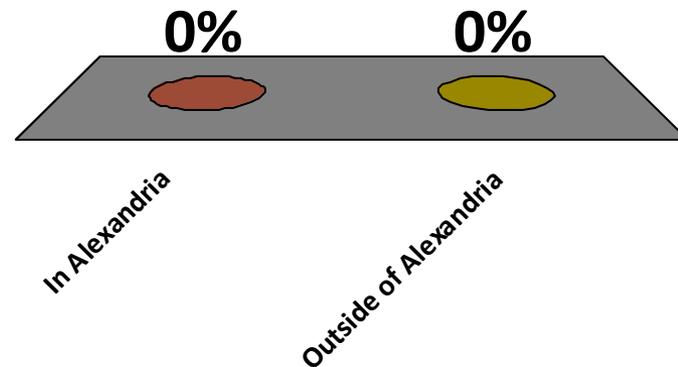
Audience Participation Opportunity During Presentation: Instructions

- Throughout the presentation we will ask for your input. You will use the keypad devices to record your answers
 - Please use the same device throughout
 - **We're here to help, and happy to pause** and lend a hand
- If you prefer, we also have a paper questionnaire
- Following the presentation and Q&A, preference exercise on the boards

1. Where do you live? (select one)

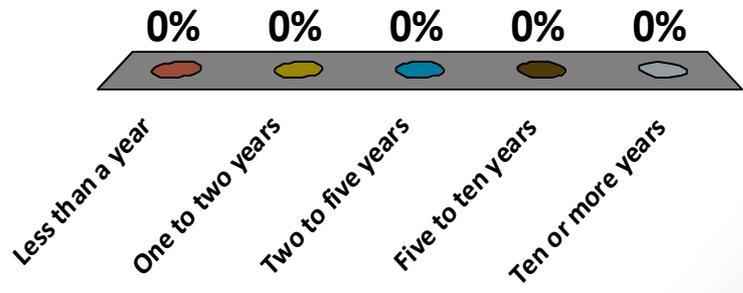
A. In Alexandria

B. Outside of Alexandria



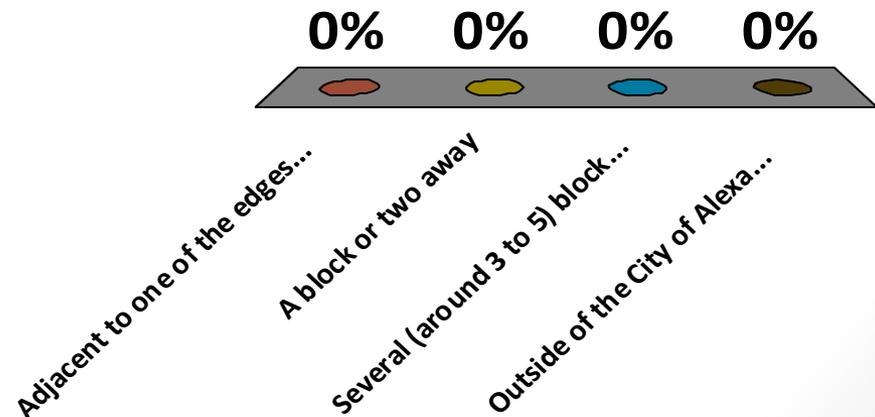
2. How long have you lived at your current residence? (select one)

- A. Less than a year
- B. One to two years
- C. Two to five years
- D. Five to ten years
- E. Ten or more years



3. How close do you live to Windmill Hill Park? (select one)

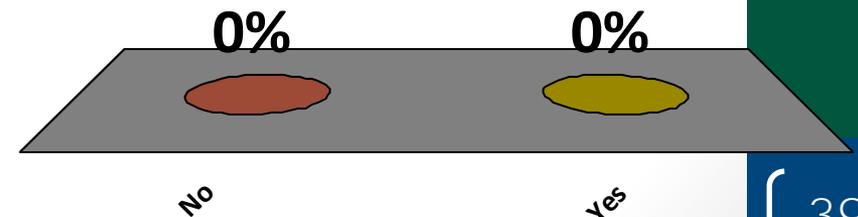
- A. Adjacent to one of the edges of the park
- B. A block or two away
- C. Several (around 3 to 5) blocks away
- D. Outside of the City of Alexandria



4. Did you attend the Windmill Hill Bulkhead Improvement Project, Community Meeting 1 in February?

A. No

B. Yes



5. On a scale of 1 to 5 (1=low, 5=high), rate your interest in the Modernized 2003 plan.

Modernized 2003



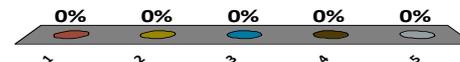
Hybrid/Living Shoreline



Living Shoreline



- A. 1
- B. 2
- C. 3
- D. 4
- E. 5



7. On a scale of 1 to 5 (1=low, 5=high), rate your interest in the Living Shoreline plan.

Modernized 2003



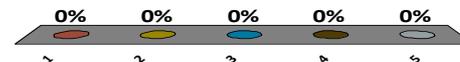
Hybrid/Living Shoreline



Living Shoreline



- A. 1
- B. 2
- C. 3
- D. 4
- E. 5



Consultant Recommendation

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

Shoreline Design Options

Additional design options based on budget:

- Pier or Peninsula
- Boardwalk
- Boardwalk + Pier
- Expanded Wetland
- Additional Water Access Location

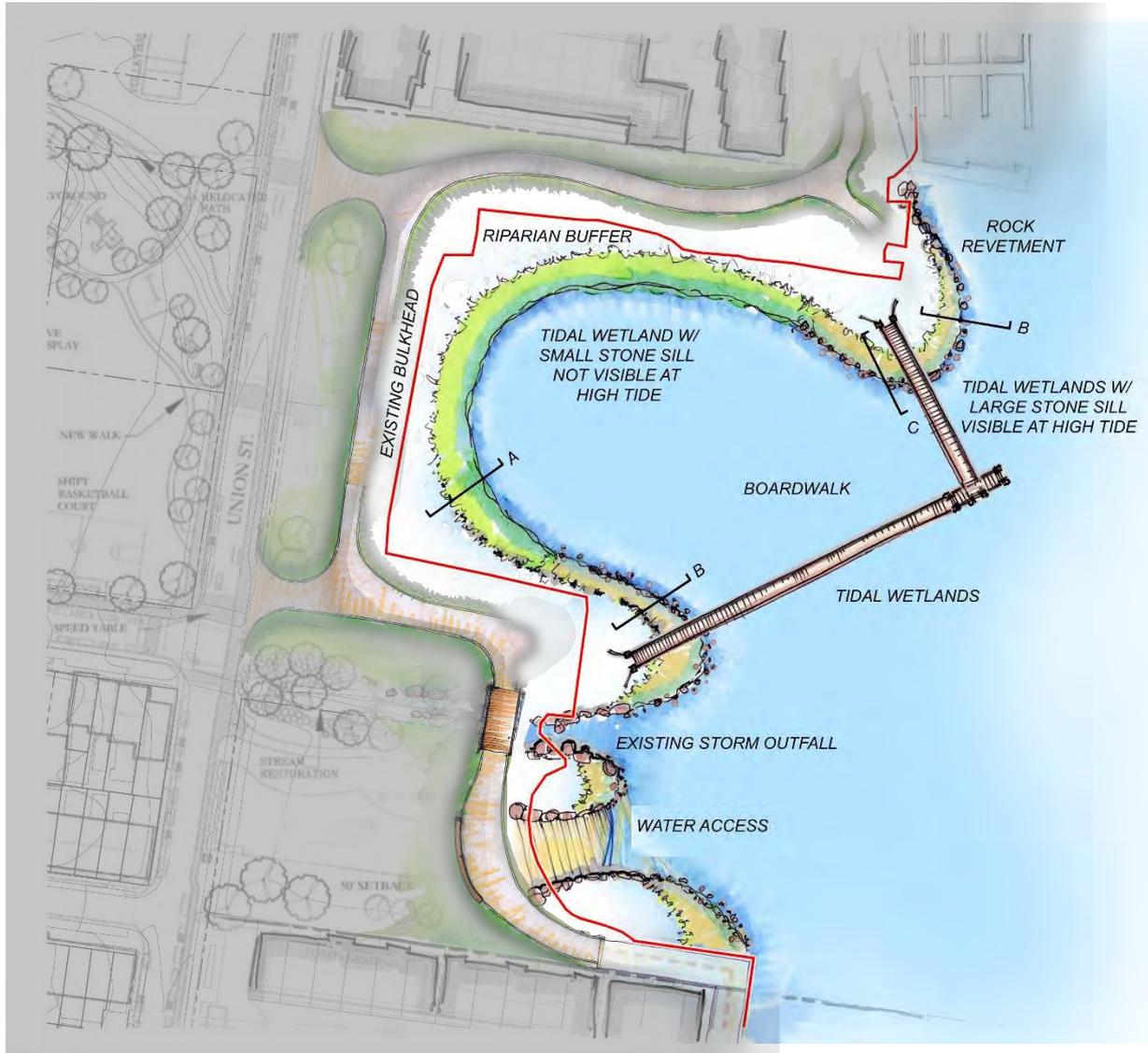
Design Options: Pier



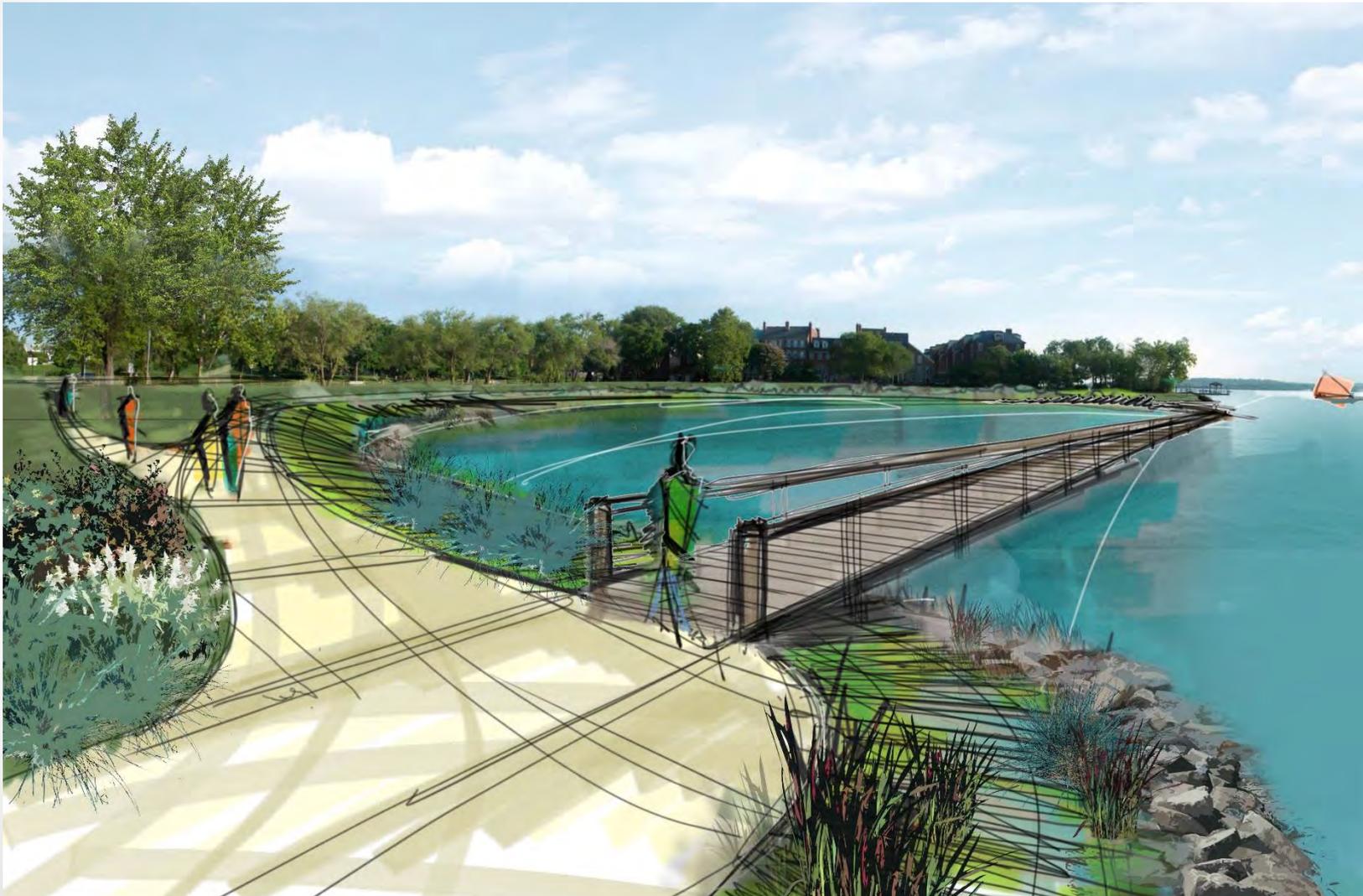
Design Options: Boardwalk



Design Options: Pier and Boardwalk



Design Options: Boardwalk



Your Feedback



Pier



Boardwalk



Both



Questions 8, 9, and 10. Rate your interest in each of the above features on a scale of 1 to 5.

8. On a scale of 1 to 5 (1=low, 5=high), rate your interest in the Pier.



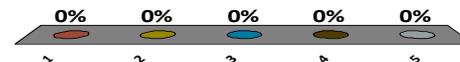
Pier

Boardwalk

Both



- A. 1
- B. 2
- C. 3
- D. 4
- E. 5



9. On a scale of 1 to 5 (1=low, 5=high), rate your interest in the Boardwalk.

Pier



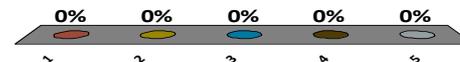
Boardwalk



Both



- A. 1
- B. 2
- C. 3
- D. 4
- E. 5



10. On a scale of 1 to 5 (1=low, 5=high), rate your interest in the Pier and Boardwalk.

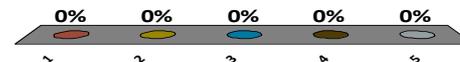
Pier

Boardwalk

Both

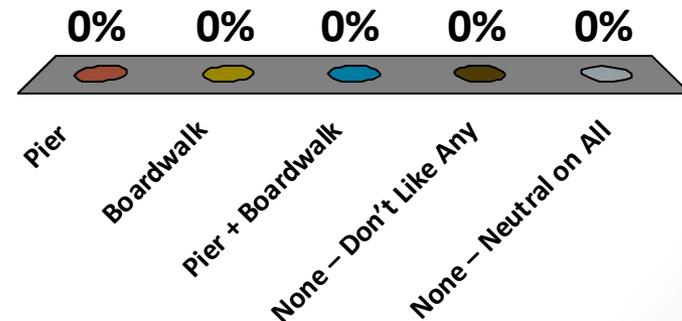


- A. 1
- B. 2
- C. 3
- D. 4
- E. 5



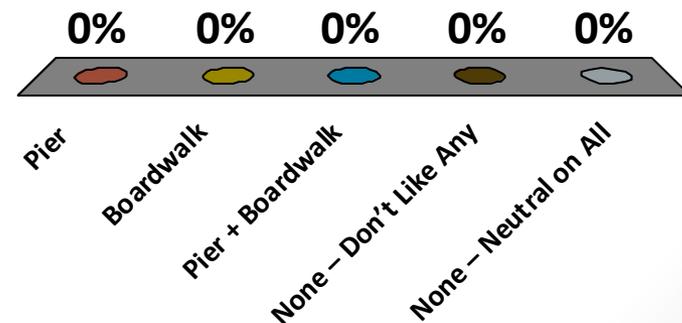
11. Which among the below do you feel the most strongly for? (select one)

- A. Pier
- B. Boardwalk
- C. Pier + Boardwalk
- D. None – Don't Like Any
- E. None – Neutral on All



12. Which among the below do you feel least strongly for? (select one)

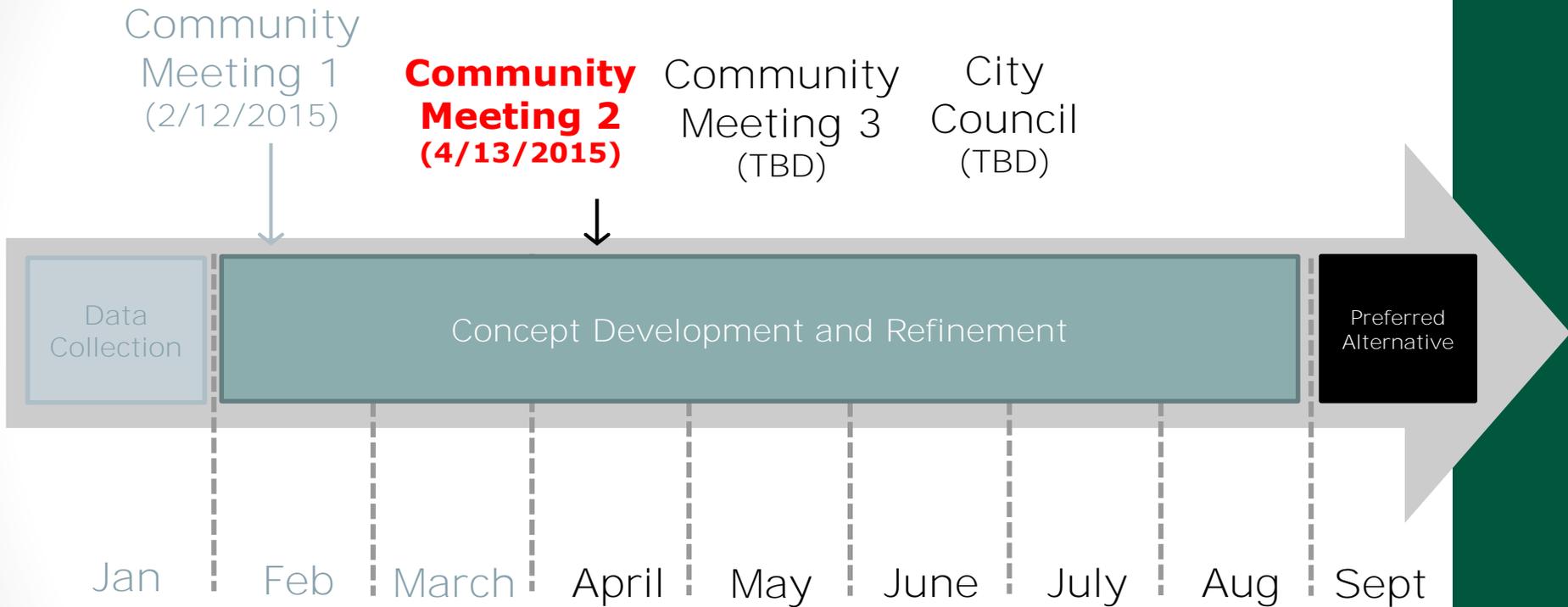
- A. Pier
- B. Boardwalk
- C. Pier + Boardwalk
- D. None – Don't Like Any
- E. None – Neutral on All



What's Next

- Preferred plan
- Continued community engagement
- Preliminary engineering

Current Project Phase: Schedule





Questions? Contact Us

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DISCUSSION