A Preferred Alternative:

Hand Carry Boat Launch and Shoreline Stabilization Design Consolidations for the Bowdoinham Public Works Redevelopment Masterplan

Richardson Associates, Baker Design Consultants, Town of Bowdoinham
11-20-2019
Meeting Agenda

Review Public Design Feedback from 9-17-2019

- Outcomes for Paddle Put in Preferences and Shoreline Stabilization Elements
- Project Contexts
- Hand Carry Launch - ADA and All Tides Float Design
  * Plans and Sections
  * Hand Carry Elements
- Shoreline Stabilization
  * Areas of Stabilization Strategies
  * General Planting Palette
  * Sections and Character of Stabilization Strategies
- Project Next Steps
Design Public Hearing Review

First Public Hearing Held on 9-17-2019

- Community Consensus on ADA Paddle Put in as Preferred Design Option.
  - All tides accessible boat launch
  - Provide New and Numerous Kayak Racks for Community Use
  - Trailer Parking if Needed by General Parking Area, Car Access Close to Launch

- Shoreline Stabilization Should Use All Stabilization Strategies, but at Appropriate Locations.
  - Mud is Not Bad! Natural Processes of the River Will Happen, Mud Flats are Not a Negative for the Park; Safe and Functional Bank Structure is Important.
  - Three Overlook / Interpretive “Pull Off” Areas (1 Bridge Overlook, 2 River Path Pull Off Points, Fishing Compatible)
Maine Central R.R.

Philip Mailly Waterfront Park & Boat Launch

Existing Shoreline with less impacts

Existing Unstable Shoreline and debris

Project Locations

Bowdoinham

Maine Central R.R.

Cathance River

Public Works Redevelopment Site

Hand-carry boat launch and living shoreline stabilization Areas

Mailly Waterfront Park Boat launch
Masterplan
Masterplan Background

Phase 1 Recommendations

- General Site Restoration
- **Minimal Shore Stabilization**
- Limited Trails
- **Hand Carry Boat Launch, Parking, and Storage Racks**
- Picnic Area
- Car & Boat Trailer Parking
- Access Road
- Signage
- Crosswalk / Safety
- Landscape Planting
- Connections to Rail Trail.
Existing Conditions
Hand-Carry Boat Launch

- 100YR Floodplain
- 75’ NRPA Setback
- Delineated Wetlands
- Masterplan Line Work for Reference
- Temporary Gravel Drive
- Future Access Drive
- (8) Kayak Racks
- (3) Bollards
- Paved Approach (5% Max. Slope)
- Pre-Cast Concrete Planks
- (4) 6’x16’ Floats + 12’x16’ Boat Launch Float
- 4’ Wide Path
- (5%) Max. Slope
- (2) ADA Parking Spaces
- Parking Space
- ADA Boat Trailer Parking Space (Future Option)
6’x16’ Floats w/ (1) ADA Boat Launch Float
4’ Depth – Riprap Stabilization
ADA Access Plan
18” x 12’ Pre-Cast Concrete Planks w/ curbing each side of ramp
Riverbed Cleanup Area
Paved Walkway (5% Max Slope)
Delineated Wetlands Boundary & 75’ NRPA Setback
(3) Kayak Storage Racks – 8 Boats / Rack
(2) ADA Parking Spaces
(1) ADA Boat Trailer Parking
(2) Facility Use Signage
(3) Traffic Bollards
Temporary Access Drive
Redevelopment Masterplan
Linework for Reference, TYP
Final Boat Launch Access Drive (Future Phase)

Hand-Carry Elements

Accessible Launch Section

FEMA 100YR FLOODPLAIN 8.0’
HIGHEST ANNUAL TIDE 2.9’

Paved Launch Approach
Pre-Cast Concrete Plank Boat Ramp
Floats

Boat Ramp Section
Shoreline Restoration and Shoreline Trail
Existing Conditions
Shoreline Trail Amenities

Shoreline Trail Landscape Architectural Elements

• Seating
  (Benches: backless or backed, materials, setting locale)
• Interpretive Signage
  (Materials, Locations, Themes)
• Pedestrian Pathway Bridge
  (Type of Material, Construction Approach, Character)

General Design Principles:

• Affordable
• Aesthetic
• Ease of Maintenance and Durability
Seating

Backed - Wood

Backless - Wood or Composite

Backless - Wood
Interpretive Signage

Small Novelty Fixture

Large Site Sign

Structure Attached
Bridge Structure

Rustic - Wood, simple $  
High Span - Steel, simple $$  
Engineered - High Span $$$$
Plant Design Principles

Planting Principles for planting selections:

- Shoreline Stabilization Capability
  (rooting structure and growth characteristics)
- Beauty and Aesthetic Values
  (Seasonal qualities, flowering, texture, form)
- Regionally Appropriate and Native Materials
  (Planting Responds to Merry Meeting Bay plant communities and native Maine plants)
- Wildlife Benefits
  (Food, cover, nesting, behavioral needs)
- Maintenance and Masterplan Compatibility
  (Maintenance needs and park design intentions)

*Plants with a * by their name indicate species recommended by Maine Natural Areas Program
Upland Plant Community Elements

Trees

Shrubs

Perennials
Trees

- Red maple*  
  *Acer rubrum*

- Yellow birch  
  *Betula alleghaniensis*

- Speckled alder*  
  *Alnus incana*

- Shadblow serviceberry  
  *Amelanchier canadensis*

Shrubs

- Common witchhazel*  
  *Hamamelis virginiana*

- Arrowwood viburnum  
  *Viburnum dentatum*

- Huckleberry  
  *Gaylussacia baccata*

- Highbush blueberry  
  *Vaccinium corymbosum*

Perennials

- Hay-scented fern  
  *Dennstaedtia punctilobula*

- Sweetfern*  
  *Comptonia peregrina*

- Bluejoint*  
  *Calamagrostis canadensis*

- Broadleaf meadowsweet*  
  *Spiraea latifolia*
Bottomland Plant Community Elements

- Trees
- Shrubs
- Perennials
Trees
Black willow*  
Salix nigra  
Red maple*  
Acer rubrum  
Speckled alder*  
Alnus incana  
Gray birch  
Betula populifolia

Shrubs
Silky dogwood*  
Cornus amomum  
Sweet gale  
Myrica gale  
Sheeps Laurel  
Kalmia angustifolia  
Winterberry  
Ilex verticillata

Perennials
Bluejoint  
Calamagrostis canadensis  
Lowbush blueberry  
Vaccinium angustifolium  
Goldenrod  
Solidago canadensis  
Sweet-scented joe-pye-weed  
Eutrochium purpureum
Intertidal Zone

Grasses

Feature Perennials

Perennials
**Grasses**

- *Softstem bulrush*  
  *Schoenoplectus tabernaemontani*

- Chair-maker’s rush  
  *Scirpus americanus*

- Bluejoint  
  *Calamagrostis canadensis*

- Northern Wild Rice*  
  *Zizania palustris* (where appropriate)

**Feature Perennials**

- *Pickerelweed*  
  *Pontederia cordata*

- Cardinal flower  
  *Lobelia cardinalis*

- Blue iris  
  *Iris versicolor*

- Yellow pond-lily  
  *Nuphar lutea*

**Perennials**

- Common Arrowhead*  
  *Sagittaria latifolia*

- Parker’s pipewort  
  *Eriocaulon parkeri*

- Nodding beggartick  
  *Bidens cernua*

- Northern Water plantain*  
  *Alisma triviale*
Wetland Garden

LEGEND
- Marsh Restoration
- Armored Slope
- Rootwad Stabilization
- Vegetated Retaining Wall
- Overlook Terminus/Signage Locations
- Boat Launch
- 30' Walkway Bridge
- 4' Wide Shore Access Path
- Wetland Vegetation Signage
- Overlook Spur
- Shoreline Spur
- Overlook Spur
- History Signage
- Shoreline Restoration Signage
- Water Fowl & Fish Signage
- FEMA 100YR FLOODPLAIN
- Temporary Gravel Drive
- Masterplan Line Work for Reference
- Delineated Wetlands
- Shoreline Stabilization

Shoreline Stabilization
Embankment

Vegetated Wall

Vegetated Retaining Wall Section

Existing Wood Cribwork Ends Removed

4' Wide Path and Overlook Spur

20' Upland Vegetated Buffer

Interpretive Signage

4" Topsoil, Wetland Seed Mix Covered with Jute Matting

Stone Filled Vegetated Geotextile Retaining Wall

Coir Logs with Helical Anchors

Highest Annual Tide 2.9’

FEMA 100YR 8.0’

Existing Grade

Vegetated Retaining Wall
Marsh Restoration Section

Marsh Restoration

Existing Wood Cribwork & Fill Removed

4" Shore Access Path

4" Topsoil, Wetland Seed Mix Covered with Jute Matting

Reinforced Mat with Anchors

Coir Logs with Wooden Stakes

Highest Annual Tide 2.9'

FEMA 100YR 8.0'

10' - 15'
Upland Vegetated Buffer

15' - 20'
Freshwater Tidal Wetland

Existing Grade
**Rootwad Stabilization Section**

- **4' Wide Path**: Existing Wood Cribwork Ends Removed
- **4” Topsoil, Wetland Seed Mix Covered with Jute Matting**
- **Large Boulder to Anchor Root Wad**
- **Tree Root Wads**
- **FEMA 100YR 8.0’**
- **Highest Annual Tide 2.9’**
- **Existing Grade**

**Interpretive Signage**

**Vegetated Bank**

**Rootwad Stabilization**
Armored Slope Section

Armored Slope

Existing Wood Cribwork Ends Removed
4” Topsoil, Wetland Seed Mix Covered with Jute Matting

25’ Upland Vegetated Buffer

Large Boulder Revetment

Highest Annual Tide 2.9’

Existing Grade

FEMA 100YR 8.0’
Next Steps

Schedule Review* if Funding Becomes Available

- Design Development on Preferred Options Winter 2019
- Permitting Winter 2019 / Early Spring 2020
- Construction Documents Winter 2019 / Early Spring 2020
- Bidding Late Spring 2020 / Early Summer 2020
- Construction Late Summer 2020