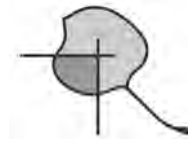


MEETING AGENDA



11 Middle Street
Saco, Maine 04072
Tel. 207-286-9291
Fax. 207-286-9650
mail@richardsonassociates.com

Richardson & Associates Landscape Architects

Project: Bowdoinham Waterfront

Date: February 12, 2019 6:00pm

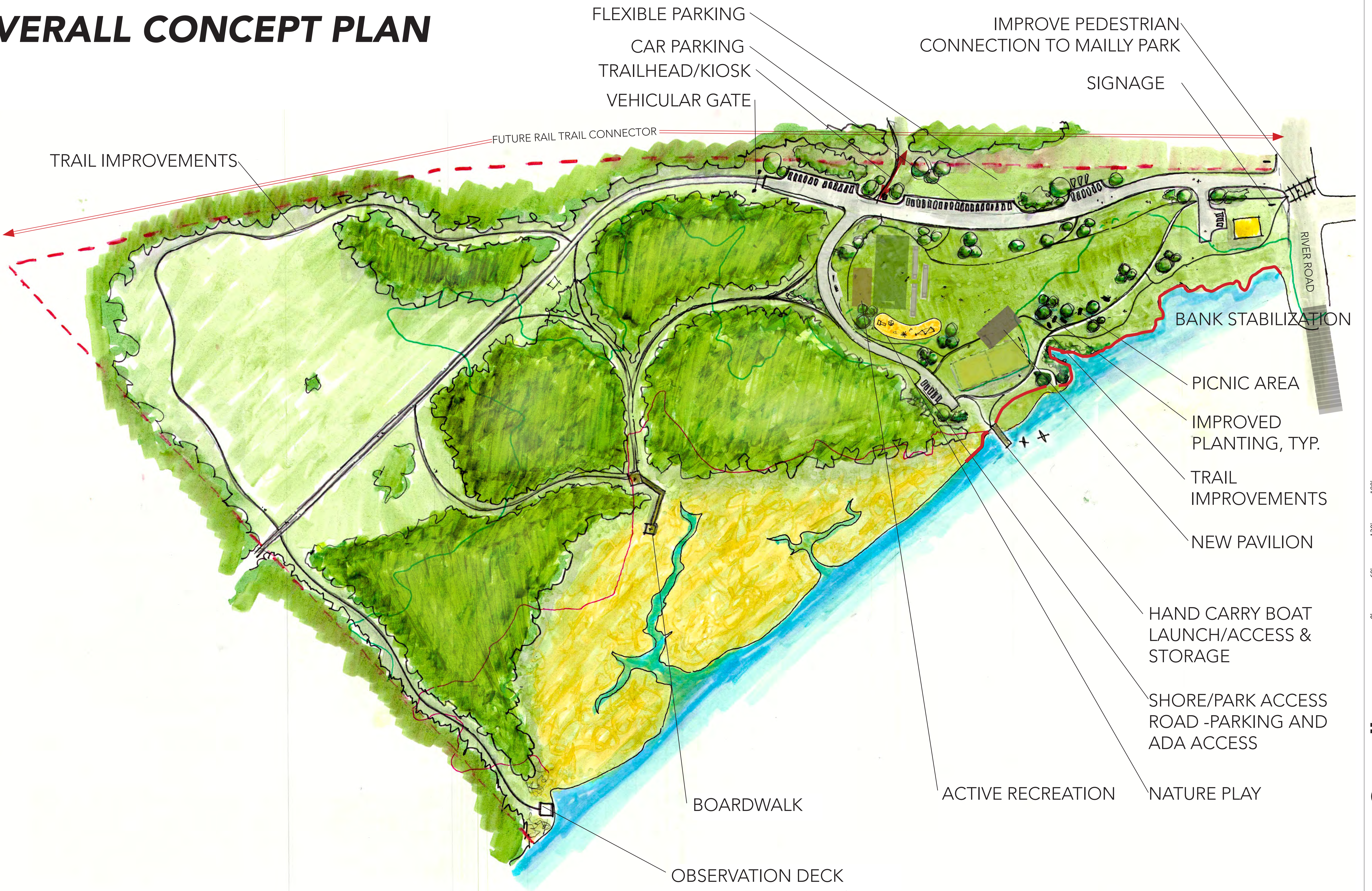
Meeting: CPC Meeting

1. Introduction (R&A & BDC)
2. Goals & Objectives (R&A)
3. Final Master Site Plan (R&A)
 - a. Overall Concept, Phasing & Associated Costs
 - b. Final Aerial Plan
 - c. Perspective Views
 - d. Review of Deliverables
 - e. Question & Answer
4. Preliminary Fee Projection (R&A & BDC)
 - a. Option 1 – 100% Construction Documents, Bidding, Construction Administration
 - b. Option 2 – Permit Documents
 - c. Option 3 – (Permit Documents) + Phase I Construction Documents, Bid, and Construction Administration
5. Grant Summary & Next Steps (BDC)
 - a. Schedule & Tasks



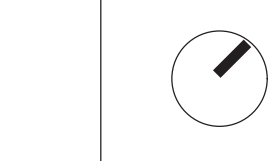
OVERALL CONCEPT, PHASING, & COSTS

OVERALL CONCEPT PLAN



Richardson & Associates, Landscape Architects
 Original Issue Date: _____
 Issued for: _____
 Revision Dates: _____

Scale: 1"=60' (original drawing size)
 Original Drawing Size: 24" x 36"



CONCEPT PLAN Overall
 Public Works Site Redevelopment
 Town of Bowdoinham, ME

OVERALL PHASING & COST

FLEXIBLE PARKING

CAR PARKING

TRAILHEAD/KIOSK

VEHICULAR GATE

IMPROVE PEDESTRIAN CONNECTION TO MAILLY PARK

SIGNAGE

FUTURE RAIL TRAIL CONNECTOR

TRAIL IMPROVEMENTS

BANK STABILIZATION

PICNIC AREA

IMPROVED PLANTING, TYP.

TRAIL IMPROVEMENTS

NEW. PAVILION

HAND CARRY BOAT LAUNCH/ACCESS & STORAGE

SHORE/PARK ACCESS ROAD -PARKING AND ADA ACCESS

ACTIVE RECREATION

NATURE PLAY

BOARDWALK

OBSERVATION DECK

Phase I
\$560,000 - \$700,000

Phase II
\$365,000 - \$455,000

Phase III
\$292,000 - \$480,000

Phase IV
\$517,000 - \$646,000

OVERALL ESTIMATED COST

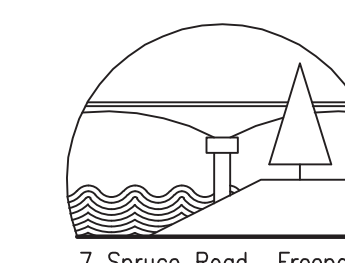
\$1,734,000 - \$2,281,000

Richardson & Associates, Landscape Architects / 11 Maple Street, Suite 100, Portland, ME 04101
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

Richardson & Associates, Landscape Architects

CONCEPT PLAN Overall
Public Works Site Redevelopment
Town of Bowdoinham, ME



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

Phase I



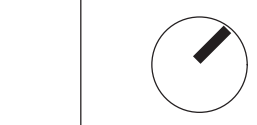
Phase I Recommendations

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

Richardson & Associates, Landscape Architects / 11 Maple Street, New Bedford, MA 01945

Original Issue Date: _____
 Issued for: _____
 Revision Dates: _____

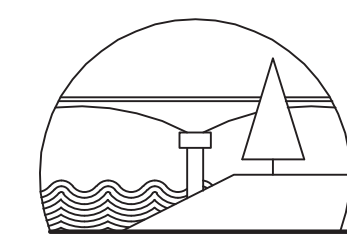
Scale: 1"=60' (original drawing size)
 Original Drawing Size: 24" x 36"



CONCEPT PLAN Phase 1

Public Works Site Redevelopment
 Town of Bowdoinham, ME

P1



BAKER DESIGN CONSULTANTS
 Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

Phase I COST SUMMARY



Phase I Recommendations

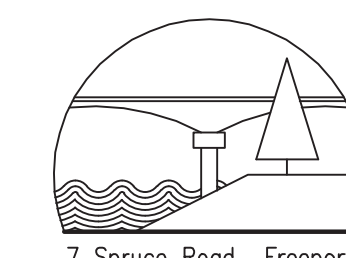
- General Site Restoration
- Minimal Shore Stabilization
- Connections to Rail Trail
- Limited Trails
- Hand Carry Boat Parking, Access & Racks
- ADA Access
- Picnic Area
- Car & Boat Trailer Parking
- Access Road
- Signage
- Crosswalk/Safety
- Landscape Planting

**PHASE I
INITIAL INVESTMENT**

\$560,000 - \$700,000

CONCEPT PLAN **Phase 1**

Public Works Site Redevelopment
Town of Bowdoinham, ME



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Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

P1

Richardson & Associates, Landscape Architects / 11 South Street, Suite 200, Portland, ME 04101

Original Issue Date: _____

Issued for: _____

Revision Dates: _____

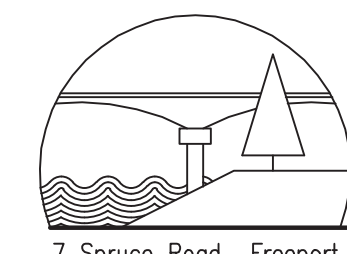
Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

Phase II



Phase II Recommendations

- Pavilion (New)
- Trail Improvements
- Continued Landscape Planting



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

CONCEPT PLAN **Phase 2**

Public Works Site Redevelopment
Town of Bowdoinham, ME

P2

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

Richardson & Associates, Landscape Architects
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Richardson & Associates, Landscape Architects
11 Middle Street, Suite 100, Freeport, ME 04032
207.846.9724
info@rickandassociates.com

Phase II COST SUMMARY



Phase II Recommendations

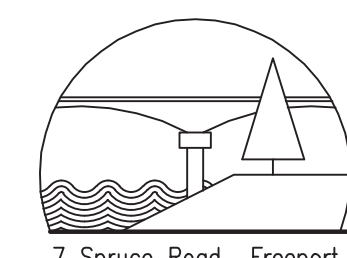
- Pavilion (New)
- Trail Improvements
- Continued Landscape Planting

PHASE II
ADDITIONAL INVESTMENT
\$365,000 - \$455,000

CONCEPT PLAN **Phase 2**
Public Works Site Redevelopment
Town of Bowdoinham, ME

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

Richardson & Associates, Landscape Architects
Original Issue Date: _____
Issued for: _____
Revision Dates: _____



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

P2

Phase III

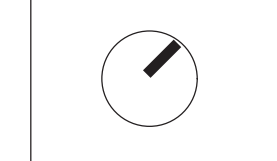


Phase III Recommendations

- Ice Skating
- Fire Pit
- Active Recreation Area (Volleyball, Bocce, Horseshoe)
- Nature Play Area
- Overlook Improvements (Boardwalk)
- Continued Landscape Planting

Richardson & Associates, Landscape Architects
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"



CONCEPT PLAN Phase 3
Public Works Site Redevelopment
Town of Bowdoinham, ME

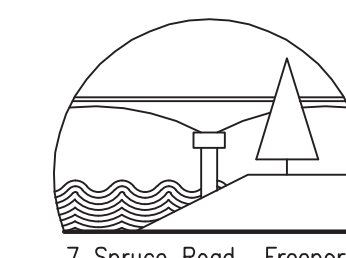
Phase III COST SUMMARY



Phase III Recommendations

- Ice Skating
- Fire Pit
- Active Recreation Area (Volleyball, Bocce, Horseshoe)
- Nature Play Area
- Overlook Improvements (Boardwalk)
- Continued Landscape Planting

PHASE III
ADDITIONAL INVESTMENT
\$292,000 - \$480,000



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

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CONCEPT PLAN **Phase 3**

Public Works Site Redevelopment
Town of Bowdoinham, ME

P3

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

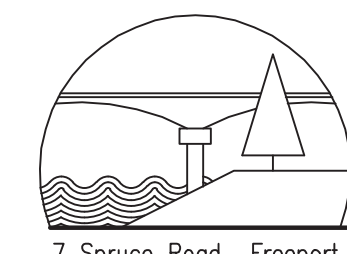
Richardson & Associates, Landscape Architects / 11 Middle Street, Suite 100, Portland, ME 04101
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Phase IV



Phase IV Recommendations

- Shoreline Stabilization



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Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

CONCEPT PLAN **Phase 4**

Public Works Site Redevelopment
Town of Bowdoinham, ME

P4

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

Richardson & Associates, Landscape Architects
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Richardson & Associates, Landscape Architects / 11 Middle Street, Suite 202, Portland, ME 04101

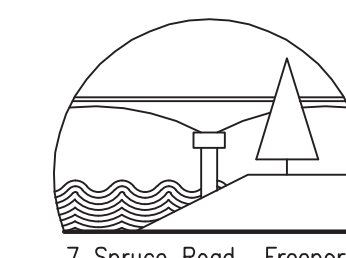
Phase IV COST SUMMARY



Phase IV Recommendations

- Shoreline Stabilization

PHASE IV
ADDITIONAL INVESTMENT
\$517,000 - \$646,000



BAKER DESIGN CONSULTANTS
Civil, Marine, and Structural Engineering

7 Spruce Road Freeport Maine 04032 207-846-9724 info@bakerdesignconsultants.com

CONCEPT PLAN Phase 4

Public Works Site Redevelopment
Town of Bowdoinham, ME

P4

Scale: 1"=60' (original drawing size)
Original Drawing Size: 24" x 36"

Richardson & Associates, Landscape Architects
Original Issue Date: _____
Issued for: _____
Revision Dates: _____

Richardson & Associates, Landscape Architects / 11 Middle Street, Suite 100, Portland, ME 04101

BOWDOINHAM WATERFRONT

Bowdoinham, ME

Preliminary Construction Cost Estimate
Richardson & Associates, Landscape Architects

February 12, 2018

Note: This estimate is for the improvement recommendations identified on the Master Plan for the Bowdoinham Waterfront Project. Because of the planning nature of this document, the cost estimate inherently makes assumptions about the specific nature of existing conditions, and the type, quantity, and quality of materials. A 15% contingency has been added for this purpose. It does not include professional fees for design and engineering, permitting costs, or in-house, or in-kind services or materials. This estimate is only intended to identify the general magnitude of costs associated with the elements of the plan. All costs should be verified as specific plans are developed for each recommended improvement.

AREA for SCOPE OF WORK/ ITEMS

	High End	Low End
Phase I		
Site Work and Grading	\$218,500.00	\$174,800.00
Trails	\$64,000.00	\$51,200.00
Water Access	\$78,750.00	\$63,000.00
Driveway & Parking Lot	\$99,400.00	\$79,520.00
Crosswalk	\$11,000.00	\$8,800.00
Picnic Area	\$12,000.00	\$9,600.00
Wayfinding & Signage	\$5,000.00	\$4,000.00
Planting	\$133,250.00	\$106,600.00
SUBTOTAL - PHASE I	\$609,900.00	\$487,920.00
with 15% Contingency	\$91,485.00	\$73,188.00
TOTAL - PHASE I	\$701,385.00	\$561,108.00
Phase II		
Trails	\$22,960.00	\$18,368.00
Parking Lot	\$31,200.00	\$24,960.00
New Pavilion	\$87,500.00	\$70,000.00
Wayfinding & Signage	\$5,000.00	\$4,000.00
Planting	\$26,000.00	\$20,800.00
SUBTOTAL - PHASE II	\$396,410.00	\$317,128.00
with 15% Contingency	\$59,461.50	\$47,569.20
TOTAL - PHASE II	\$455,871.50	\$364,697.20
Phase III		
Recreation - Nature Play	\$150,000.00	\$40,000.00
Active Recreation	\$109,000.00	\$87,200.00
Observation Decks	\$145,000.00	\$116,000.00
Planting	\$13,000.00	\$10,400.00
SUBTOTAL - PHASE III	\$417,000.00	\$253,600.00
with 15% Contingency	\$62,550.00	\$38,040.00
TOTAL - PHASE III	\$479,550.00	\$291,640.00
Phase IV		
Shoreline Stabilization	\$562,500.00	\$450,000.00
SUBTOTAL - PHASE IV	\$562,500.00	\$450,000.00
with 15% Contingency	\$84,375.00	\$67,500.00
TOTAL - PHASE IV	\$646,875.00	\$517,500.00
TOTAL	2,283,681.50	1,734,945.20

A photograph of a large steel truss bridge spanning a wide river. The bridge's intricate steel framework is the central focus, with its reflection clearly visible in the calm water below. The surrounding landscape includes lush green trees on the banks and a stone-lined shore in the foreground. The overall scene is captured in a slightly hazy, overcast light. Overlaid on the center of the image is the text "FINAL MASTER SITE PLAN" in a bold, italicized, black sans-serif font.

FINAL MASTER SITE PLAN



KEY

- ① Pedestrian Connection to Maily Park
Improved Access
- ② Park Entry Signage
- ③ Passive Lawn Space
Flexible Area
- ④ Flexible Parking
Gravel Roads and Parking Spaces
- ⑤ Path / Circulation
- ⑥ Picnic Area
- ⑦ Pavilion
60'x 30' Post and Beam Pavilion
- ⑧ Active Recreation
Volleyball, Bocce, Horseshoe Courts
- ⑨ Nature Play
Area for Playspace
- ⑩ Kayak Racks
Parking Space
- ⑪ Hand Carry Boat Launch
Access and Storage
- ⑫ Bank Stabilization
- ⑬ Rail Trail Access
Signage / Kiosk
- ⑭ Future Rail Trail Connector
TBD
- ⑮ Mown Paths
Improved Pedestrian Trails
- ⑯ Boardwalk with Observation Deck
Accessible
- ⑰ Observation Deck



SITE MASTER PLAN
Town of Bowdoinham, ME

February 12, 2019

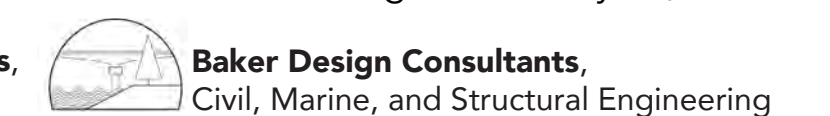
A perspective view of a steel truss bridge spanning a river. The bridge's structure is composed of blue and reddish-brown steel beams, forming a complex truss pattern. The bridge is supported by concrete piers. The river below is calm, reflecting the bridge and the surrounding greenery. The background shows a dense line of trees under a bright, overcast sky. The text "PERSPECTIVE VIEWS" is overlaid in the center in a bold, black, sans-serif font.

PERSPECTIVE VIEWS



SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

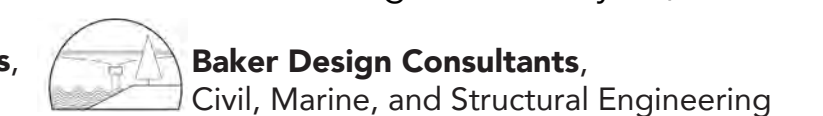


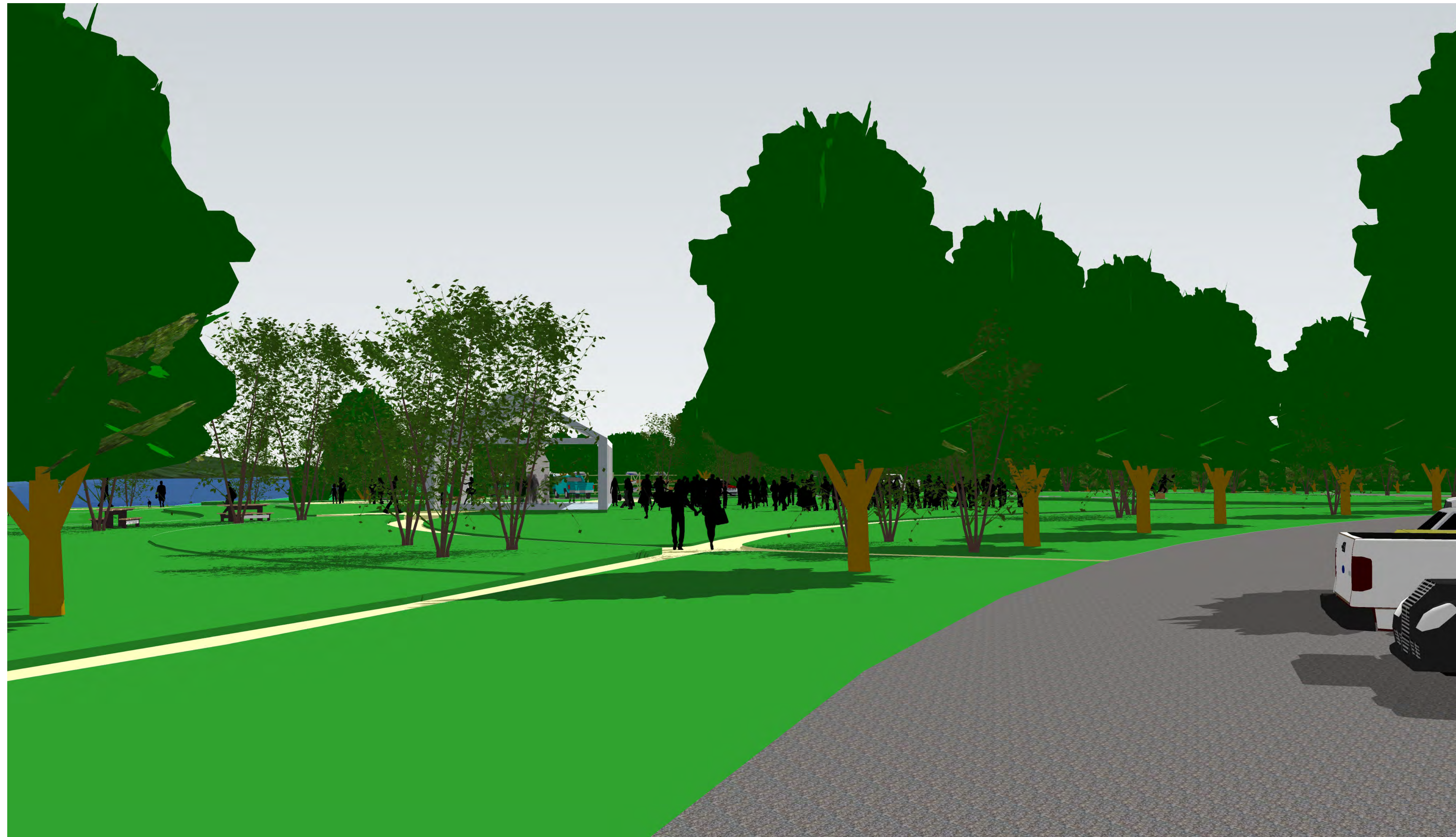


SITE MASTER PLAN

Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

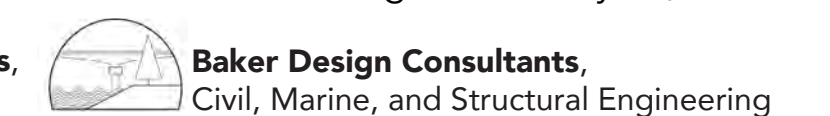




SITE MASTER PLAN

Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

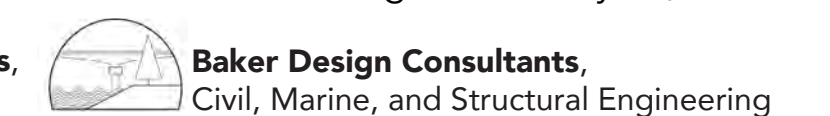


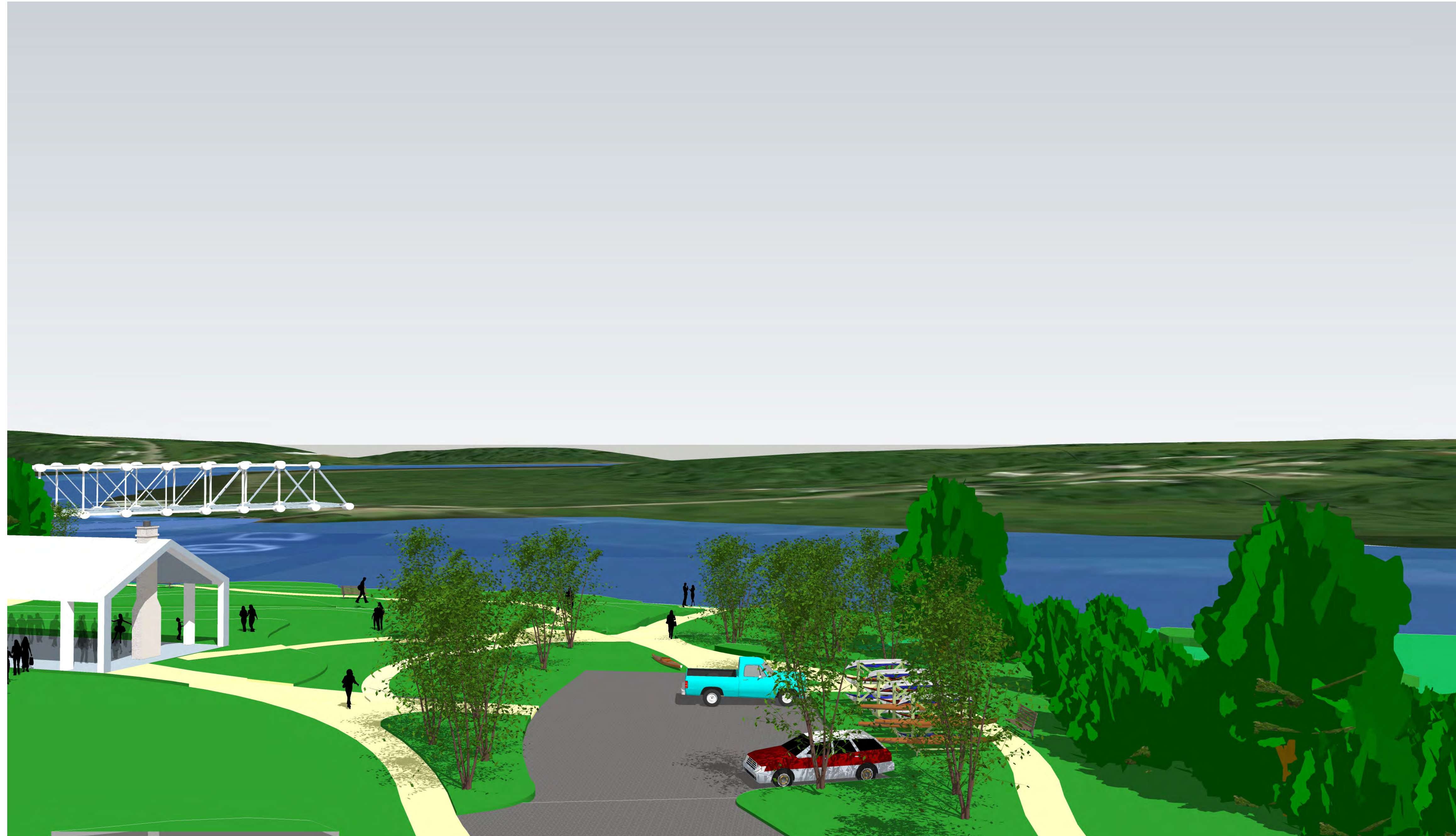


SITE MASTER PLAN

Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

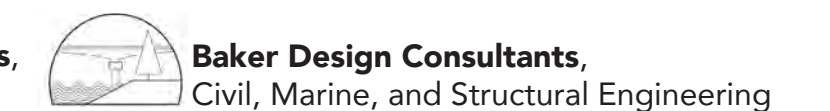


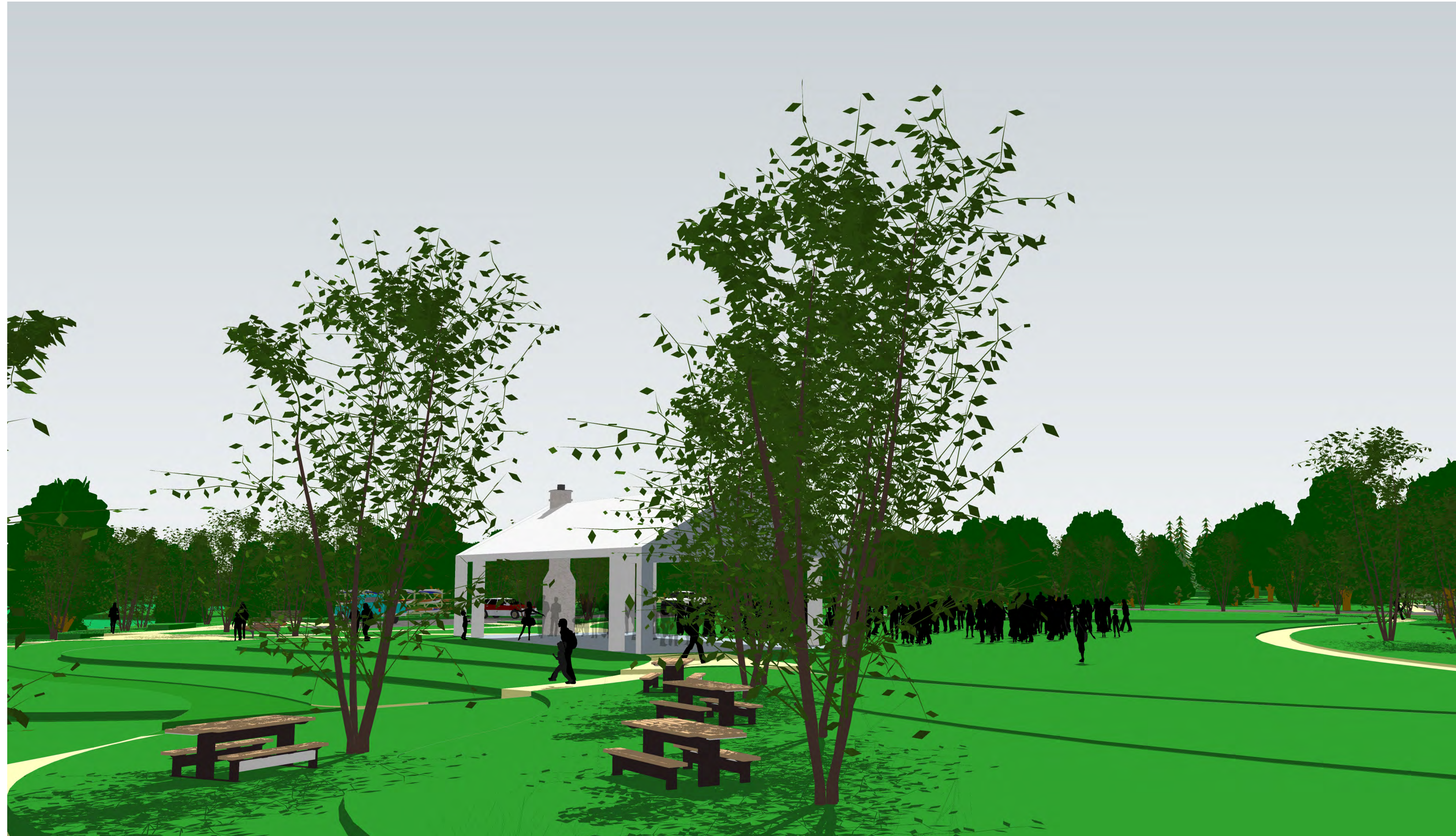


SITE MASTER PLAN

Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

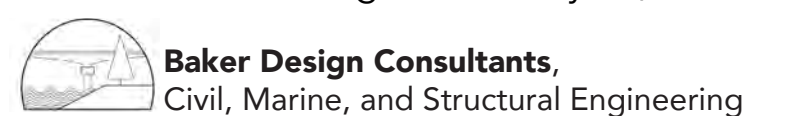


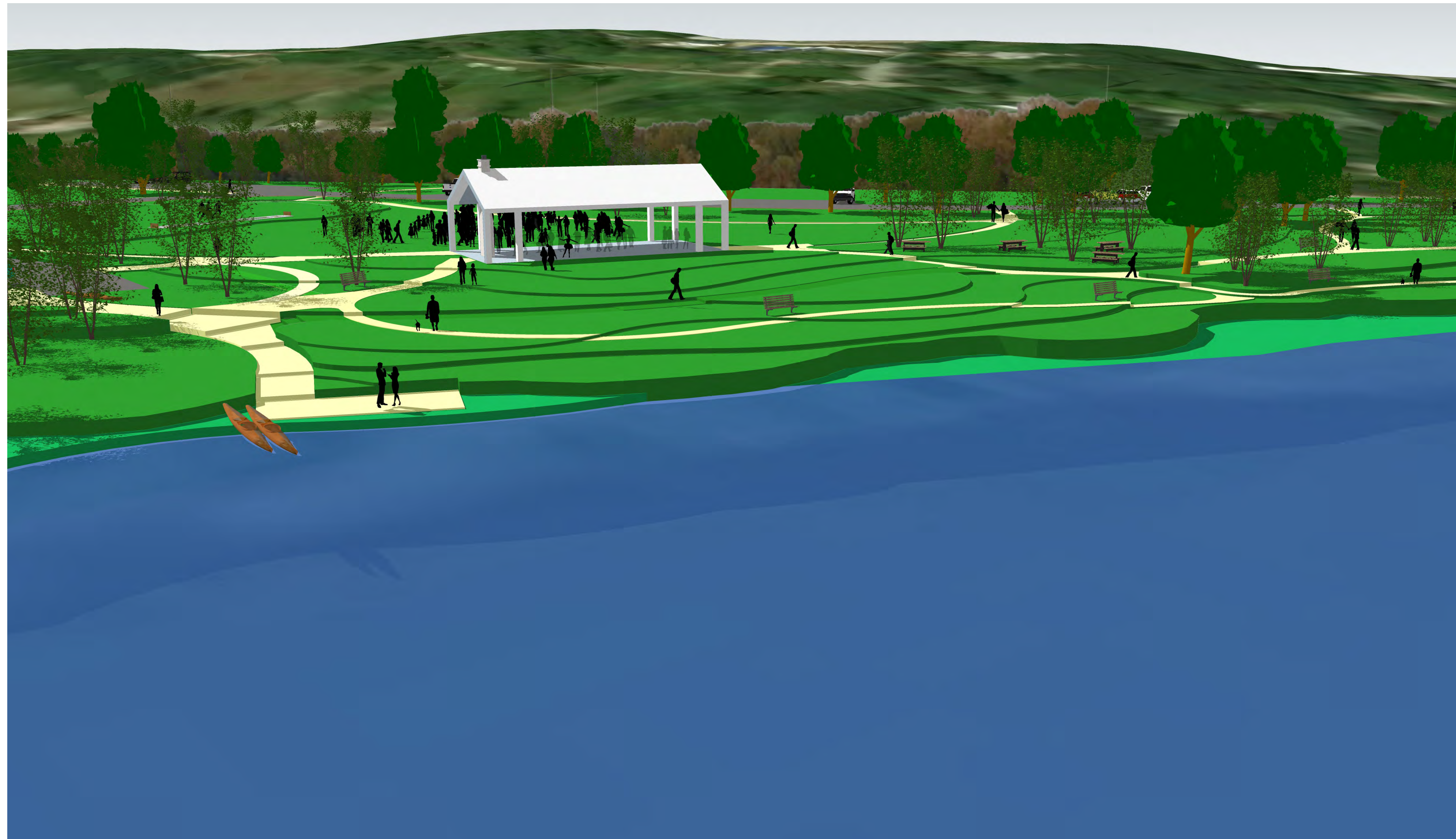


SITE MASTER PLAN

Town of Bowdoinham, ME

CPC Meeting | February 12, 2019



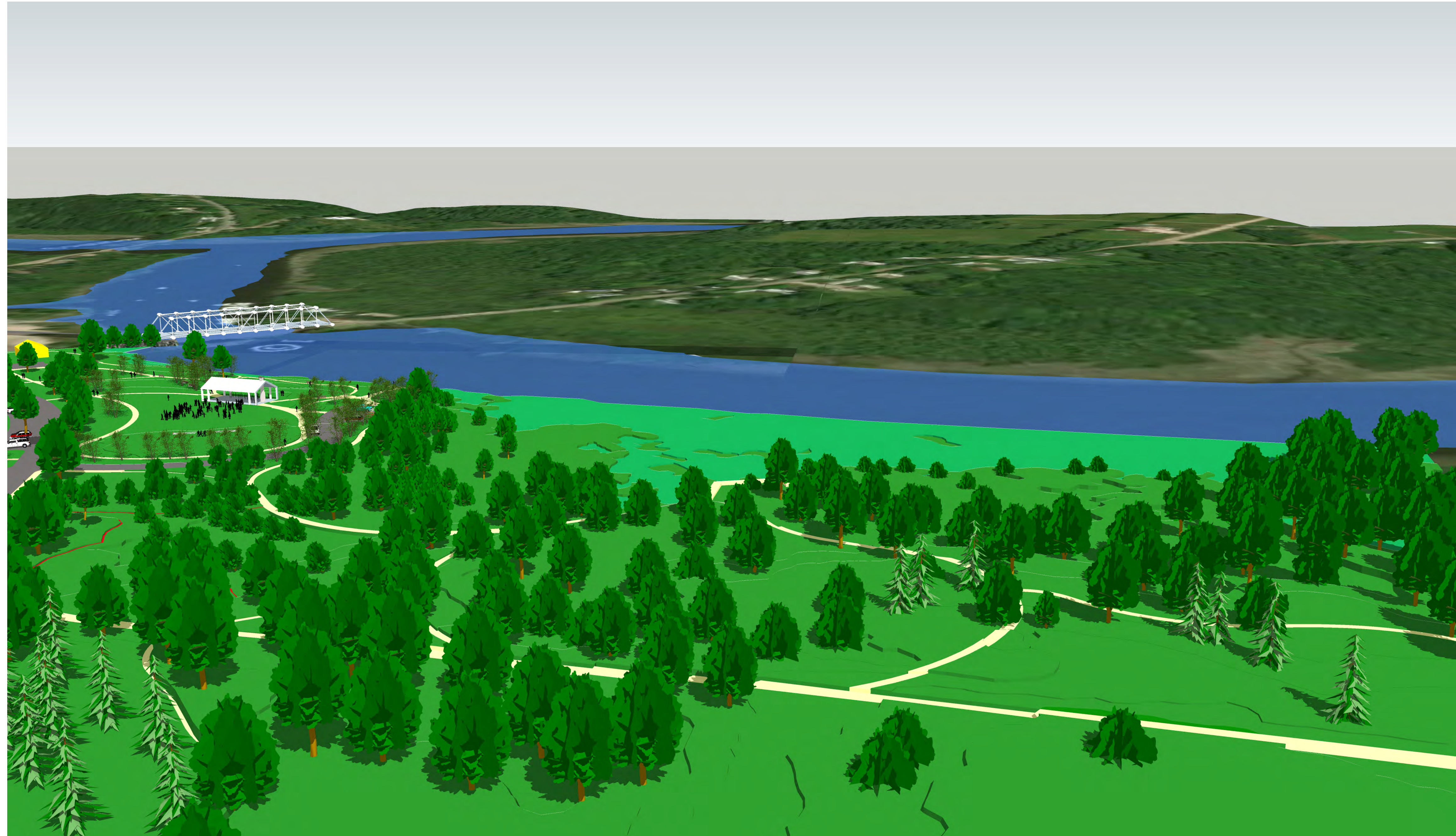


SITE MASTER PLAN

Town of Bowdoinham, ME

CPC Meeting | February 12, 2019



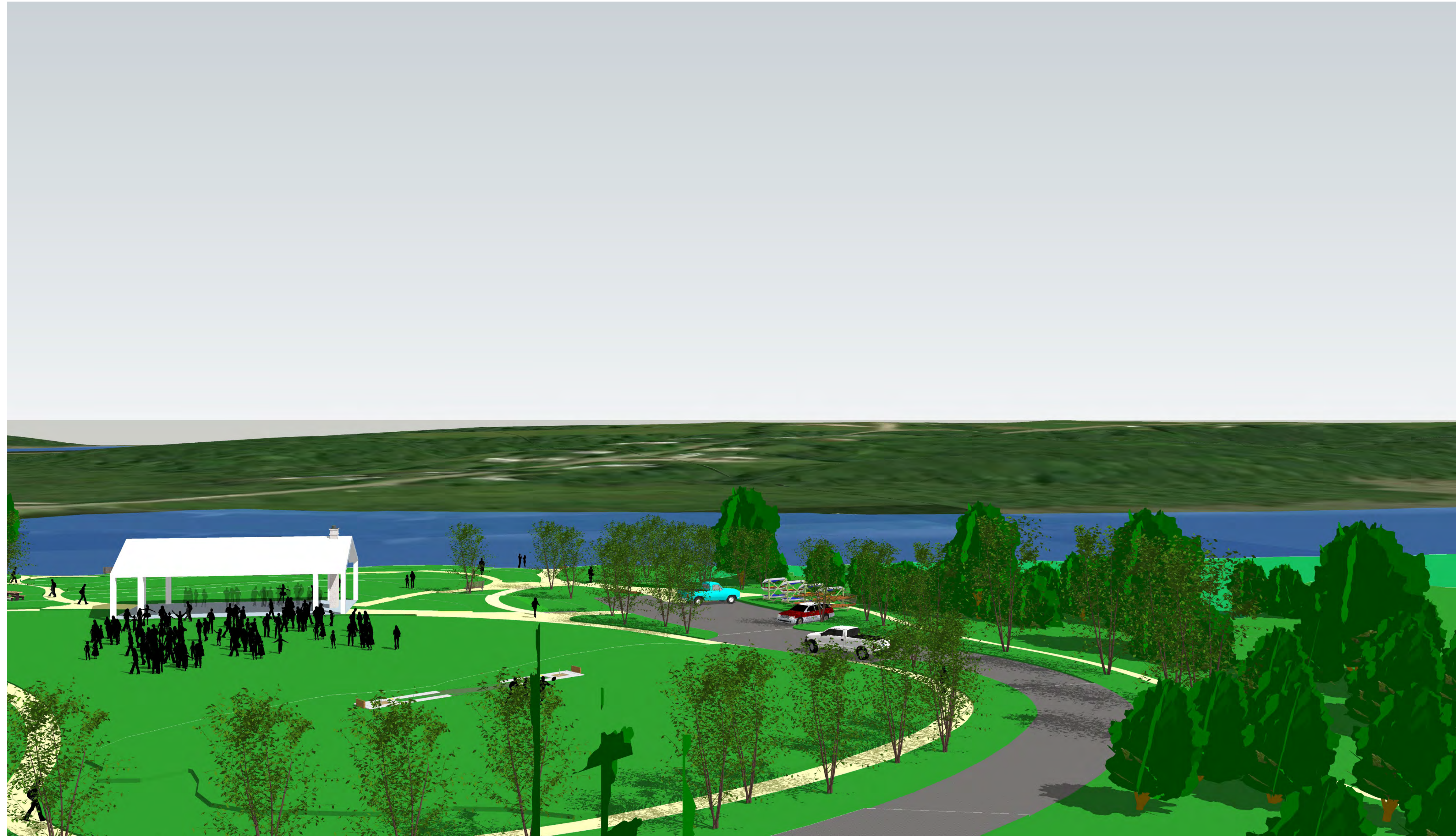


SITE MASTER PLAN

Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

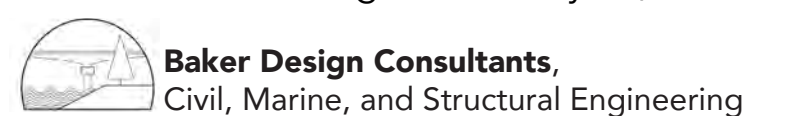


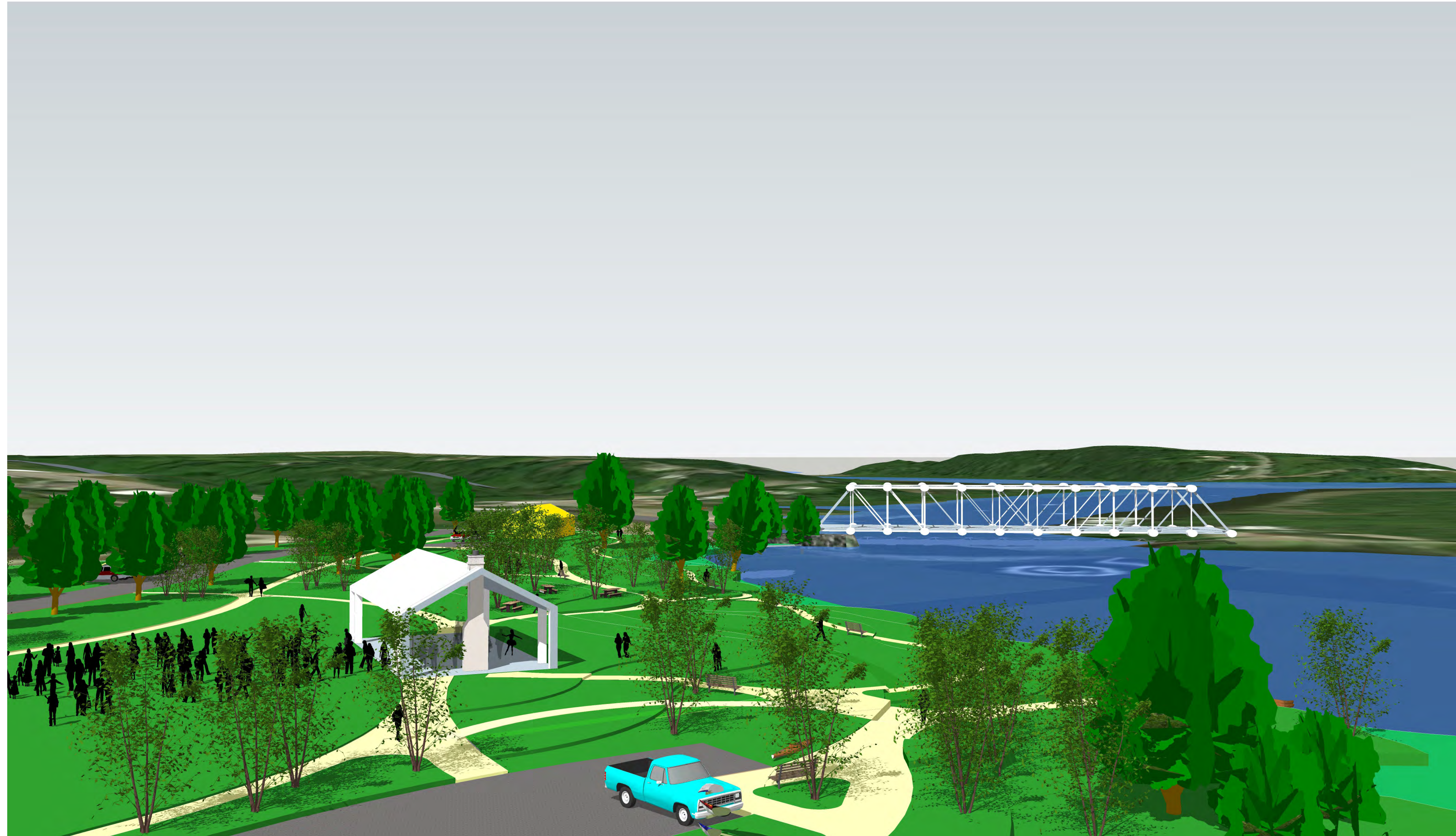


SITE MASTER PLAN

Town of Bowdoinham, ME

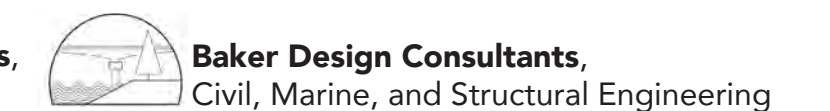
CPC Meeting | February 12, 2019





SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019





REVIEW OF DELIVERABLES

The following materials presented at the meetings below are enclosed in the draft packet:

Comprehensive Planning Committee Meeting
Meeting Date: February 12, 2019

Public Meeting 2
Meeting Date: November 7, 2018

Public Meeting 1
Meeting Date: September 20, 2018



Q&A

A photograph of a large steel truss bridge spanning a wide river. The bridge's structure is composed of numerous interconnected steel beams forming a complex truss pattern. The bridge is supported by concrete piers. The water in the river is calm, reflecting the bridge and the surrounding greenery. The background shows a dense line of trees on the far bank under a bright, overcast sky. The text "PRELIMINARY FEE PROJECTION" is overlaid in the center of the image in a bold, black, italicized font.

PRELIMINARY FEE PROJECTION

PRELIMINARY FEE PROJECTION

Ballpark Costs for Design & Engineering Services

OPTION 1: 100% CONSTRUCTION DOCUMENTS, BIDDING ADMINISTRATION, CONSTRUCTION ADMINISTRATION			
Including:	Estimated Construction Cost \$2,000,000.00	HIGH \$240,000.00 <i>12% of Estimated Construction Cost</i>	LOW \$160,000.00 <i>8% of Estimated Construction Cost</i>
Construction Documents			
Bidding Administration			
Construction Administration			
ESTIMATED TOTAL		\$240,000.00	\$160,000.00

OPTION 2: WATERFRONT PERMITTING (FEDERAL, STATE, AND LOCAL PERMITS)			
Including:	Estimated Construction Cost \$2,000,000.00	HIGH \$156,000.00 <i>65% of Design & Engineering Costs</i>	LOW \$104,000.00 <i>65% of Design & Engineering Costs</i>
Technical Documentation Necessary for Permitting (65% CD Set)			
<i>*not including Final Design or documentation beyond what's necessary for obtaining permits</i>			
ESTIMATED TOTAL		\$156,000.00	\$104,000.00

OPTION 3: (WATERFRONT PERMITTING) + (PHASE I CONSTRUCTION DOCUMENTS, BIDDING, CONSTRUCTION ADMINISTRATION)			
Including:	Estimated Construction Cost \$2,000,000.00	HIGH \$156,000.00 <i>65% of Design & Engineering Costs</i>	LOW \$104,000.00 <i>65% of Design & Engineering Costs</i>
Technical Documentation Necessary for Permitting (65% CD Set)			
<i>*not including Final Design or documentation beyond what's necessary for obtaining permits</i>			
Phase I CD, BA, CA Includes:		\$20,000.00	\$15,000.00
Hand Carry Boat Access & Racks			
Limited Trails			
Picnic Area			
Car & Boat Trailer Parking			
Access Road			
Signage			
Crosswalk/Safety			
Some Landscape Planting			
<i>*Shoreline Stabilization Design Development and Permitting as part of the Maine CC Grant</i>			
ESTIMATED TOTAL		\$176,000.00	\$119,000.00



SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019





MAINE COASTAL COMMUNITIES GRANT

COASTAL COMMUNITIES GRANT

Existing Condition



SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

Richardson & Associates,
Landscape Architects

Baker Design Consultants,
Civil, Marine, and Structural Engineering

COASTAL COMMUNITIES GRANT

Overall Schedule Summary

Bowdoinham - Coastal Communities Grant

Bowdoinham, Maine

Schedule

January 24, 2019
Richardson & Associates, Landscape Architects

- Data Collection
- Design
- Outreach

	2019												2020											
	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December
Task 1. Topographic Survey																								
Task 2. Ecological Assessment and Wetland Delineation																								
Task 3. Assessment of Flood Risk																								
Task 4. Design and Permitting of Slope Stabilization Measures																								
Task 5. Education and Outreach																								
Task 6. Overall Project Management																								



SITE MASTER PLAN
Town of Bowdoinham, ME

CPC Meeting | February 12, 2019



What are the common benefits of living shorelines?

- *Protect shorelines from erosion*
- *Provide habitat for fish and other living resources*
- *Improve water quality and store nutrients*
- *Increase stability over time*
- *Can outperform hardened shorelines during storm*
- *Attract natural wildlife*

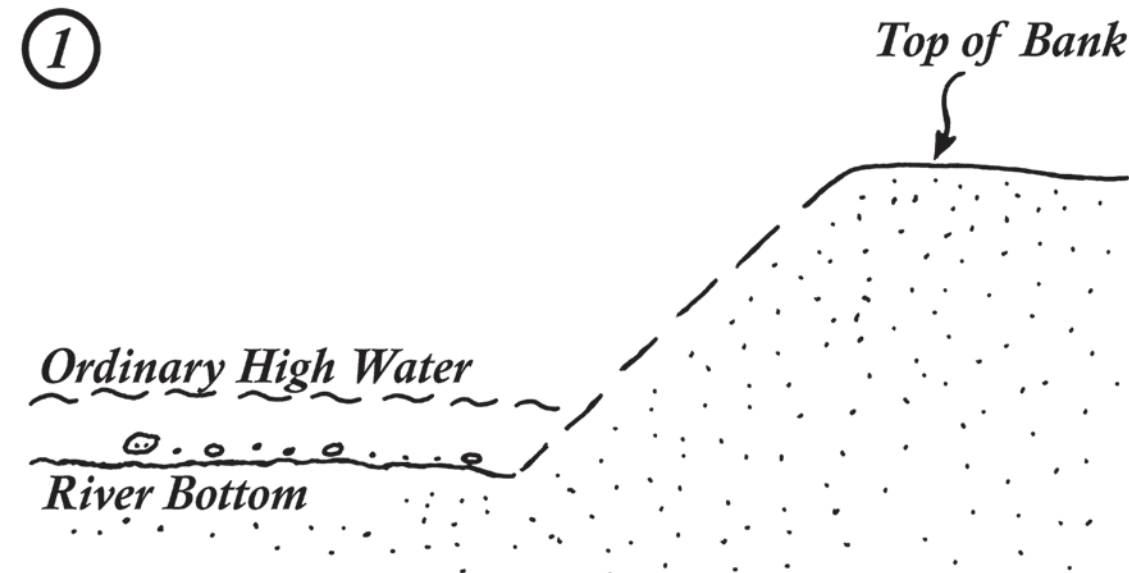


COASTAL COMMUNITIES GRANT

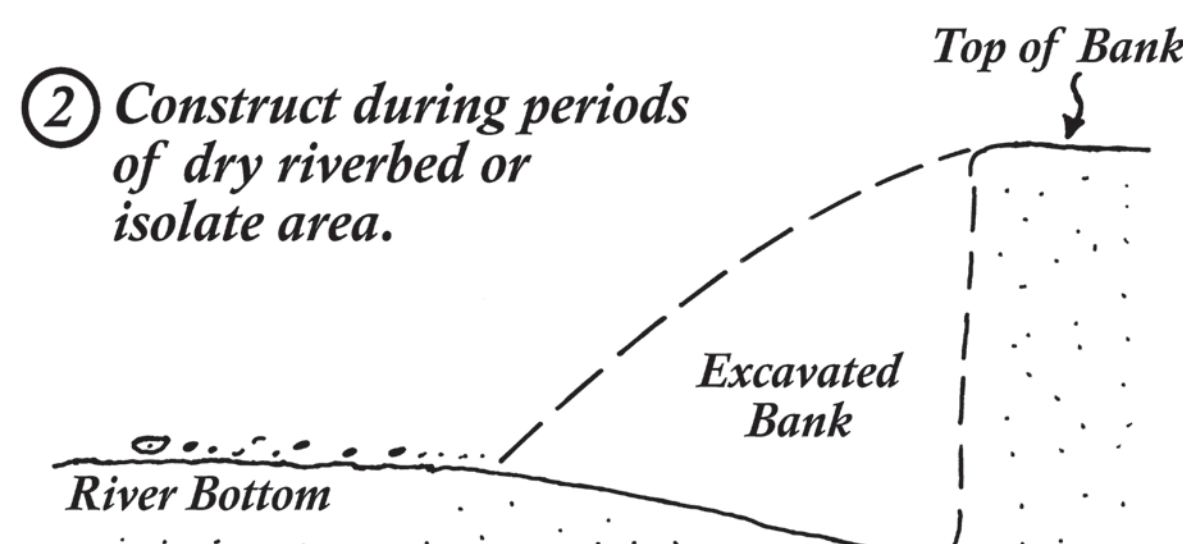
Living Shorelines

Root Wads Step-by-Step

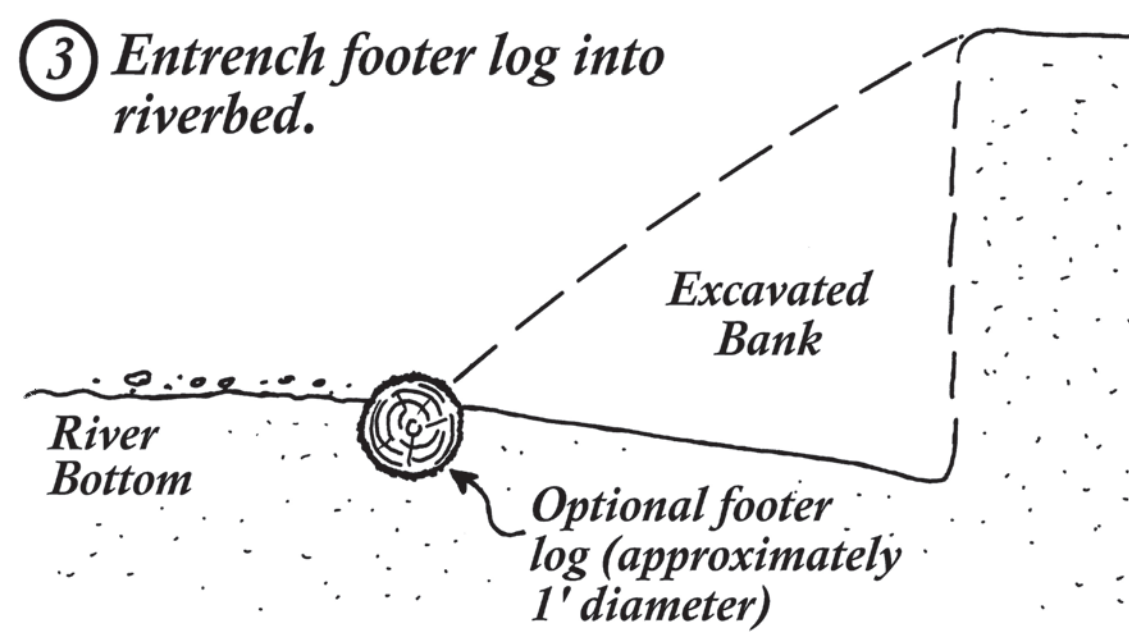
①



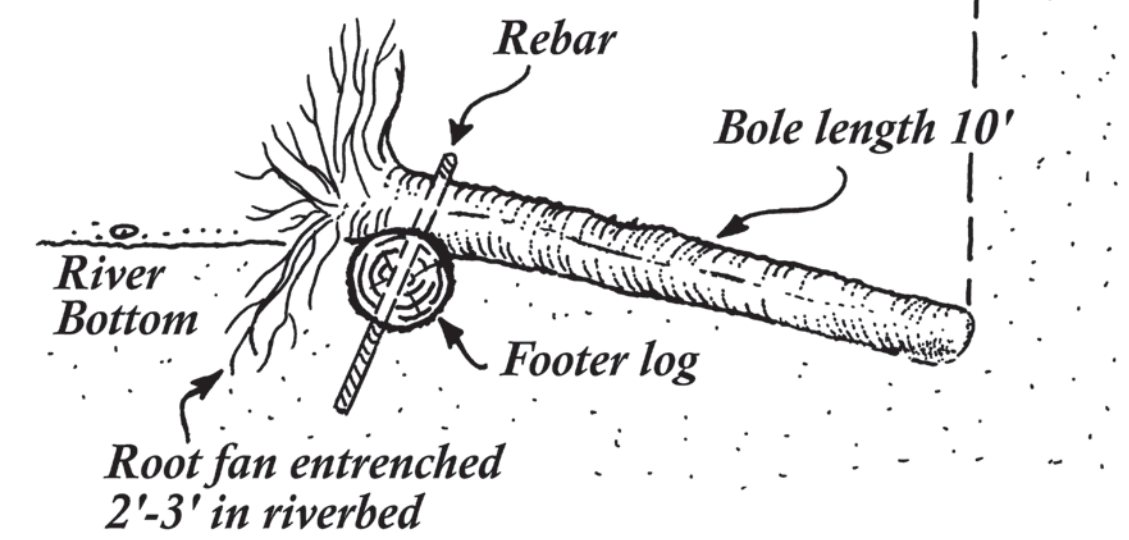
② Construct during periods of dry riverbed or isolate area.



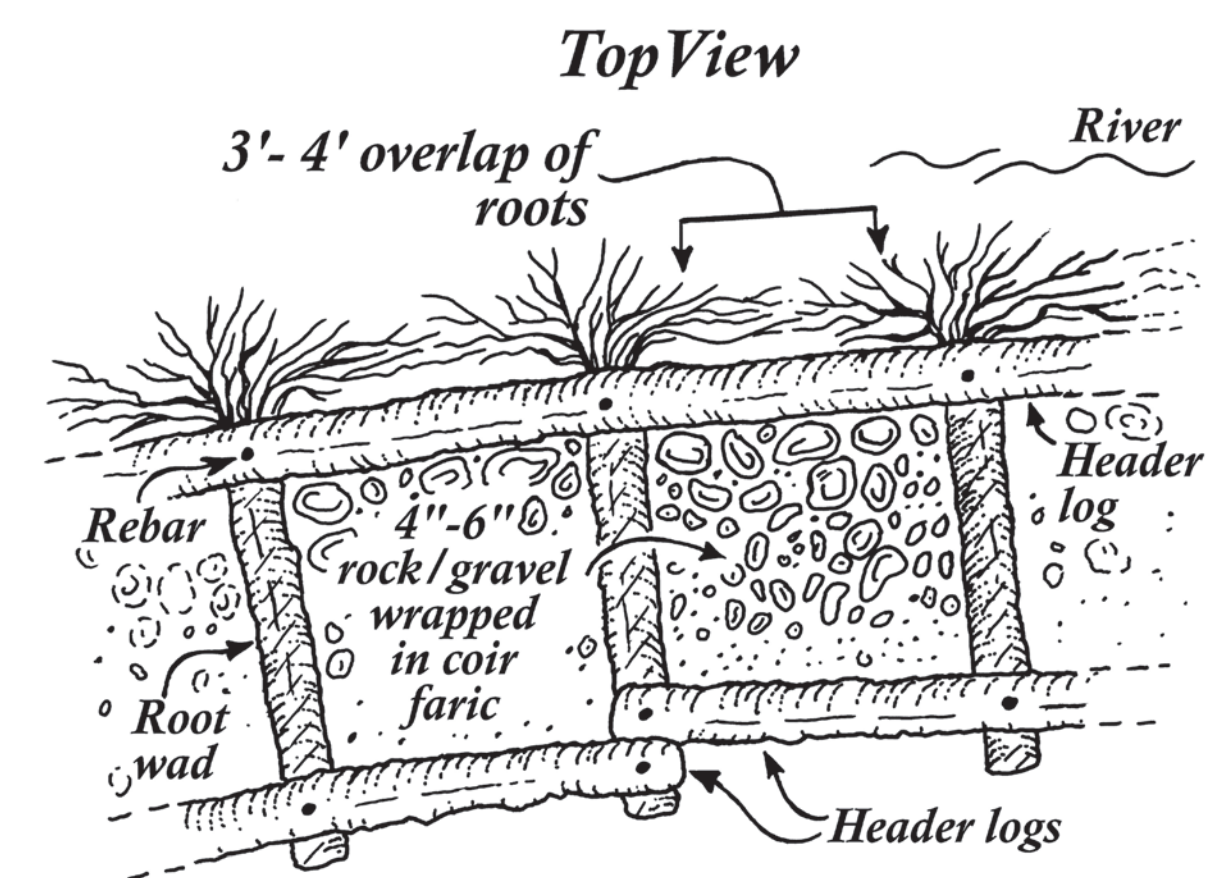
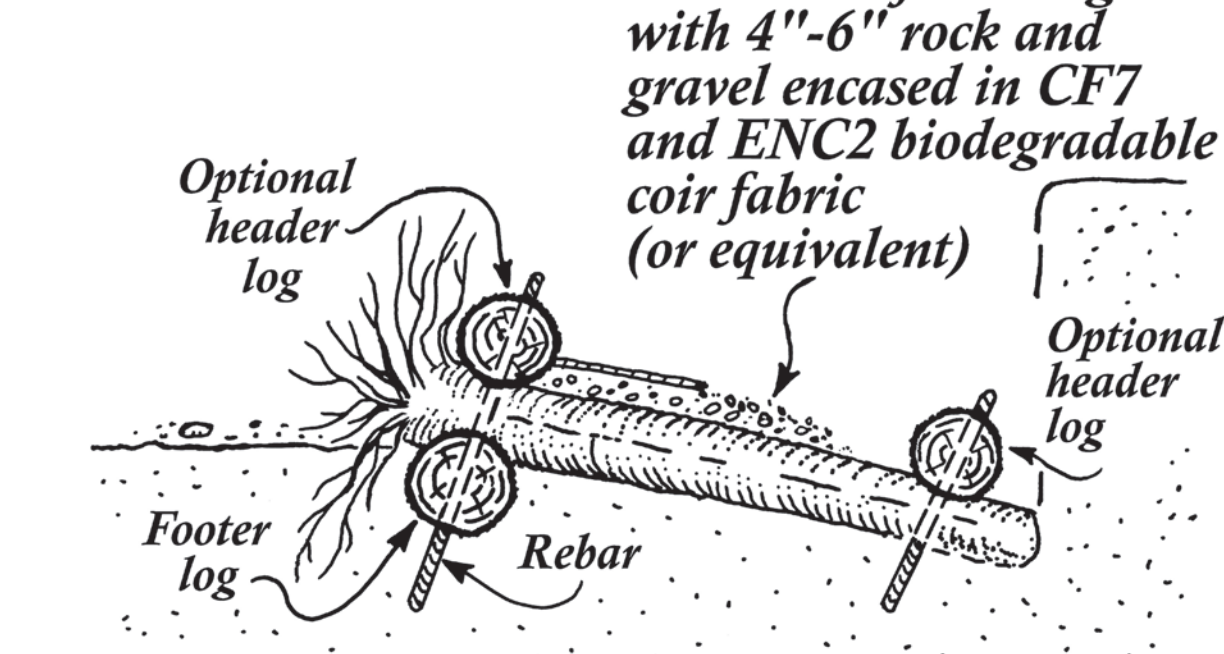
③ Entrench footer log into riverbed.



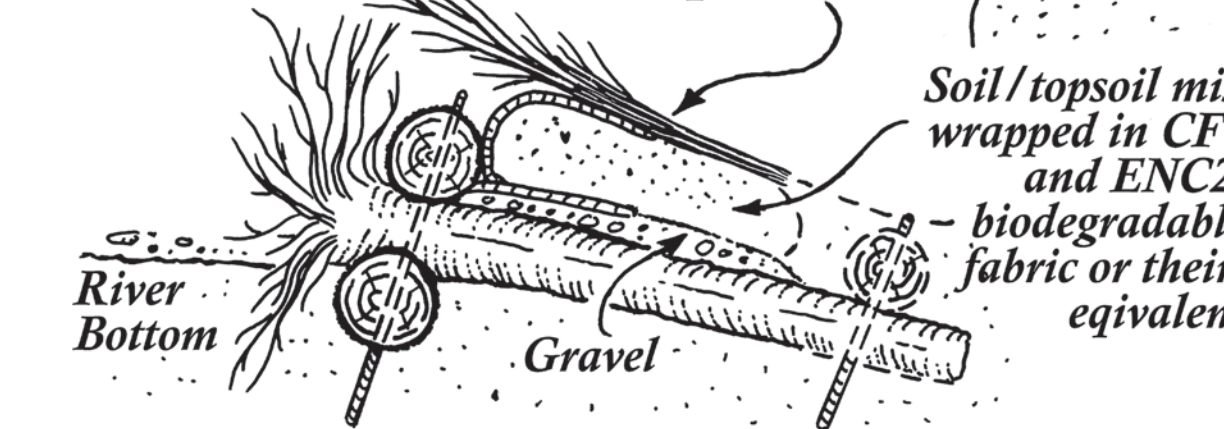
④ Place root wad; drill through root wad trunk and footer log and pin in place to footer log with rebar.



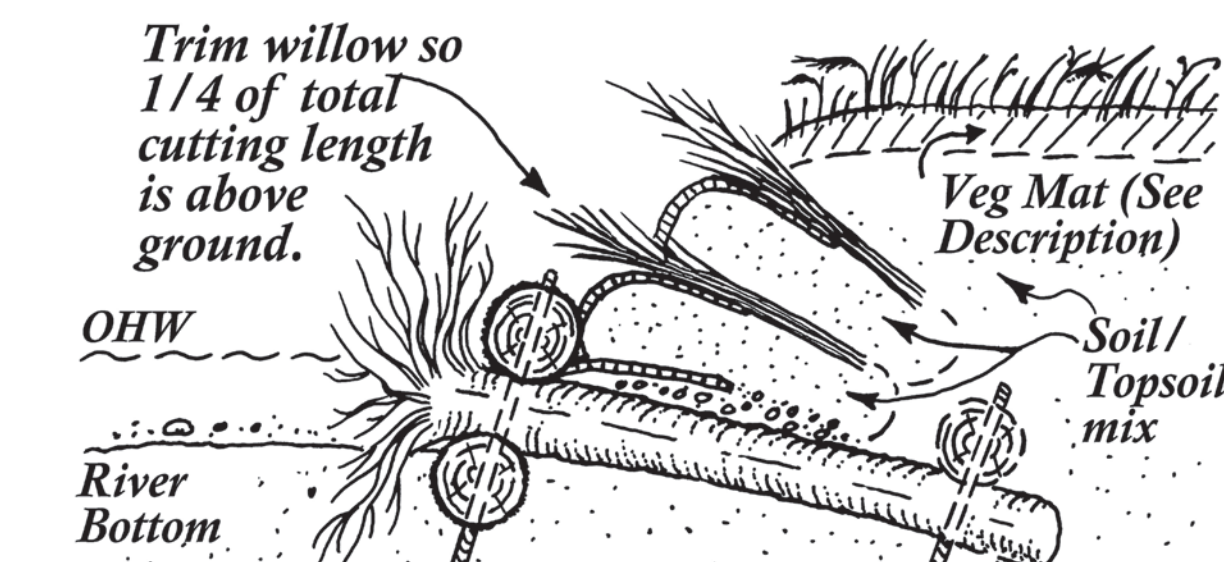
⑤ Pin root wad trunks to header and footer log with rebar. Fill behind footer log with 4"-6" rock and gravel encased in CF7 and ENC2 biodegradable coir fabric (or equivalent)



⑥ Install dormant cuttings 15 stems per linear foot over wrapped soil. Deposit layer of top soil over cuttings. Water liberally and compress soil.



⑦ Repeat step 6 until desired height of bank is reached. Trim willow so 1/4 of total cutting length is above ground.

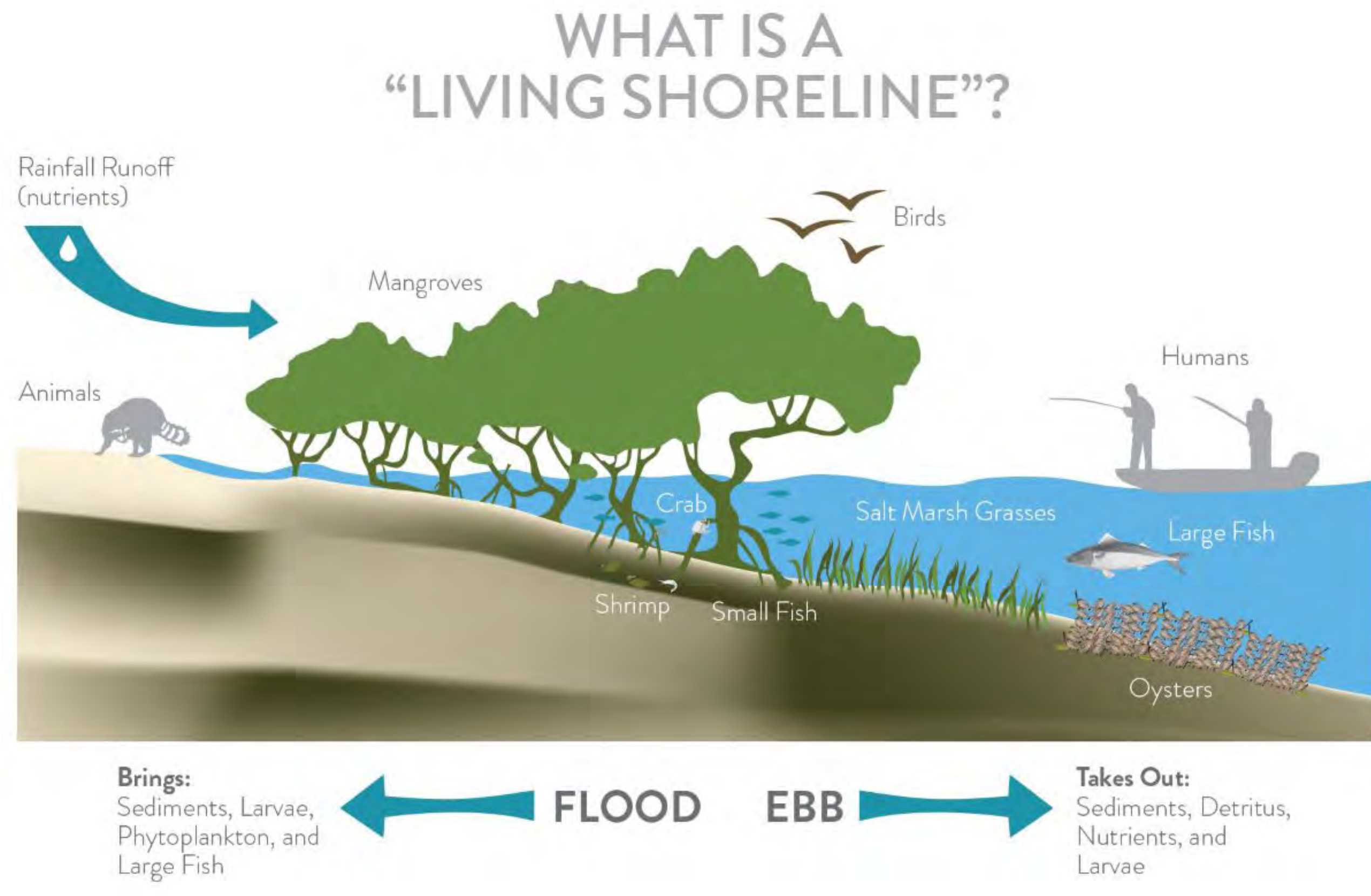


LIVING SHORELINES SUPPORT RESILIENT COMMUNITIES

Living shorelines use plants or other natural elements—sometimes in combination with harder shoreline structures—to stabilize estuarine coasts, bays, and tributaries.

- One square mile** of salt marsh stores the carbon equivalent of **76,000 gal of gas** annually.
- Marshes trap sediments from tidal waters, allowing them to **grow in elevation** as sea level rises.
- Living shorelines improve **water quality**, provide fisheries **habitat**, increase **biodiversity**, and promote **recreation**.
- Marshes and oyster reefs act as natural **barriers** to waves. **15 ft** of marsh can **absorb 50%** of incoming wave energy.
- Living shorelines are **more resilient** against storms than bulkheads.
- 33%** of shorelines in the U.S. will be **hardened** by **2100**, decreasing fisheries habitat and biodiversity.
- Hard shoreline structures like **bulkheads** prevent natural marsh migration and may create seaward **erosion**.

The National Centers for Coastal Ocean Science | coastalscience.noaa.gov



COASTAL COMMUNITIES GRANT

Living Shorelines



SITE MASTER PLAN Town of Bowdoinham, ME

CPC Meeting | February 12, 2019

Richardson & Associates,
Landscape Architects

Baker Design Consultants,
Civil, Marine, and Structural Engineering