

September, 2011

City of Rockland, Maine

## Harbor Trail Master Plan



**WRIGHT-PIERCE**   
Engineering a Better Environment

Land Use  
Planning and  
Development



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### Acknowledgements

Funding for this plan was provided by Wright-Pierce Engineers, 99 Main Street, Topsham, Maine.

The plan was field researched, developed and compiled and prepared by Jennifer Claster, Landscape Architect, Wright-Pierce Engineers, Topsham, Maine.

Rodney Lynch, AICP, former Rockland Community Development Director, represented the City during the plan development stage in 2010-2011 and assisted in the preparation and editing of the plan, especially in regards to plan implementation and financing.

The plan was reviewed by the Rockland Main Street Inc. Design Committee and the Rockland Harbor Trail Committee.

The plan was adopted by the Rockland City Council on\_\_\_\_\_.



# 2011 City of Rockland Harbor Trail Master Plan

## Executive Summary

### Project Background

In 1991 an international conservation exchange study first raised the idea of constructing a Harbor Trail in Rockland. The citizen-led Rockland Harbor Trail Coalition subsequently obtained grants to develop a vision for the trail, create trail markers, and begin construction.

In 2000, the development of the Harbor Trail as a bicycle and pedestrian facility was adopted by City Council as one of its goals for Fiscal Year 2001, and the Ad Hoc Cross-Town Bicycle Path Committee was formed. The committee completed a Mini-Bike Pathway Planning Study in 2003, which was adopted in concept in 2009, pending its update.

The Rockland Downtown Revitalization Update/Tillson District and Waterfront Redevelopment Plan of 2005, as well as the 2010 updates, built on previous efforts in their recommendations for the trail, now envisioned as a pedestrian facility.

A Harbor Trail Master Plan that synthesizes prior planning and implementation efforts into one comprehensive document was begun in the fall of 2010 and completed in the fall of 2011.

### Project Goals

The Harbor Trail will be an unbroken 5 mile-long pedestrian route connecting Snow Marine Park to Sis Reed Park and the Breakwater pathway. It will provide public access to views of Rockland Harbor, and complement ongoing efforts to revitalize Rockland's downtown, while utilizing public land and infrastructure to the greatest degree possible.

### Completed and Ongoing Sections

Completed: **A** Sandy Beach – 2009 **B** Harbor Walk – 2001 **C** WWTF/Lermond Cove – 2009  
**D** Main Street Sidewalks – 2008-2012 **E** Ferry Terminal Sidewalk – 2007  
**F** Front and Camden Street Sidewalks – 2008-2010 **G** Breakwater Pathway

Ongoing:

- H** Atlantic and Mechanic Streets  
*\$10,000 grant awarded for survey*
- I** Harbor Park  
*design underway*
- J** Thorndike Parking Area  
*CFMF grant awarded for implementation; preliminary design completed*



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## Design Recommendations

Along its approximately 5 miles of length, the Harbor Trail already takes the form of an asphalt sidewalk, a paver sidewalk, a paver pathway, a concrete pathway, and a wooden boardwalk. Its numerous twists and turns, designed to follow the shoreline and take advantage of existing infrastructure, could result in frustration to new users. Maintaining a consistent style and application of path

surfacing materials, site amenities, and signage along the full length of the Harbor Trail will be crucial to the trail's cohesiveness, will strengthen its identity, and will serve as an essential aid to wayfinding. The plan includes typical design sections for four types of trail construction, design details and costs for four types of path surfacing, and proposes two palettes of site amenities to be



used in downtown and park areas. It includes samples of wayfinding, directional, and interpretive signage. It also breaks the uncompleted portions of the trail into 15 sections, with recommendations for construction, signage, and cost estimates for each.

## Land Acquisition and Easements

Although the Harbor Trail primarily follows the public right-of-way, in some locations an additional route traversing private land has been proposed where an opportunity may exist to gain further visual and physical proximity to the Harbor. At this time, those sections of the Harbor Trail crossing private land are speculative, since permission to construct the trail has not been granted by landowners. Where such sections have been proposed, further action will need to be taken in the future to acquire privately held land or easements from individual property owners.

## Funding and Prioritization

Estimates of total costs to complete the Harbor Trail range from \$1,795,000 to \$2,860,00, taking into account that some trail sections have been designed with a range of possible construction techniques for increased flexibility. Estimates do not include the cost of land and easement acquisition. The Master Plan recommends prioritizing trail implementation around those sections that have been recently completed or are ongoing, near the trail's southern end. Funding has already been obtained for preliminary or final design and construction of several portions of the trail that are considered to be ongoing. Potential funding sources for future phases of trail completion are identified in the Master Plan. If the City's recent application for technical assistance from the National Park Service's Rivers, Trails, and Conservation Assistance Program is successful, that assistance will help to provide the continuity needed to complete the trail over the next decade.

### Section 1 - Background

#### History

The idea of constructing a Harbor Trail in Rockland was first raised by an international conservation exchange study of the Penobscot Bay region in 1991. At the time, it was felt that a waterfront trail would improve the quality of life in Rockland, increase public access to views of the harbor, and potentially increase involvement in the care and stewardship of this community resource. Following the study, a citizens' group called the Rockland Harbor Trail Coalition worked for three and a half years to obtain an \$80,000 U.S. Department of Transportation Intermodal Surface Transportation Efficiency Act (ISTEA) grant for trail construction, two year-long grants from the U.S. National Park Service for technical assistance, and a lease from the Maine Department of Transportation (MaineDOT) to build a portion of the trail within the Atlantic Spur railroad right-of-way in the City's South End. The Coalition produced a vision map for the trail, developed ideas for signage and trail design, and raised \$20,000 in matching funds for the ISTEA grant. The City purchased trail marker signs in 1993, but in 1995, the idea of a Harbor Trail was set aside, to be resurrected at a later time.

The concept again gained traction in 2000, when the Rockland City Council adopted developing a Harbor Trail as a bicycle and pedestrian pathway as one of its goals for Fiscal Year 2001 (July 1, 2000 to June 30, 2001). Subsequently, an Ad Hoc Cross-town Bicycle Path Committee was formed on August 14, 2000, comprised of seven private citizens and a City Councilor, and with the Community Development Director and the Police Chief as ex-officio members. After an unsuccessful attempt to obtain a planning grant from MaineDOT for the purpose of studying a city-wide bicycle and pedestrian network, the City embarked on a more modest Mini-Bike Pathway Planning Study, which was completed in June 2003. This study, prepared by the volunteers on the Rockland Bicycle Path Committee, the Rockland Community Development Department and the Midcoast Regional Planning Commission, breathed new life into the Harbor Trail concept, and was adopted in concept as an interim plan on December 14, 2009, pending its update. It recommended:

- Continuing to pursue the creation of an unbroken pedestrian trail between Snow Marine Park, located on the waterfront in the South End on Mechanic Street, and the Breakwater Lighthouse, located at the end of Samoset Avenue at the North End of the harbor, that would, wherever possible, be made accessible to bicycles;
- Using the "land slide" property belonging to the City on Samoset Road as an open, passive use area and destination along the Harbor Trail;
- Improving an existing trail on the city-owned Sandy Beach property, and constructing a short (approximately 90 foot) trail connection to Sandy Beach on the adjacent Dragon Cement property;
- Connecting to the existing MBNA Harbor Walk (now Boston Financial), with new pathways extending toward Snow Marine Park to the south and along the public landing and Harbor Park to the north;
- Placing Harbor Trail signage along a sidewalk to be constructed between the Ferry Terminal and Atlantic Challenge on Main Street; and
- Placing East Coast Greenway signs along Main Street between Owl's Head and Rockport.

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Aspects of the Mini-Bike Study that have been implemented include the 2009 construction of a pathway along Sandy Beach and the 2007 construction of new asphalt treated sidewalks on Main Street between the Ferry Terminal and Atlantic Challenge. In 2003, through the efforts of the City's Harbor Master's Office and the Public Works Department, five interpretive signs were installed along the Harbor Trail using private funds.

The city-commissioned Rockland Downtown Revitalization Update/Tillson District and Waterfront Redevelopment Plan (Kent Associates, 2005) included several recommendations with respect to the

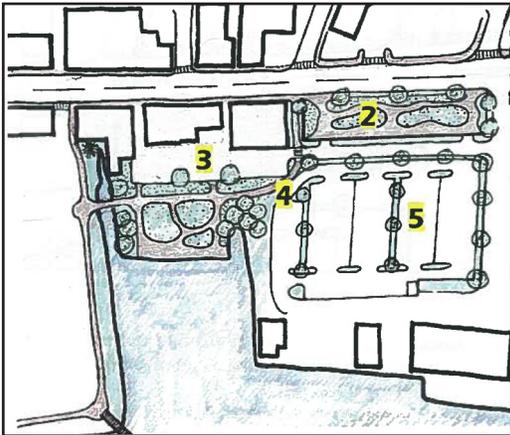


Figure 1-1 Proposed improvements at Lerman Cove. (Source: 2005 Rockland Downtown Revitalization Update)

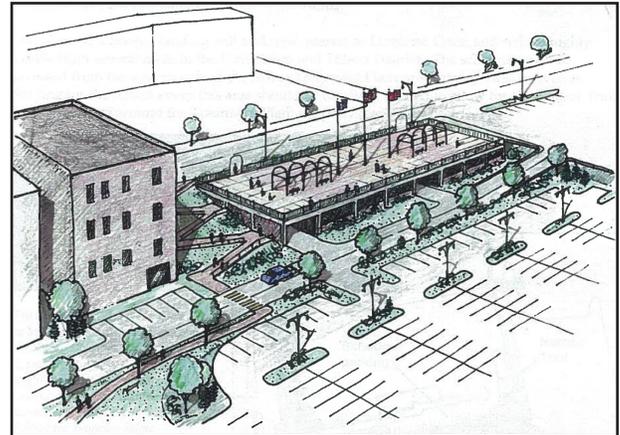


Figure 1-2 Proposed improvements at the Ferry Terminal parking lot, showing a trail connection to Main Street. (Source: 2005 Rockland Downtown Revitalization Update)

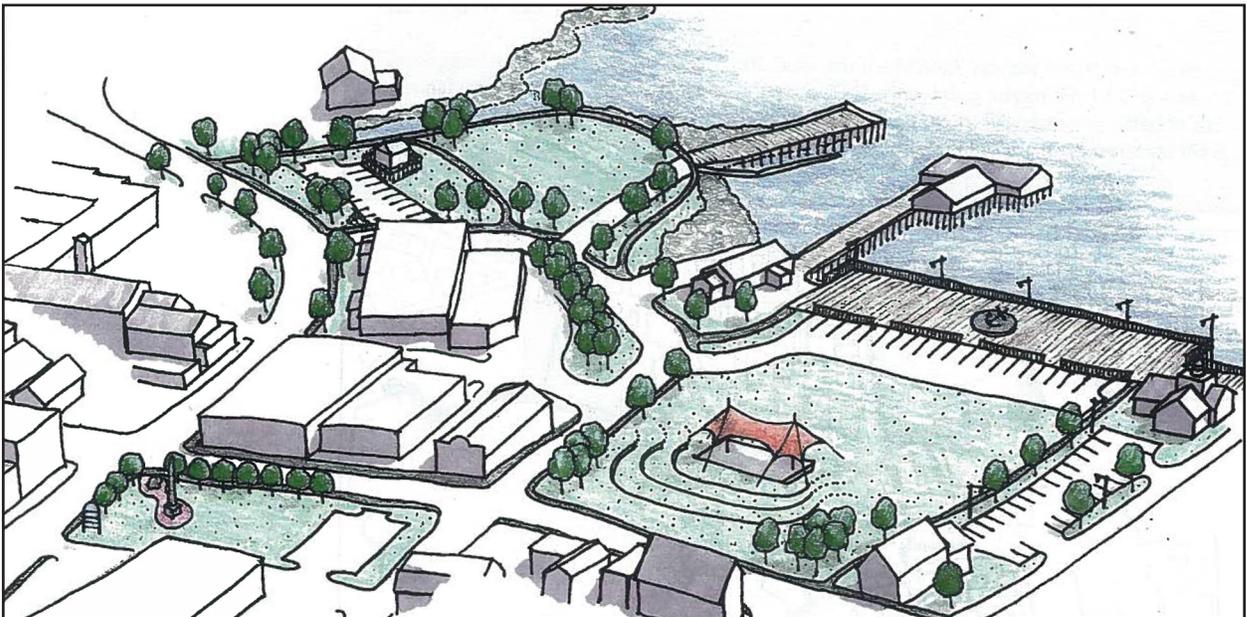


Figure 1-3 Proposed improvements to Harbor and Buoy Parks, with a new boardwalk and trail connections. (Source: 2005 Tillson District & Waterfront Redevelopment Plan)

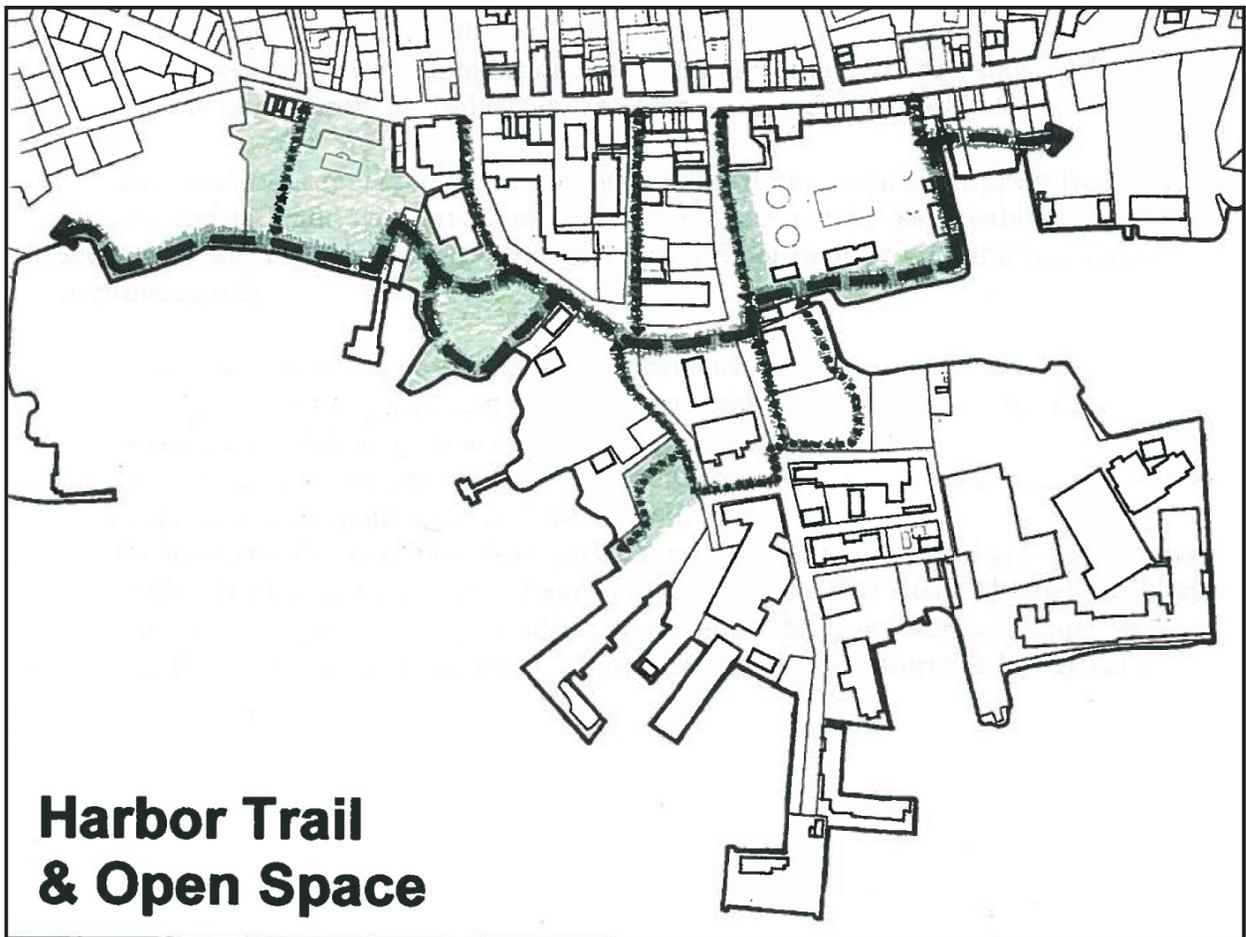


Figure 1- 4 Proposed Harbor Trail connection through the Tillson Avenue District, shown as a bold, dashed line. (Source: 2005 Tillson District & Waterfront Redevelopment Plan)

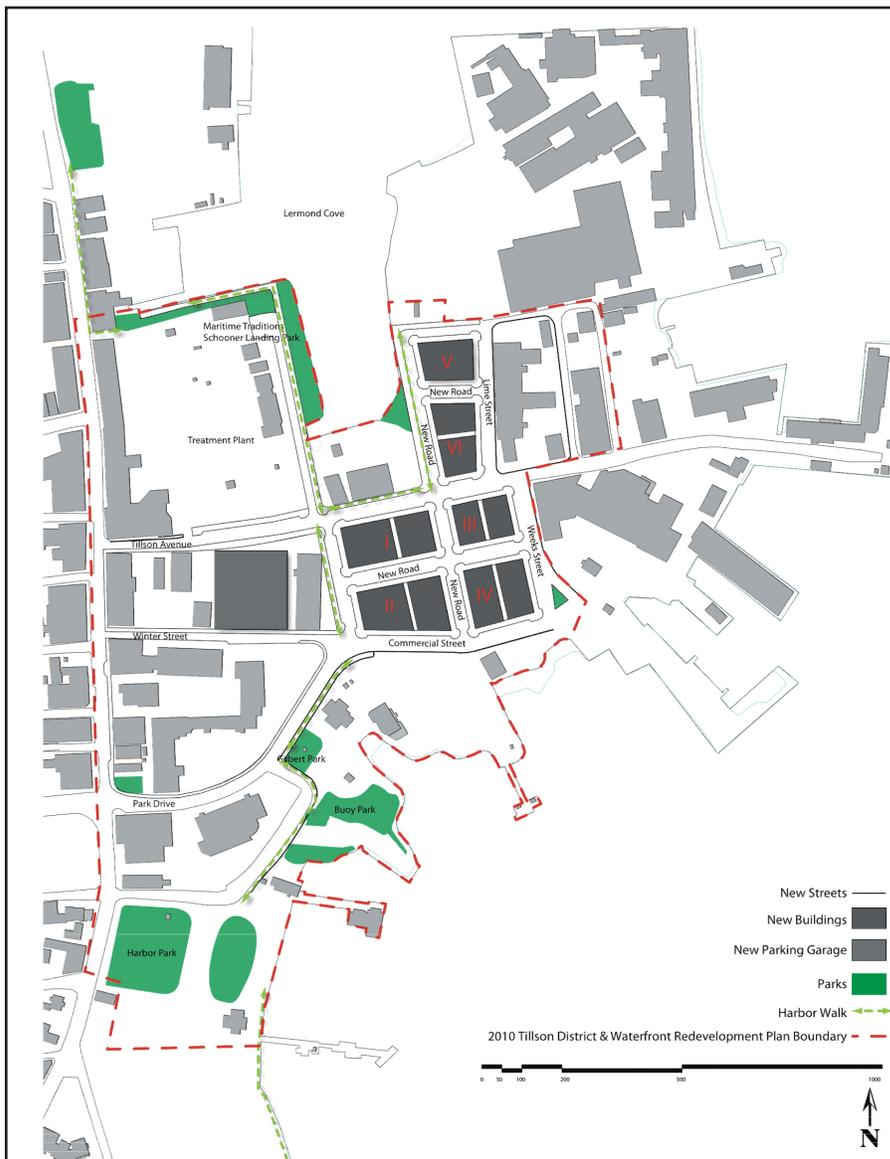
Harbor Trail, including:

- Installing a pedestrian bridge to extend the Harbor Trail from the Wastewater Treatment Facility over the outlet of Lindsey Brook to the Ferry Terminal, and continuing from there to Main Street (Figures 1-1 and 1-2);
- Improving Main Street's sidewalks; and
- Extending new sidewalks along the east side of Park Drive between the Chamber of Commerce and Tillson Avenue, and also along one or both sides of Commercial Street, possibly creating a Harbor Trail link along Commercial Street to the Public Fish Pier.

A diagram of the proposed Harbor Trail route from MBNA/Boston Financial to the Ferry Terminal, taken from the 2005 plan, is shown in Figure 1-3. Figure 1-4 illustrates the proposed trail's route through a renovated Harbor and Buoy Park. The proposed Harbor Trail route follows the bold dashed line.

In 2009, the City hired Woodard & Curran of Portland, Maine, and Planner Mitchell Rasor of Yarmouth, Maine to work with Rockland Community Development Director Rodney Lynch, AICP

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**Figure 1-5 Proposed Harbor Trail connection through the Tillson Avenue District, shown as a green dashed line. (Source: Waterfront Area Redevelopment Plan, March, 2011)**

on the 2009 updating of the 2005 Rockland Tillson Avenue District and Waterfront Redevelopment Plan and Rockland Downtown Revitalization Update. Their preliminary recommendations for the Harbor Trail included:

- Completing the trail from Mechanic Street to the intersection of Rankin and Main Streets;
- Using publicly owned property and sidewalks wherever possible;
- Using a surface treatment of brick pavers, duratherm pavement markings, plain asphalt, or striped asphalt; and
- Using the alleyway (Glover's Passage) between 449 Main Street and 453 Main Street to connect the trail from the Wastewater Treatment Plant to Main Street, then continuing the trail along the east side of Main Street to Rankin Street with an alternate route behind Main Street requiring private easements to cross Lindsey Brook to the Bicknell Block parking area and connecting to the Ferry Terminal parcel.

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The Waterfront Area Redevelopment Plan (March, 2011) endorsed the 2005 Plan's ideas for improving Harbor Park and Buoy Park, and reinforced the idea of following Park Drive between the Chamber of Commerce and Tillson Avenue (see Figure 1-5) . Based on the Plan's recommendations, publicly owned sidewalks have been integrated into the trail system, and brick pavers and asphalt have been used for trail surfacing.

In late 2010, Wright-Pierce began working with Community Development Director Rodney Lynch, AICP, to develop a comprehensive Harbor Trail Master Plan that synthesized prior planning and implementation efforts into a single document charting the trail's future. By evaluating site conditions, refining the trail's proposed route, and developing design standards for each unfinished segment of the trail, it has been possible to develop cost estimates and trail completion strategies that can be used in preparing applications for identified potential sources of local, state, and federal funding. It is anticipated that this document will move the trail's completion one step closer to realization.

### Completed and Ongoing Links



Figure 1-6 Completed Harbor Trail links.

Several sidewalk and pathway projects, comprising sections of the Harbor Trail, were completed or begun in the first decade of the 21st Century:

- A** In 2009, a 690 foot long concrete unit paver pathway was constructed by the City at Sandy Beach. It was paid for with \$82,000 in funding from a 2008 Municipal Investment Trust

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## 2011 City of Rockland Harbor Trail Master Plan

grant, and an \$82,000 private donation from the new owners of the former MBNA building. In order to connect the pathway to Atlantic Street, and eventually Snow Marine Park in the South End, the City purchased an adjacent .61 acre parcel of land from Dragon Cement Company in 2009 for \$100,000 using available funds from the City's Land Sales account. This allowed the City to continue the pathway to a terminus at Atlantic Street.

- B** MBNA constructed a 1,385 foot boardwalk and concrete walkway at what is now known as the Harbor Walk at the Boston Financial Building in 2001.
- C** In 2009, the Harbor Trail was extended around the Wastewater Treatment Facility parcel, in the form of a concrete unit paver walkway and gravel path with landscaping, a picnic area, and a connection to the landing at Lermond Cove with its working fleet of historic schooners.
- D** From 2008-2012, the City constructed sidewalk improvements along the segment of Main Street between Limerock Street, Rankin Street, and North Main Street. When completed, the sidewalks on the east side of Main Street from Glover's Passage to Rankin Street and North Main Street will be integrated into the Harbor Trail System via the brick paver inlays along the alleyway by 449 Main Street, then across the northerly end of the Thorndike Parking Lot, connecting with the treatment plant segment of the trail.
- E** In the Spring of 2007, the City completed a 1,500 foot length of asphalt sidewalk between the Ferry Terminal and Atlantic Challenge.
- F** The City built asphalt sidewalks along Front and Camden Streets in the fall of 2008 with the placement of a final surface coating completed in the Fall of 2010.
- G** A stone dust trail was installed at the Breakwater pathway leading to the Rockland Lighthouse.
- H** Dragon Cement reportedly has made a verbal commitment to the City to donate a 950 foot easement along their property on the east side Atlantic Street for the extension of the Harbor Trail. This donation is contingent on the completion of a survey by the City which will confirm the location of the Street right-of-way and the Dragon property line. After this segment is constructed, the City expects to construct the final segment in the South End along the remainder of Atlantic Street onto Mechanic Street, terminating at Snow Marine Park. This last segment in the South End will be approximately 860 feet in length.
- I** Another future project will be the construction of a boardwalk along Harbor Park, similar to the wooden boardwalk installed by MBNA (now Boston Financial). A proposal for the boardwalk has been put forth by the Harbor Park Re-Design Committee and is now in the design stage.
- J** The preliminary engineering design work and cost estimating has been completed on improvements to sidewalks behind Main Street within the Thorndike Parking Area adjacent to the Wastewater Treatment Facility. The concrete unit paver sidewalks, which will use the same materials and construction as those recently installed on Main Street, will provide a handicapped accessible route between the Tillson District and Main Street sections of the Harbor Trail, bypassing the stairway at the Wastewater Treatment Facility.

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### Section 2 - Design Solutions

#### Overview

The following pages outline specific recommendations for completing the Harbor Trail in fifteen sections, defined by location and treatment. For each section, the length and type of trail construction, an opinion of probable cost, and a discussion of opportunities and constraints is provided, along with photographs illustrating existing conditions.

The following considerations apply to the trail as a whole. Where different conditions are present, these will be addressed in the discussion of the respective trail section.

- **Consistency** - Because the trail sections that have been installed were built by different owners at different points in time, and for different reasons, they display a variety of surface materials and widths. In concert with a comprehensive signage strategy (described in Section 4), using a limited palette of construction types that repeats materials presently found on the trail will help to tie the trail together into a coherent whole as future sections are completed.
- **Lighting** - The plan proposes lighting the trail only in Rockland's downtown district. See Section 4 for more information regarding the proposed fixtures.
- **Site furnishings**, such as benches, bike racks, and trash receptacles are recommended at key trailhead locations and overlooks. These should be consistent with furnishings already present or proposed for the downtown and parks. See Section 4 for recommended site furnishings.
- **Public rest rooms** will be located in the Thorndike parking area at the downtown heart of the trail, and are being constructed as part of an upgrade to the Wastewater Treatment Facility.
- **Road and rail crossings** should utilize ADA compliant access ramps and detectable warning devices. Crosswalks should comply with MUTCD Standards.
- **Safety** - The four main points of Crime Prevention Through Environmental Design (CPTED) are Natural Surveillance, Natural Access Control, Territoriality, and Maintenance. Properly applying these four concepts in a situation-specific manner can help to reduce fear and the incidence of crime in public parks, open spaces, and on trails. By designing trails that are visible from other locations, that encourage regular use, that clearly indicate where people are intended to walk, that respond to the community's wants and needs, and that are easy and practical to maintain, it should be possible to increase users' perception of safety and discourage undesirable behavior. Decisions ranging from the selection of the trail's route to the design of a low-maintenance trail section have been made with the intention of creating an attractive public amenity that encourages positive behaviors.
- **Cost** - Preliminary planning level cost estimates were developed for each section of the trail. The total length of trail is approximately 5 miles, with a length remaining to be completed of approximately 16,300 linear feet (3 miles). The total cost to complete the trail, including signage and trailhead improvements, but excluding the cost of land and easement acquisition, ranges from \$1,795,000 to \$2,860,000. Funding is anticipated to come primarily from grants and private donations.
- **Right-of-Way** - The proposed alignment of the Harbor Trail Master Plan was based on GIS level

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parcel data provided by the City of Rockland. In areas where the proposed trail is intended to be constructed within the street right-of-way, boundary surveys will need to be conducted to determine the exact location of the right-of-way as it relates to properties adjacent to any proposed work. This is important because the available data may not accurately represent the amount of land available within the right of way. This level of survey has already been proposed for the Atlantic Street portion of the trail, and should also be conducted along Mechanic Street, Main Street, Washington Street, and Waldo Avenue, prior to preliminary trail design. Where work is proposed in the Tillson Avenue District (along Park Drive, Commercial Street and Weeks Street), the short term solution presented in this plan, which is proposed as an interim solution preceding the District's full build-out as envisioned in the 2010 Tillson Avenue District and Waterfront Redevelopment Plan, is not anticipated to require a boundary survey.

- **Land Acquisition and Easements** - Although the Harbor Trail primarily follows the public right-of-way from Snow Marine Park to Sis Reed Park and the Breakwater, in some locations an additional route traversing private land has been proposed where an opportunity may exist to gain further visual and physical proximity to the Harbor. At this time, those sections of the Harbor Trail crossing private land are speculative, since permission to construct the trail has not been granted by landowners. Where such sections have been proposed, further action will need to be taken in the future to acquire privately held land or easements from individual property owners.
- **Intended Users** - The Harbor Trail is a pedestrian trail. Trails have not been designed for use by bicyclists.

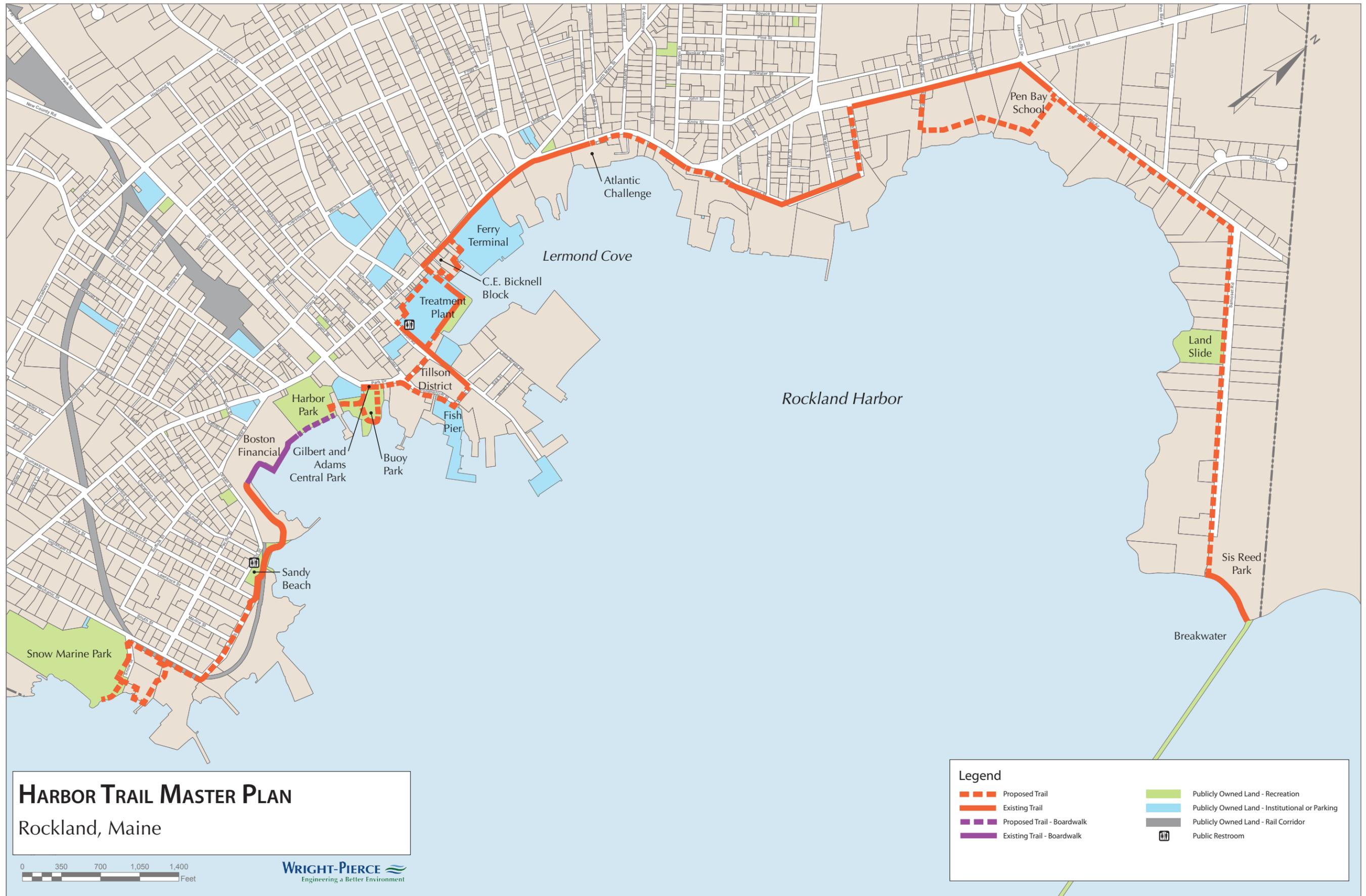
Strategies for funding and implementing the trail's construction are included in Section 6.



*Pedestrians enjoying the Sandy Beach trail.*



*The completed Harbor Trail at the Waste Water Treatment Facility. The Schooners at the Landing are visible in the background.*





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### Trail Type 1: A Standalone Trail

Where the trail does not need to follow a roadway, as in areas of Snow Marine Park, Buoy Park, Lermond Cove, and between Fales Street and Waldo Avenue, the following design standards are recommended:

**Surface Material:** Stone dust or concrete unit pavers

**Minimum Distance to Adjacent Paving (Roadway, Parking, Access Drive):** 8'-0"

**Trail Width:** 6'-0"

**Lateral Clearance:** 2'-0" minimum to any object beyond the trail edge. Special clearances may exist on a case-by-case basis where trail is close to water, steep slopes, the railroad, and places where barriers are not feasible or desired.

**Height Clearance:** 10'-0" from finished grade

**Longitudinal Slope:** 5% maximum

**Cross Slope:** 2%

**Curbing:** N/A

**Preliminary Cost per LF:** \$30-\$100/LF, depending on surface



Typical Standalone Trail Section  
Not to Scale

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### Trail Type 2: Curbed Trail Adjacent to Roadway

Where the trail follows a busy roadway, or connects existing sidewalks, as is the case along Mechanic Street, Atlantic Street, Main Street, Washington Street, Waldo Avenue, and the Thorndike Parking Area, the following design standards are recommended:

**Surface Material:** Asphalt or Unit Pavers (Thorndike Only)

**Minimum Distance to Adjacent Paving (Roadway, Parking, Access Drive):** 0'-0"

**Trail Width:** 6'-0"

**Lateral Clearance:** 2'-0" minimum to any objects beyond the trail edge, except sign posts and utility poles. Special clearances may exist on a case-by-case basis where trail is close to water, steep slopes, the railroad, and places where barriers are not feasible or desired.

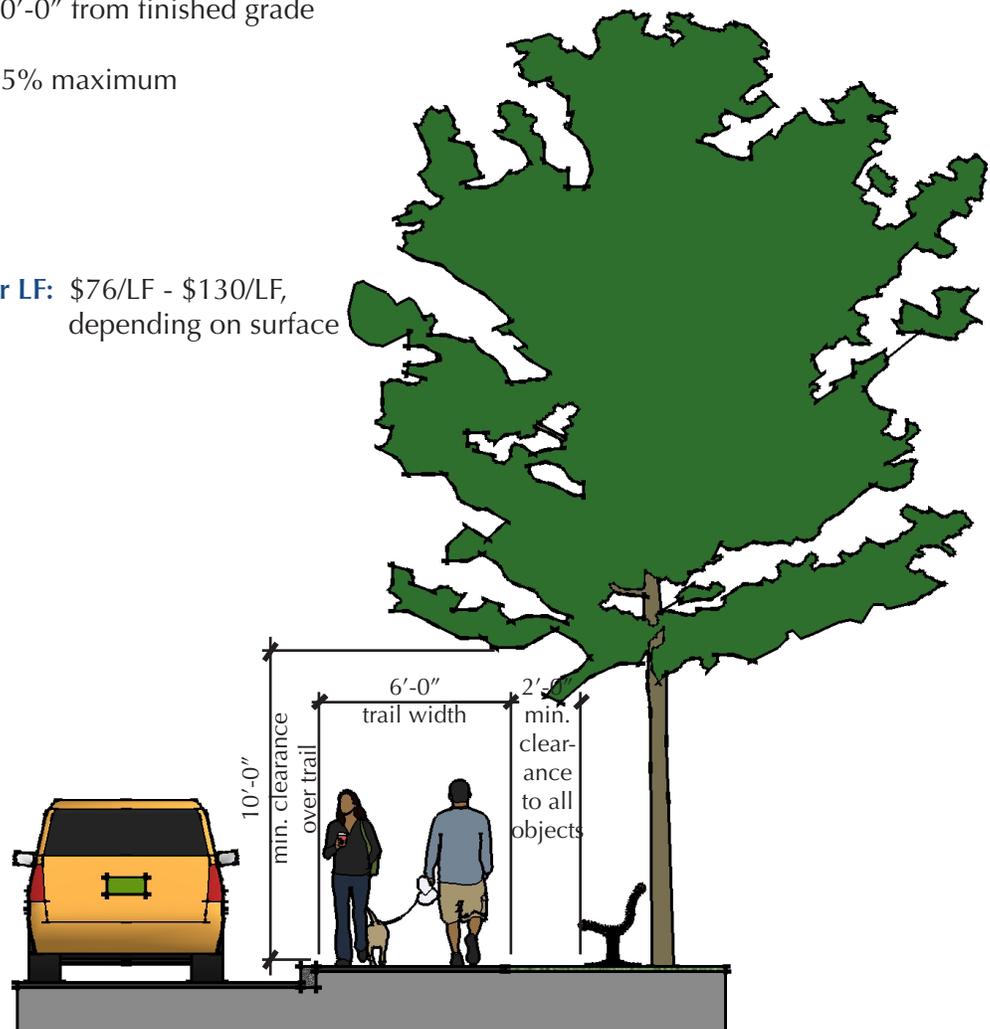
**Height Clearance:** 10'-0" from finished grade

**Longitudinal Slope:** 5% maximum

**Cross Slope:** 2%

**Curbing:** Granite

**Preliminary Cost per LF:** \$76/LF - \$130/LF, depending on surface



Typical Curbed Trail Section  
Not to Scale

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### Trail Type 3: Uncurbed Trail Adjacent to Low Volume Roadway or Access Drive

Where the trail follows a low volume roadway or access drive, as exemplified at Rockland Marine, areas of Buoy Park, areas of Snow Marine Park, within the Tillson District, and along Samoset Road, roadside trail blazes will be used to indicate the presence of the trail, and the trail will either share the existing road or shoulder surface, or take the form of a new asphalt or unit paver surface. The following design standards are recommended:

**Surface Material:** existing shoulder or road surface

**Minimum Distance to Adjacent Paving (Roadway, Parking, Access Drive):** A minimum esplanade width of 3'-0" (maximum 8'-0") with a timber guardrail is preferred where sufficient width is available within the existing right-of-way. In some cases, a white stripe will be used to delineate the path on an existing paved surface.

**Trail Width:** 6'-0". Where the roadway or drive is difficult to follow because of frequent interruptions, turns, or excessive width, such as at Buoy and Snow Marine Parks and within the Tillson District, a dashed white paint stripe may be used to indicate the interior edge of the path, at a 6'-0" distance from the outside edge of pavement.

**Lateral Clearance:** N/A

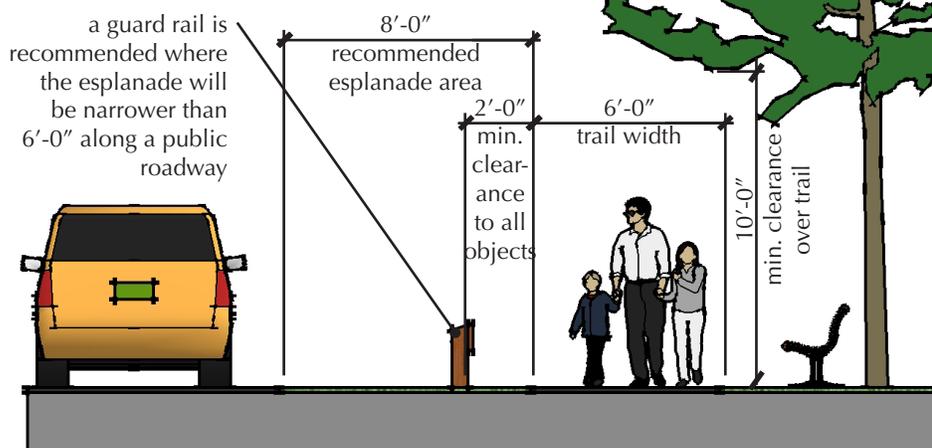
**Height Clearance:** 10'-0" from finished grade

**Longitudinal Slope:** matches adjacent roadway

**Cross Slope:** matches adjacent roadway

**Curbing:** N/A

**Preliminary Cost per LF:** \$40-\$95/LF,  
depending on surface



Typical Uncurbed Trail Section  
Not to Scale

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### Trail Type 4: Boardwalk

At Harbor Park, the following design standards are recommended:

**Surface Material:** Cantilevered Timber Decking

**Minimum Distance to Adjacent Paving (Roadway, Parking, Access Drive):** N/A

**Trail Width:** 8'- 0"

**Lateral Clearance:** N/A

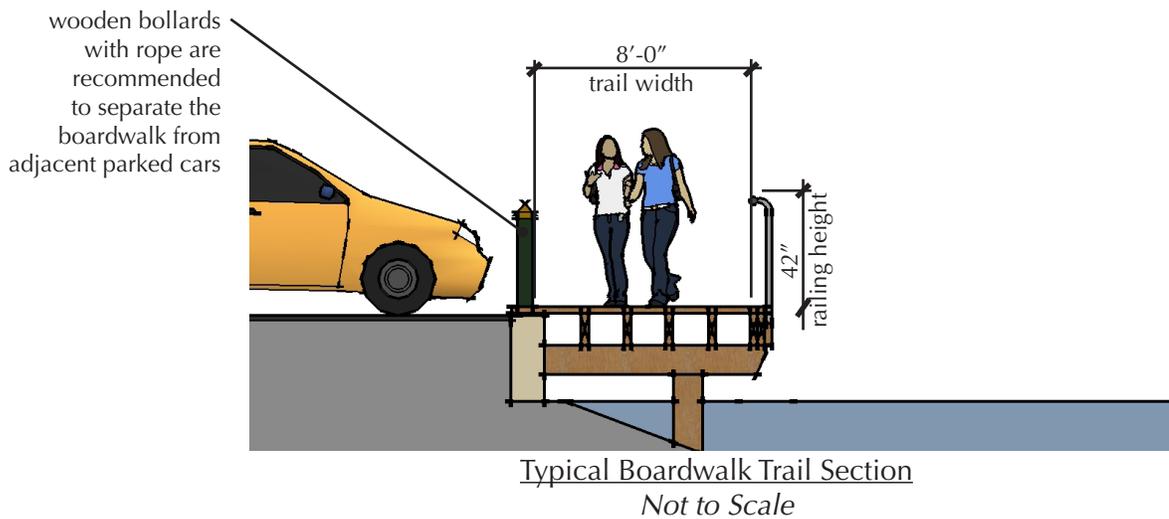
**Height Clearance:** 10'-0" from finished grade

**Longitudinal Slope:** 2%

**Cross Slope:** 2%

**Curbing:** N/A

**Preliminary Cost per LF:** \$600-\$1000/LF





## Snow Marine Park

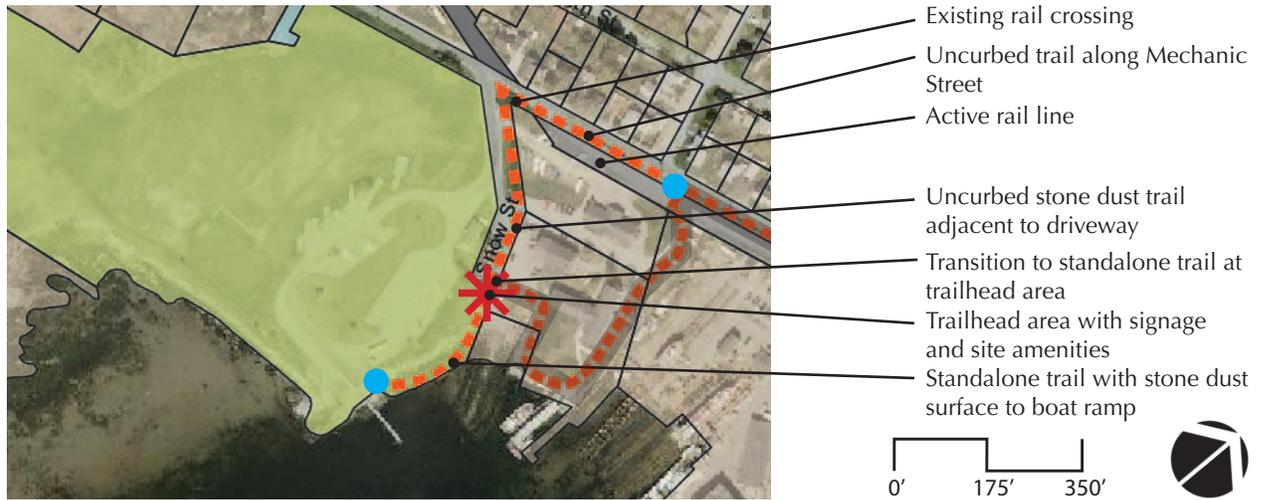


Figure 2-1

### Length

Snow Marine Park Waterfront: 280'

Snow Street: 382'

Mechanic Street: 372'

### Construction Method

Snow Marine Park Waterfront Trail: Standalone trail, stone dust surface

Snow Street Trail: Uncurbed trail, stone dust surface

Mechanic Street Trail: Uncurbed trail, asphalt surface, with guard rail

Stone Dust Trailhead Plaza with Signage and Site Amenities

### Preliminary Cost Estimate

\$71,400

### Priority

Medium

### Discussion of Opportunities and Constraints

- The trail at Rockland Marine and the Sharpe Property (p. 2-18) is the preferred route to the Mechanic Street and Snow Street portions of this trail section. If the new rail crossing and easement required for the Rockland Marine and Sharpe Property trail cannot be obtained, the trail along Snow and Mechanic Streets may serve as an alternate route.
- The existing right-of-way at Snow Street is approximately 50' wide. The existing right-of-way at Mechanic Street is considerably narrower - approximately 35' wide. Both rights-of-way will need to be surveyed prior to preliminary design.
- An uncurbed trail is preferred adjacent to Snow Street, and it seems likely that sufficient space will be available to include an esplanade.

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*Snow Street park access. The primary route for the trail will follow the right hand side of the drive.*



*View toward a potential trailhead area at Snow Marine Park, near the turn-off to Rockland Marine, to the right of existing building at left of photo.*



*The Snow Marine Park waterfront. A stone dust trail would follow the water's edge to the boat ramp.*



*Another view of the waterfront at Snow Marine Park.*

- The trail will run between Mechanic Street and an active rail line owned by the State of Maine, administered by MaineDOT, and used by Dragon Cement. A short embankment separates the street from the rail line. Because the right-of-way is narrow and the roadway shoulders are constrained, a curbed trail adjacent to the roadway may be necessary along Mechanic Street. The plan assumes that if no curb is provided, a guardrail will be installed between the trail and Mechanic Street to improve pedestrian safety.
- Installing a curbed trail will require improvements to the storm drainage system. It may be possible to connect any new catch basins into the existing storm drainage system. Catch basins are present at the intersection of Mechanic and Pacific Streets and west of the park on Mechanic Street.

## Rockland Marine and Sharpe Property

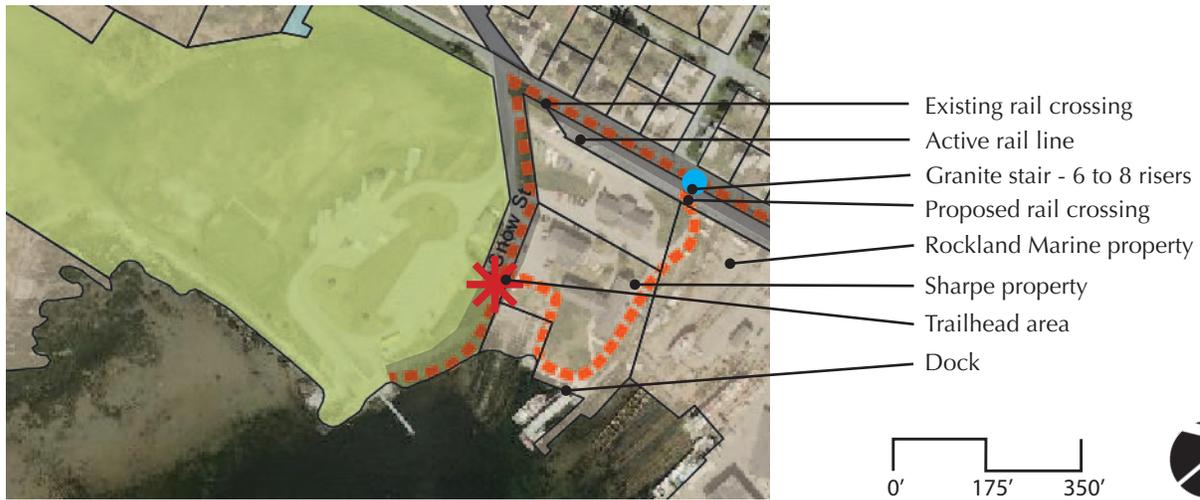


Figure 2-2

### Length

835'

### Construction Method

Uncurbed trail with unit paver surface or delineated with paint and blazes, granite stair between rail corridor and Mechanic Street

### Preliminary Cost Estimate

Ranges from \$12,500 for paint and blazes only to \$62,400 for a paver surface along 2/3 the total trail length. The rail crossing would add another \$20,000 to \$200,000, depending on method required.

### Priority

Medium

### Discussion of Opportunities and Constraints

- Signage only (blazes on posts) could be used to direct pedestrians from the trailhead area out to the water's edge and up to Mechanic Street. If desired, paint stripes could be placed on the existing pavement area or a paver surface could be installed adjacent to the existing pavement to further define the pedestrian zone.
- This portion of trail crosses two privately held properties. An easement has been acquired for the trail on the Sharpe Property. An easement remains to be acquired on the Rockland Marine property, where the trail would follow the existing pavement.
- A new rail crossing is proposed on this portion of the trail. Trains on the track run at a maximum speed of 10 mph. The frequency of trains using the track varies from none to 50 per day, depending on activity at Dragon Cement. According to Nate Moulton at the MaineDOT Track Division (phone: (207) 624-3563), because the State owns the rail corridor and MaineDOT administers it, a request for the crossing will need to be filed with MaineDOT. Following the

## 2011 City of Rockland Harbor Trail Master Plan



*The Sharpe property. The trail will follow the existing access drive.*



*The boat ramp on the Sharpe property. The trail will continue along the water's edge.*



*View toward the proposed rail crossing from the waterfront, on the Sharpe Property. The trail will follow the right hand side of the drive.*



*The proposed rail crossing. Access to Mechanic Street will require a stairway and will not be ADA accessible.*

filing of the request, a public hearing will be held and the Commissioner will rule on whether a crossing will be allowed and what level of safety precautions will be required. The entity requesting the crossing generally pays for its installation. Costs can vary from \$20,000 for a paved crossing with planks to \$200,000 for a crossing with lights. It usually takes three to four years after initiating the request to see a crossing installed. The railroad (Dragon Cement) will be required to maintain the crossing after its built. Before a formal request is made, Dragon Cement should be consulted to gauge their support for the project. Nate Moulton at MaineDOT has offered to facilitate that initial contact with Dragon Cement. It is important to keep in mind that even if the proper procedures are followed, there is no guarantee the crossing will be granted.

## Mechanic Street

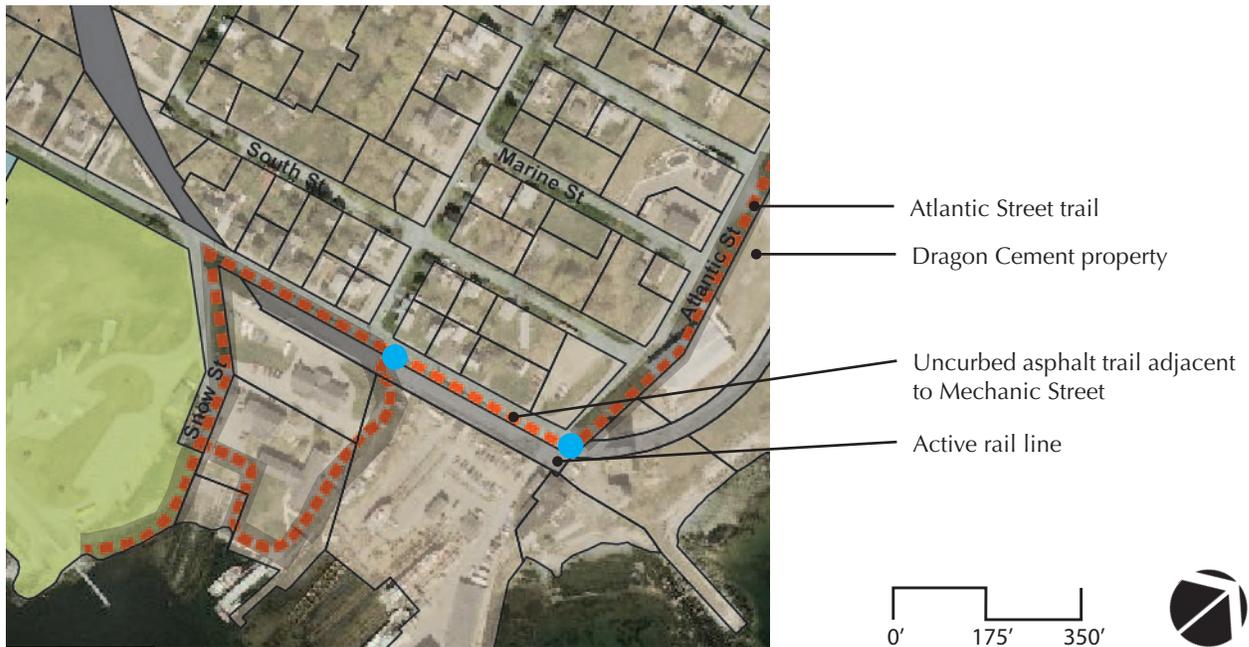


Figure 2-3

### Length

Mechanic Street: 350'

### Construction Method

Uncurbed trail, asphalt surface, with guardrail

### Preliminary Cost Estimate

\$30,800

### Priority

High

### Discussion of Opportunities and Constraints

- The right-of-way at Mechanic Street is approximately 35' wide. It will need to be surveyed prior to preliminary design. Because the right-of-way is narrow and the roadway shoulders are constrained, a curbed trail adjacent to the roadway may be required.
- Installing a curbed trail would require improvements to the storm drain system. It may be possible to connect any new catch basins into the existing storm drainage system. Catch basins are present at the intersection of Mechanic and Pacific Streets, west of Snow Marine Park on Mechanic Street, and on the west side of Atlantic Street.
- For continuity of trail surfacing, it may be desirable to match the concrete unit paver used on the Sandy Beach trail along Atlantic and Mechanic Streets. Because this would be costly, an asphalt trail surface has been assumed.

## 2011 City of Rockland Harbor Trail Master Plan



*View east along Mechanic Street to Dragon Cement. The trail will follow the right hand side of the roadway. The rail line is visible to the far right of the photo.*



*View east along the rail corridor. Mechanic Street is up the slope to the left. The slope will help to separate the trail from the tracks but will constrain the ability to separate the trail from Mechanic Street.*

- Due to space limitations, the plan assumes that a guardrail will be necessary between the trail and Mechanic Street if no curb is provided.

## Atlantic Street

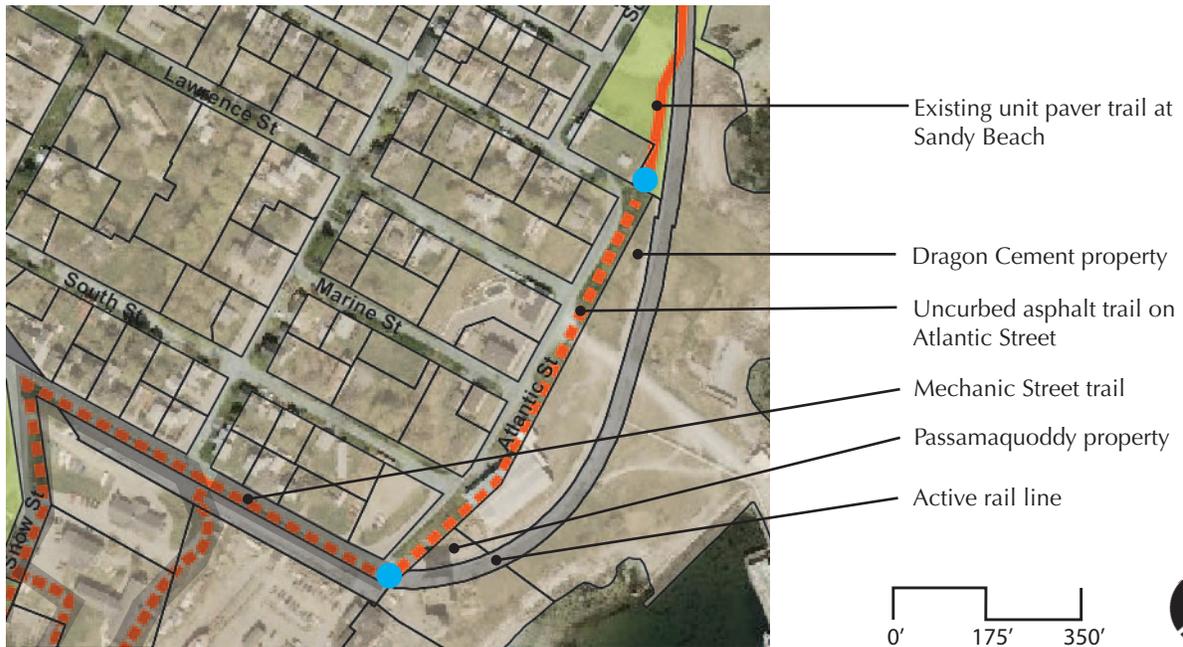


Figure 2-4

### Length

Atlantic Street: 950'

### Construction Method

Uncurbed trail, asphalt surface, with guardrail

### Preliminary Cost Estimate

\$84,200

### Priority

Highest

### Discussion of Opportunities and Constraints

- The existing right-of-way at Atlantic Street is approximately 45' wide and will need to be surveyed prior to preliminary design. Because the shoulder and right-of-way are more generous than they are on Mechanic Street, this section is more likely to be able to accommodate an esplanade between the trail and the roadway. A guardrail between the trail and Atlantic Street has been assumed, but may not be necessary for all or part of this section, depending on available space.
- Dragon Cement has made a verbal commitment to the City to donate a 950-foot easement along the east side of Atlantic Street for this section of the Harbor Trail, contingent upon the completion of a boundary survey to locate the right-of-way along their property. Depending on the width of the easement and available right-of-way, it may be necessary to construct a curbed trail along Atlantic Street.

## 2011 City of Rockland Harbor Trail Master Plan



*View east along Atlantic Street to the Sandy Beach entrance. The trail will follow the right hand side of the roadway.*



*The entrance to Sandy Beach at the Atlantic Street and Crescent Street intersection.*



*The recently installed Sandy Beach pathway, at left of photo.*

- An easement may also need to be acquired on the Passamaquoddy land for construction of the trail.
- If a curbed trail is necessary because of space limitations, improvements to the storm drainage system would be required. It may be possible to connect new catch basins into the existing storm drainage system. Catch basins are present at the intersection of Mechanic and Pacific Streets, west of Snow Marine Park on Mechanic Street, and on the west side of Atlantic Street.
- For continuity of trail surfacing, it may be desirable to match the concrete unit paver used on the Sandy Beach trail. Because this would be costly, an asphalt trail surface has been assumed.

## Harbor Park

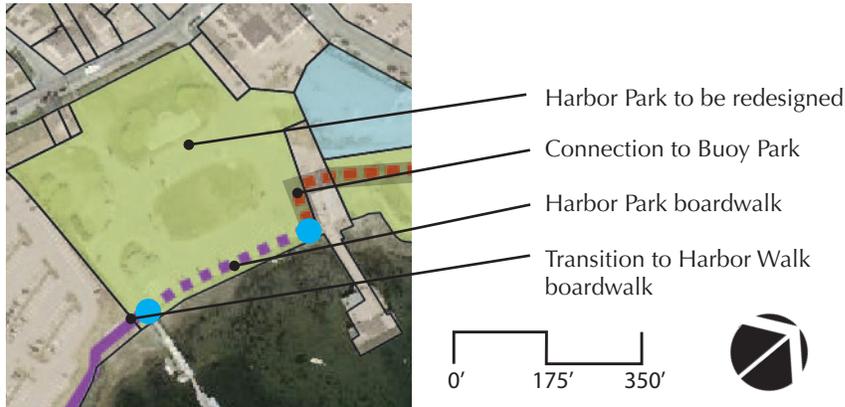


Figure 2-5

**Length**  
380'

**Construction Method**  
Boardwalk

**Preliminary Cost Estimate**  
\$328,000 to \$526,100, including site amenities

**Priority**  
Medium

### Discussion of Opportunities and Constraints

- The boardwalk will be located on City-owned property.
- The Harbor Park Re-Design Committee is working on a design for the park and boardwalk. The boardwalk will resemble the existing Harbor Walk boardwalk at the former MBNA/Boston Financial property
- Careful attention should be given to the use of signage and paving materials where the two boardwalks meet. The Harbor Walk boardwalk terminates in a set of stairs and is separated from the concrete sidewalk at Harbor Park by a stretch of driveway. It is recommended that this transitional area be integrated into plans for the new park to ensure a smoother transition between the trail sections.

## 2011 City of Rockland Harbor Trail Master Plan



*View along Harbor Park walkway south to the Harbor Walk boardwalk entrance stairs.*



*Harbor Walk entrance stairs, right; dock entrance, left. Signage and surfacing to indicate the continuation of the Harbor Trail will be crucial.*



*Looking south along the future Harbor Park boardwalk. The parking lot will be relocated closer to Main Street.*



*The north end of the future Harbor Park boardwalk.*

## Buoy Park

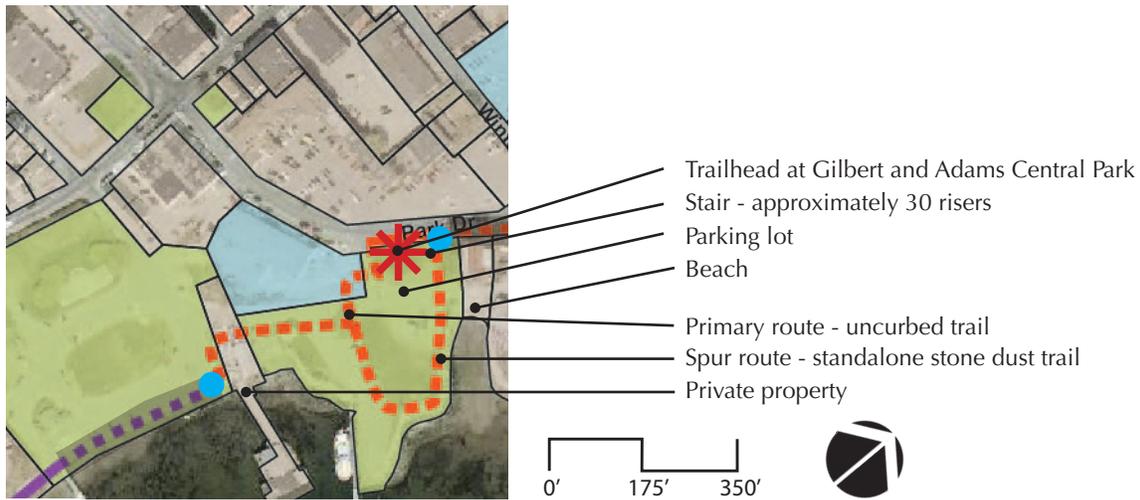


Figure 2-6

### Length

Primary Route: 500'

Spur Route: 500'

Stair: 80' - approximately 30 risers

### Construction Method

Primary Route: Uncurbed trail with unit paver surface or delineated with paint and blazes

Spur Route: Standalone trail with stone dust surface

Granite Stair

### Preliminary Cost Estimate

Ranges from \$95,900 for paint and blazes only on the primary route to \$138,200 for a paver surface along the primary route.

### Priority

Medium

### Discussion of Opportunities and Constraints

Primary Route:

- After leaving Harbor Park, the trail crosses privately held land. An easement will need to be obtained for the portion of trail crossing this property.
- Depending on the space available and the level of vehicular traffic, the trail could take the form of a paver trail adjacent to the driveway, a trail separated from the driveway by an esplanade, or could simply be indicated using trail blazes and paint.

Spur Route:

- The route currently indicated is confined to the lawn area of the park. If a trail skirting the edge of the parking lot is desired, an uncurbed trail is recommended. Further study would be needed

## 2011 City of Rockland Harbor Trail Master Plan



*View through Buoy Park to Rockland Harbor. The spur trail will follow the edge of the parking lot to the left of the boulders.*



*View east to Buoy Park and Rockland Harbor. The primary route will follow the left side of the driveway in the foreground, connecting to the existing sidewalk on Park Drive.*



*Route to Buoy Park from Harbor Park. The primary trail will follow the right hand side of the road.*



*Granite stairs constructed on the Eastern Promenade Trail in 2010 by Portland Trails, using donated materials. The cost of the installation was roughly \$10,000.*

to determine the most appropriate treatment of the trail through the parking lot and a possible parking lot reconfiguration.

- A stair will be needed to connect the spur to the existing sidewalk at Gilbert and Adams Central Park on Park Drive. Approximately 15' of vertical grade change will need to be addressed in this location. The spur route will not meet ADA accessibility guidelines.
- This route provides access to a small beach.

## Tillson District

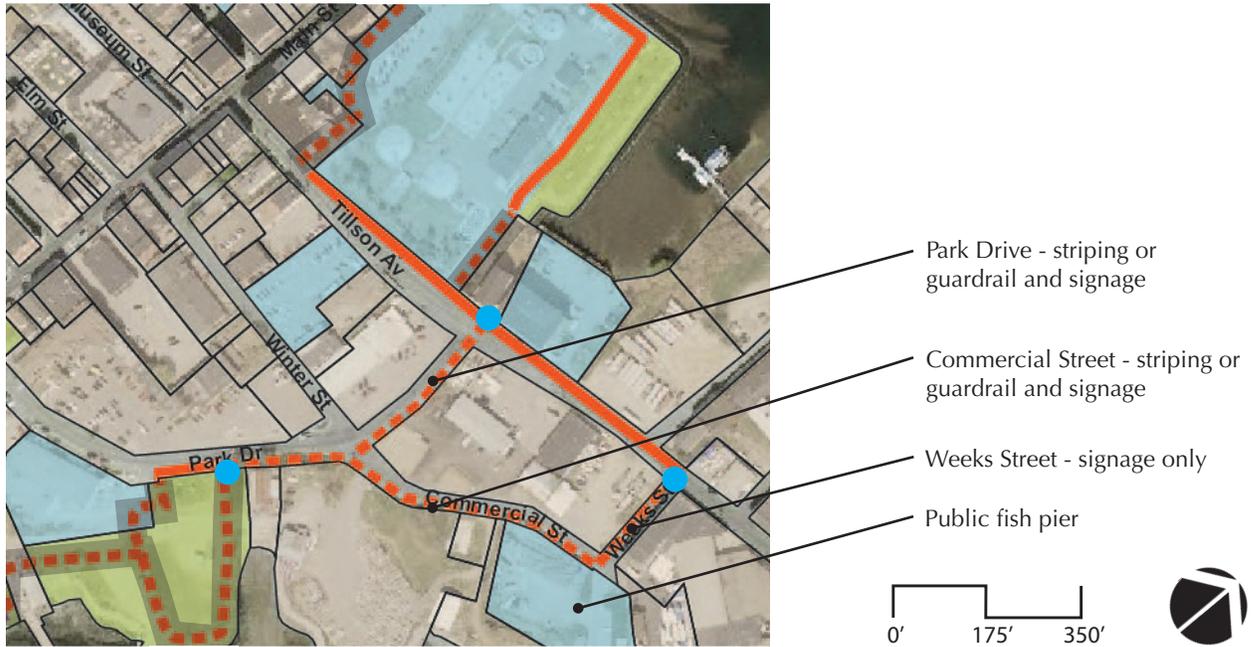


Figure 2-7

### Length

1355'

### Construction Method

Short Term: Uncurbed trail, delineated with paint and blazes or guardrail

Long Term: Curbed asphalt or unit paver trail

### Preliminary Cost Estimate

Ranges from \$7,500 for paint and blazes only in the short term to \$443,300 for a curbed paver trail with pedestrian lighting along the entire length in the long term.

### Priority

Medium

### Discussion of Opportunities and Constraints

- This section of trail will, in the long term, take the form of sidewalks in a new mixed-use neighborhood.
- Because the final alignment of those sidewalks has yet to be determined, and depending on traffic volumes, the trail could be indicated with blazes and paint as a short term solution, with sections of sidewalk constructed over time as plans for the Tillson District are realized. Park Drive and Commercial Street may be wide enough to allow for the striping of a 6' wide pedestrian zone within the existing footprint of the roadway.
- For continuity with design guidelines for the downtown, the long term option assumes pedestrian-

## 2011 City of Rockland Harbor Trail Master Plan



*View looking south along Park Drive from Commercial Street. The trail will utilize the existing sidewalk adjacent to Gilbert and Adams Park.*



*View looking north along Park Drive from Commercial Street. The trail will follow the right hand side of the road toward Tillson Avenue.*



*View looking east along Commercial Street. The trail will follow the right hand side of the road approaching Weeks Street.*



*The entrance road to Rockland's Waste Water Treatment Facility will link the Tillson Ave sidewalk to the Schooner Landing and Rockland's Main Street, beyond.*

scale lighting and a unit paver surface along the entire trail.

## Thorndike Parking Area

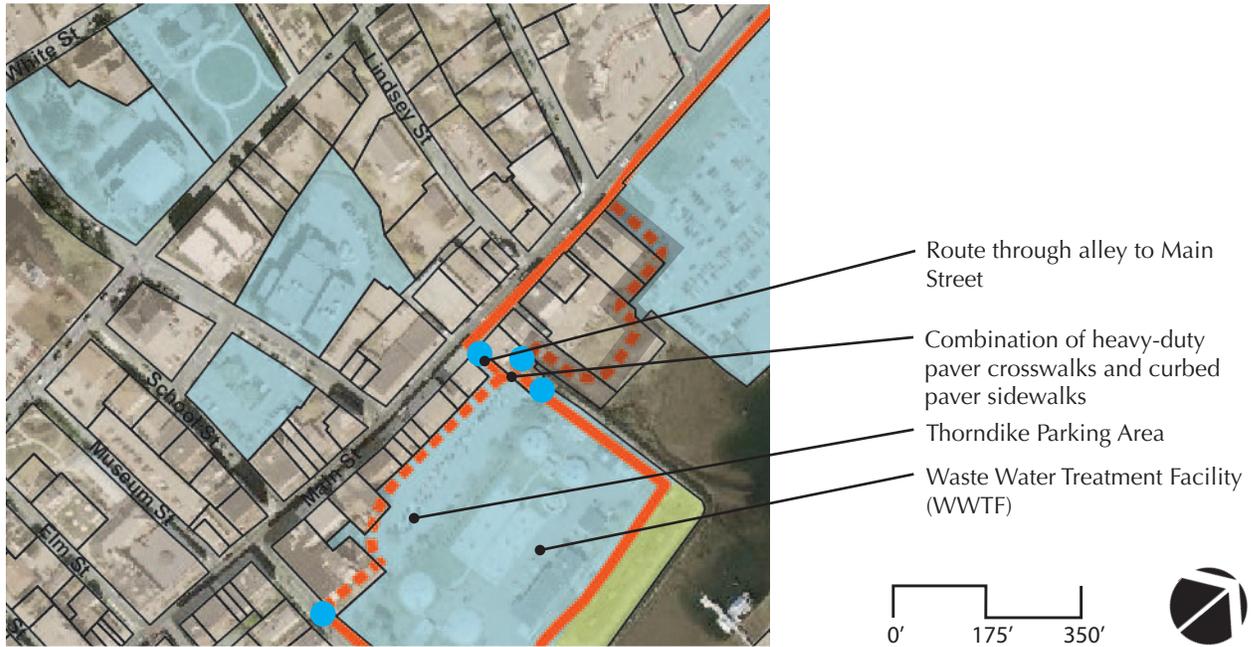


Figure 2-8

### Length

665'

### Construction Method

Curbed unit paver trail

### Preliminary Cost Estimate

\$290,000 includes infrastructure for lighting and utility upgrades for adjacent buildings

### Priority

Highest

### Discussion of Opportunities and Constraints

- This section of trail provides an ADA compliant alternative route around the stairs at the WWTF.
- A combination of heavy-duty paver crosswalks and curbed paver trail will link Tillson Avenue with Main Street through the parking area.
- A pedestrian bridge will provide access to the Lermond Cove section of the trail.
- Preliminary design for this section has already been completed and the City is seeking funding for its construction.

## 2011 City of Rockland Harbor Trail Master Plan



*View looking into the Thorndike Parking Area from Tillson Avenue. The trail will follow the left hand side of the access drive.*



*View looking west toward the backs of a series of Main Street businesses. The trail will follow behind the buildings.*



*A heavy-duty paver surface running along the left side of the alley will provide a connection to Main Street.*



*The steep gravel path connecting to the WWTF will be replaced with stairs.*

## Lermond Cove

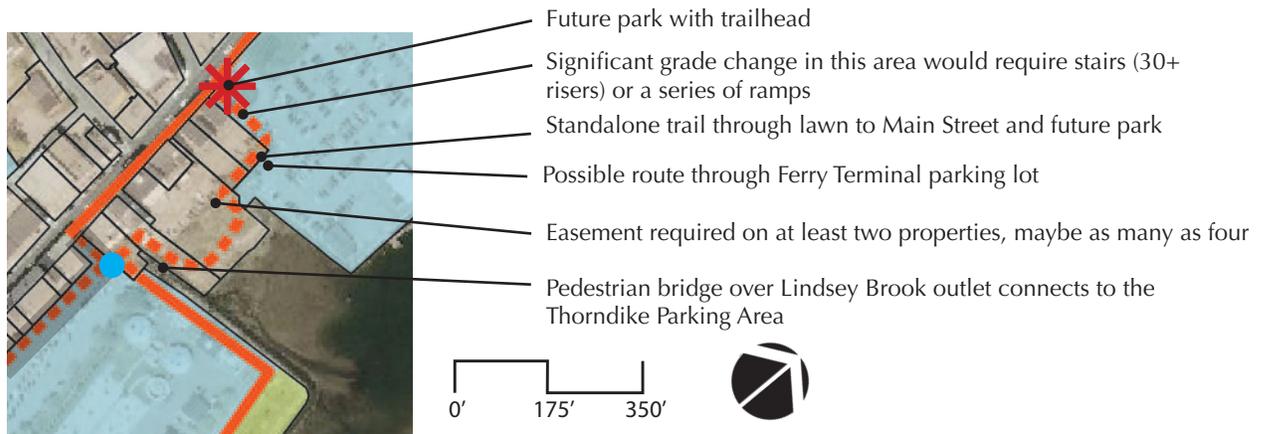


Figure 2-9

### Length

Trail: 575'

Bridge: 110'

### Construction Method

Trail: Standalone trail with unit paver surface

Bridge: Prefabricated Pedestrian Bridge

### Preliminary Cost Estimate

\$92,500 for a unit paver trail with granite stair, with an additional \$50,000 to \$75,000 for the pedestrian bridge

### Priority

High

### Discussion of Opportunities and Constraints

- Planned improvements to the Thorndike Parking Area and WWTF will create a landing for the pedestrian bridge on the parking area side
- An easement will be required on at least two properties, and maybe as many as four. If the trail can be routed through a corner of the Ferry Terminal parking lot, an easement will only be required on two properties
- This section of trail offers proximity to the waterfront
- The trail will connect to Main Street, through a proposed park at the Ferry Terminal entrance. This location would be appropriate for trailhead signage, to orient out-of-town visitors disembarking from ferries.
- The steep slope up to Main Street will provide opportunities for an interesting series of ramps or stairways and landings.

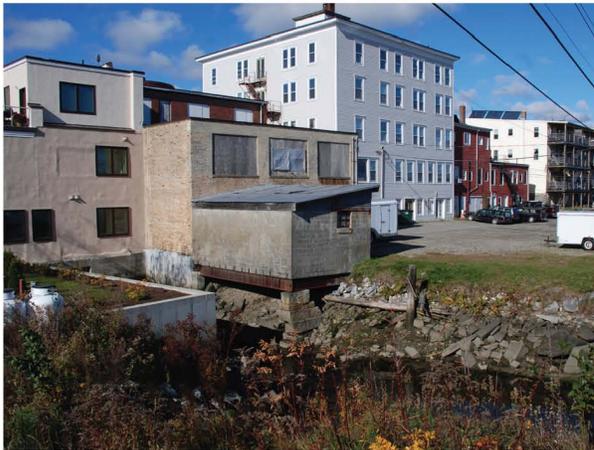
## 2011 City of Rockland Harbor Trail Master Plan



*View to the Lermond Cove spur from the trail at the Wastewater Treatment Facility. The spur will follow the water's edge.*



*View toward the WWTF from the future Lermond Cove spur.*

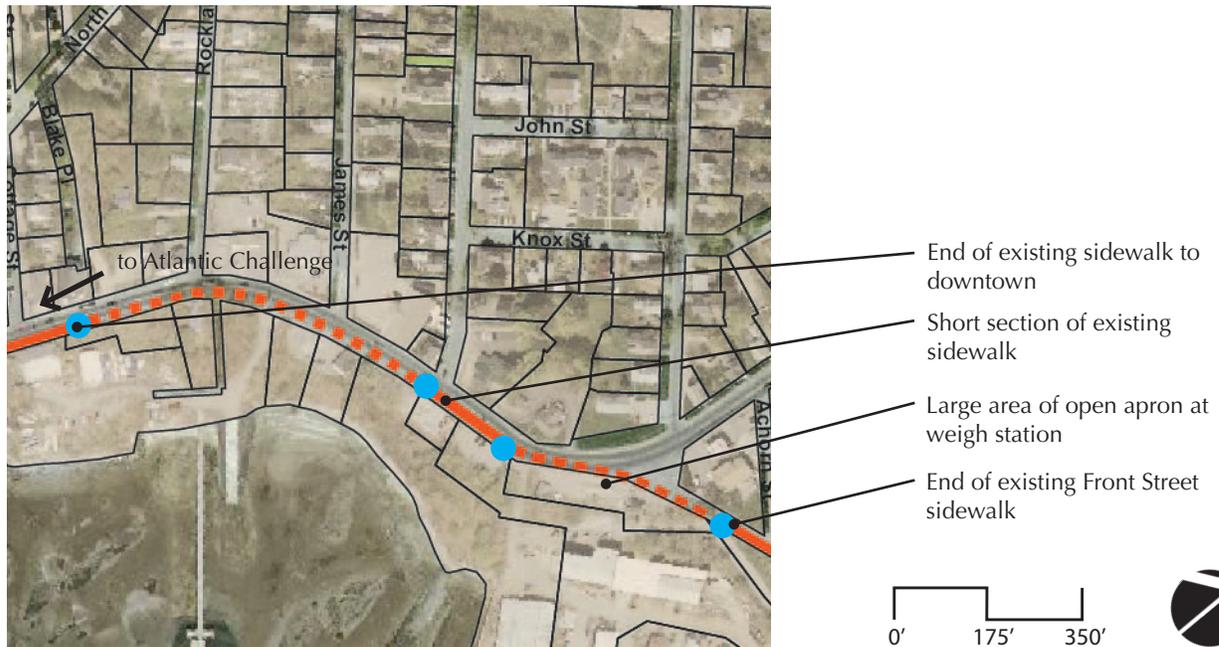


*Lindsey Brook will be spanned by a prefabricated pedestrian bridge in this location.*



*The trail will emerge from the water's edge and follow the access drive up the hill to the left to join the Main Street portion of the trail.*

## Main Street



### Length

1150'

### Construction Method

Curbed asphalt trail adjacent to roadway

Overlook with interpretive sign panel (at Atlantic Challenge)

### Preliminary Cost Estimate

\$166,300, including some storm drainage

### Priority

Medium

### Discussion of Opportunities and Constraints

- This plan supports the continuation of the Harbor Trail along the Harbor side of Main Street for two reasons: 1) to take advantage of water views and maintain a connection with the Harbor, and 2) to prevent the trail from crossing Main Street in two locations.
- The primary difficulty in establishing a sidewalk on the Harbor side of the street is the existing weigh station, whose entrances create large aprons adjacent to the roadway. Before this section of sidewalk can be constructed, a right-of-way survey and detailed study of this option must be conducted.
- A curbed sidewalk adjacent to the roadway is recommended in this section to promote continuity of trail surface and experience. The new trail sections in this area would connect three existing

## 2011 City of Rockland Harbor Trail Master Plan



*View looking south along Main Street. The existing sidewalk ends in this location. The trail will continue north in the form of a new sidewalk.*



*View looking north along Main Street. The trail will follow the right hand side of the road. Selective thinning will open views to the Harbor.*



*View looking east across Main Street to the future location of the Harbor Trail. Rather than require pedestrians to cross Main Street twice, the plan recommends finding a way to route the trail along the weigh station.*

sections of curbed asphalt sidewalk along Main Street and Front Street.

- New catch basins, if needed, could potentially be connected to the existing storm drain system on Main Street.

## Washington Street

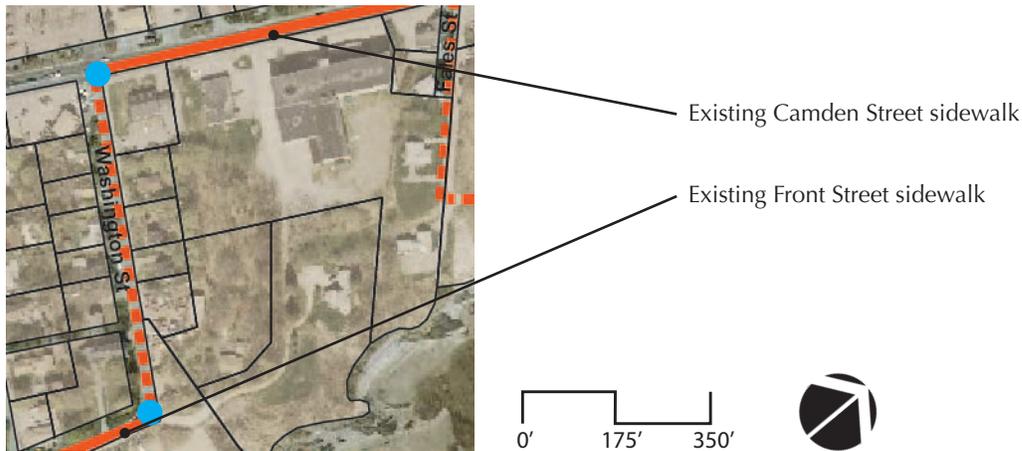


Figure 2-11

### Length

630'

### Construction Method

Curbed asphalt trail adjacent to roadway

### Preliminary Cost Estimate

\$101,600, including storm drainage

### Priority

Low

### Discussion of Opportunities and Constraints

- The existing right-of-way is approximately 45' wide, generally an adequate width for a roadway and sidewalk in a residential neighborhood.
- Before this section of sidewalk can be constructed, a right-of-way survey must be conducted to establish that adequate width exists to accommodate a sidewalk on the north side of Washington Street.
- A curbed sidewalk adjacent to the roadway is recommended in this section to promote continuity of trail surface and experience. The new trail section in this area would connect existing curbed asphalt sidewalks along Camden Street and Front Street.
- New catch basins, if needed, could potentially connect to the existing storm drain system on Front Street. Further study would be required to determine the need for additional catch basins resulting from the proposed sidewalk.
- There are many driveways on both sides of the street. Coordination with property owners will be required.

## 2011 City of Rockland Harbor Trail Master Plan



*A brief view of the water is afforded by this driveway at the corner of Front Street and Washington Street.*



*Utility coordination, driveways, and the wide apron for the vehicle lot pictured at right will pose challenges to this section of trail.*

## Fales Street and Pen Bay School Spur

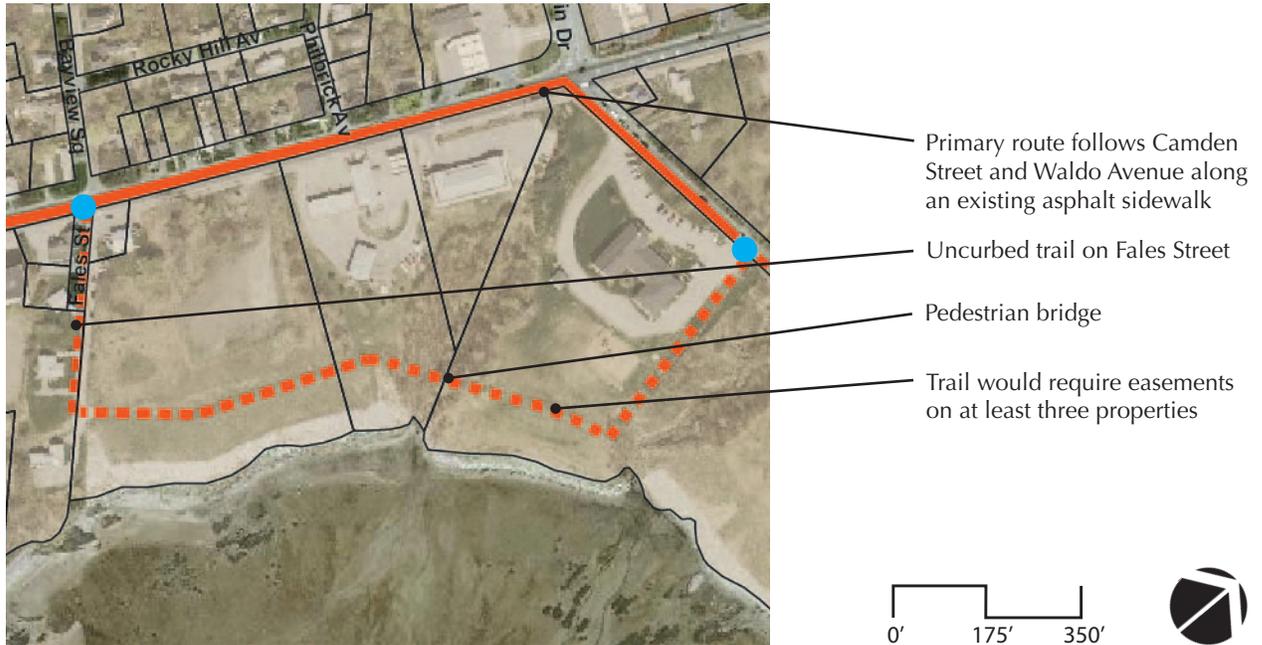


Figure 2-12

### Length

Fales Street: 370'

Pen Bay Connection: 1420'

Bridge: length of bridge to be verified on-site with landowner's permission

### Construction Method

Fales Street: Curbed asphalt trail adjacent to roadway

Pen Bay Connection: Standalone stone dust trail

Bridge: Prefabricated Pedestrian Bridge

### Preliminary Cost Estimate

\$83,100 for a curbed asphalt trail on Fales Street and stone dust trail to the Pen Bay School, with an additional \$50,000 to \$75,000 for the pedestrian bridge

### Priority

Low

### Discussion of Opportunities and Constraints

Fales Street:

- Available width appears to be limited within the approximately 33' right-of-way on Fales Road. Before this section of trail can be constructed, a right-of-way survey must be conducted to confirm the available width on the north side of the road. If sufficient width for an esplanade is not present, a curbed trail section should be used, as the road appears to receive heavy use and

## 2011 City of Rockland Harbor Trail Master Plan



*View west along Fales Street. The trail will follow the right side of the road. Little space is available for the trail.*



*The trail will pass a parking lot before turning to follow the water.*



*A small bridge may be needed to cross the drainage ditch for the parking lot.*



*Once past the ditch, this section of the trail follows a low ridge that affords 180 degree views of the water.*

visibility from Camden Street is poor.

- It is unclear whether an easement has already been obtained from the owner of 91 Camden Street to secure use of the driveway as part of the Harbor Trail. This will require confirmation.

### Pen Bay Connection:

- This section of the trail will require easements through three privately held properties.
- A pedestrian bridge will be needed to cross the ravine between the two properties.
- This section of trail offers stunning 180 degree views of Camden Harbor. Some of the best views on the trail are found on this section.
- Because of its scenic quality, this route is preferable to the primary route on Camden Street.

## Waldo Avenue



Figure 2-13

### Length

2032'

### Construction Method

Curbed asphalt trail adjacent to Waldo Avenue

### Preliminary Cost Estimate

\$261,100 for a curbed asphalt trail, including storm drainage

### Priority

Low

### Discussion of Opportunities and Constraints

- The proposed curbed asphalt trail would connect the existing asphalt sidewalk in front of the Pen Bay School to the intersection of Samoset Road.

## 2011 City of Rockland Harbor Trail Master Plan



*The existing asphalt sidewalk in front of the Pen Bay School.*



*The existing roadside condition adjacent to the Pen Bay School.*



*The proposed trail would provide a safe route for pedestrians along this straight stretch of Waldo Avenue. The trail will follow the right side of the road.*



*Some portions of the existing shoulder along Waldo Avenue have been paved.*

- The existing right-of-way of approximately 50' appears to be adequate to support the extension of the trail along Waldo Avenue. Before this section of trail can be constructed, a right-of-way survey must be conducted.
- Because the speed limit on Waldo Avenue is 35 mph, and to maintain continuity with the curbed sidewalk that is present in front of the Pen Bay school, a curbed trail is recommended for this section.
- New catch basins, if needed, could potentially connect to the existing storm drain system on Glen Street or Samoset Road. Further study would be required to determine the need for additional catch basins resulting from the proposed curbed trail.

## Samoset Road

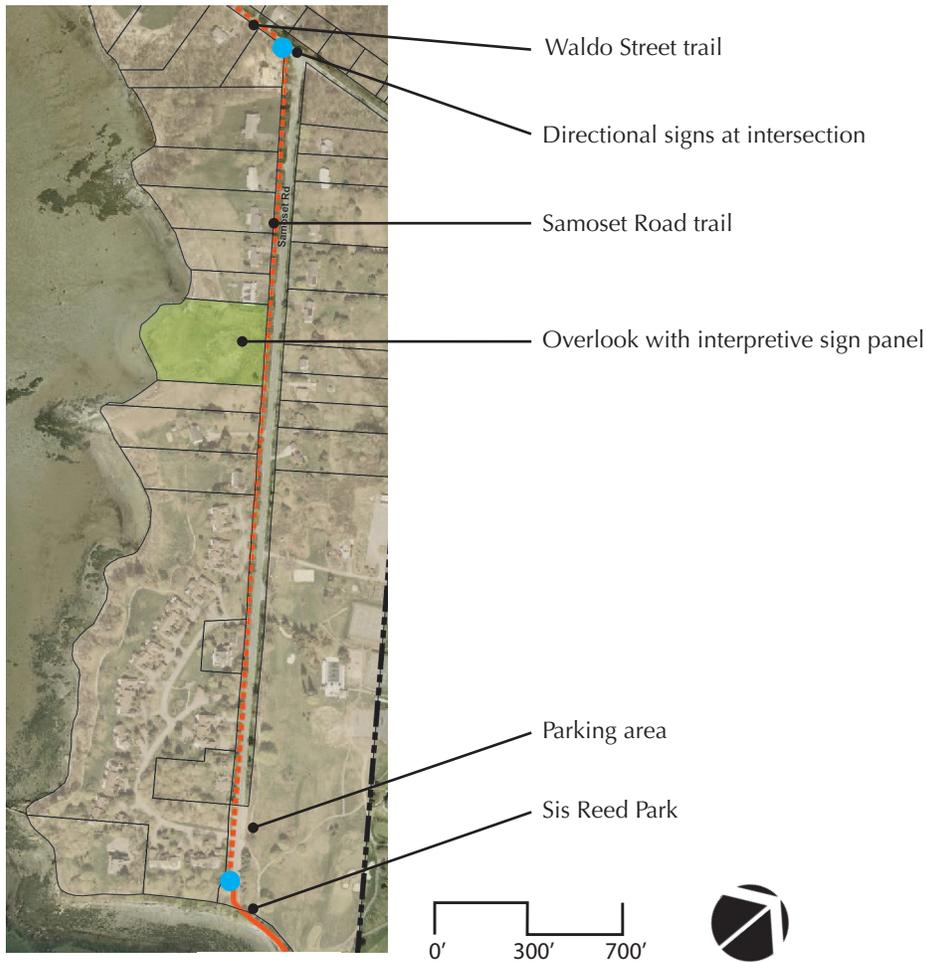


Figure 2-14

**Length**  
3055'

**Construction Method**

Uncurbed asphalt trail adjacent to roadway or delineated with paint and blazes  
Overlook with interpretive sign panel

**Preliminary Cost Estimate**

Ranges from \$7,500 for paint and blazes only to \$118,800 for an uncurbed asphalt trail; includes interpretive signage at overlook area

**Priority**  
Medium

## 2011 City of Rockland Harbor Trail Master Plan



*Looking south down Samoset Road. The trail will follow the right hand side of the road.*



*With expansive views of the Harbor, the landslide property makes a natural location for an overlook.*



*View south toward the Breakwater trailhead. The trail will follow right hand side of road. Cars park to the left, backing into Samoset Road.*

### Discussion of Opportunities and Constraints

- It appears that enough width may be available within the approximately 65' right-of-way to permit an esplanade between the trail and Samoset Road. Before this section of trail can be constructed, a right-of-way survey must be conducted to conform the available width on the west side of the road.
- If sufficient width is not present, and low traffic volumes and traffic speeds are confirmed, signage only (blazes on posts) could be used to direct pedestrians from Waldo Avenue to Sis Reed Park. If desired, paint stripes could be placed on the existing pavement area to further define the pedestrian zone.
- During preliminary design, a more detailed study of the parking area near Sis Reed Park should be undertaken, with the goal of identifying a trail treatment that reduces potential pedestrian conflicts with vehicles.
- It is recommended that the landslide property be used as a passive use overlook area with an interpretive sign panel explaining the site's recent history and the geology of the area. Thinning of the existing shrubs to improve visibility into the overlook area, and installing groundcover shrubs along the existing guardrail are recommended. A break near the center of the guardrail, with gateway elements and identifying signage, should be provided.

### The Breakwater Trailhead and Pathway

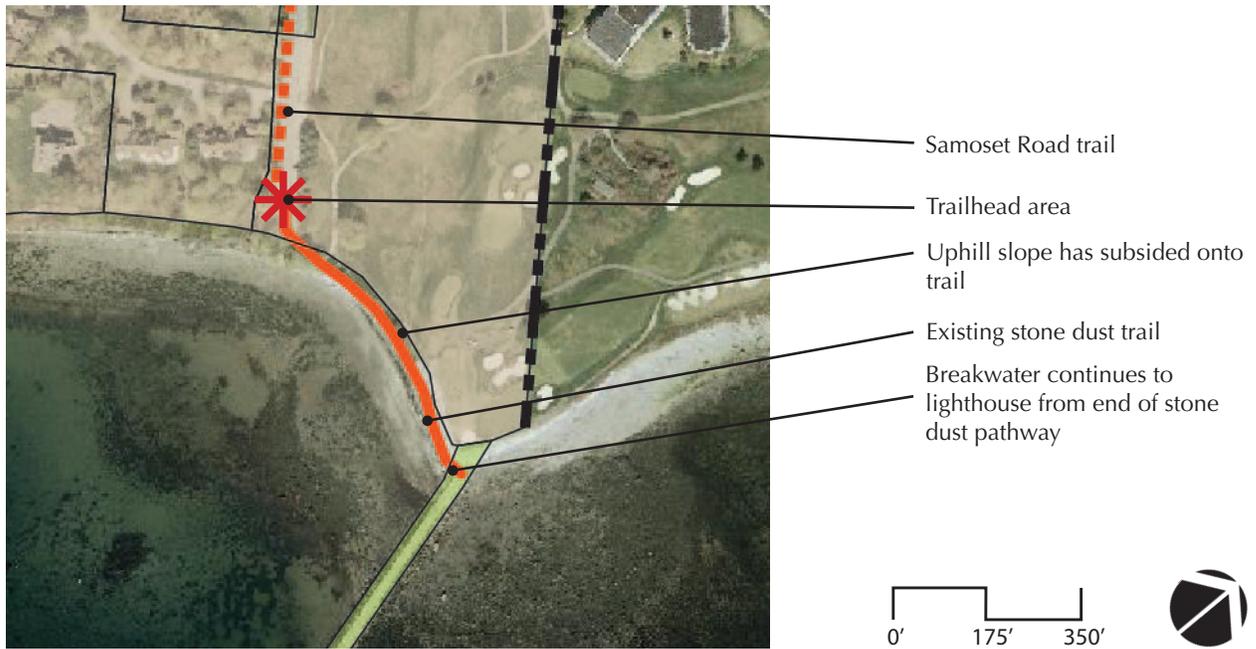


Figure 2-15

#### Length

N/A. Spot repairs to trail surface and adjacent embankments required.

#### Construction Method

Repairs to existing stone dust trail.  
Trailhead signage and site amenities.

#### Preliminary Cost Estimate

\$39,200

#### Priority

High

#### Discussion of Opportunities and Constraints:

- Trail surface and site furnishings are generally in an acceptable condition, with the exception of two areas where the slope on the ocean side of the path should be reinforced with rip rap and the path surface replenished with stone dust.
- In another area, the uphill slope has subsided into the trail and needs to be repaired.
- Stabilization of slope with rip rap is recommended where embankment adjacent to trail is washing out.
- Resurfacing of trail with stone dust is recommended where large stones have become exposed, resulting in an uneven trail surface.

## 2011 City of Rockland Harbor Trail Master Plan



*The trailhead area at Sis Reed Park. Trailhead signage at left.*



*Existing site furnishings at Sis Reed Park include the City's standard trash receptacle, granite benches, and interpretive signage.*



*The existing stone dust trail leads to the breakwater in the distance, and, eventually, to the Rockland Breakwater Lighthouse.*



*Sections of the existing trail surface are rough, as illustrated above, or beginning to wash out as the adjacent bank erodes.*



## Section 3 - Trail Surfacing Options

### Overview

Trail surfaces may take many forms. Stone dust, asphalt, pavers, timber decking, mulch, compacted earth, mown grass, and polymer-stabilized gravels are just some of the many options that exist. Cost, aesthetics, and the intended trail user all come into play when selecting a trail surface. In the case of the Harbor Trail, choosing surfaces that are consistent with existing trail segments and compatible with the trail context (downtown, harbor side, residential neighborhood) will be of primary importance.

Several types of trail surfaces are already present along the Harbor Trail. A paver trail has been installed at Sandy Beach. A gravel trail is present along the Lermond Cove side of the Wastewater Treatment Facility. At the former MBNA building, a lengthy stretch of boardwalk has been in place for the last decade. Cost of construction ranges from the inexpensive (stone dust) to the very expensive (boardwalk). Trail aesthetic ranges from informal (Breakwater Park) to highly formal (Main Street).

This section takes a closer look at some of the most likely trail surfacing options to be used on future sections of the Harbor Trail, including construction detailing, cost, and design considerations.

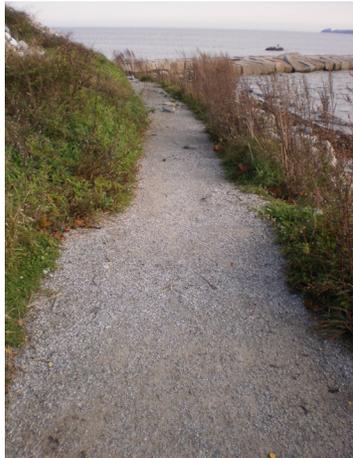


*Concrete unit paver sidewalks comprise the Harbor Trail's surface on Rockland's Main Street.*

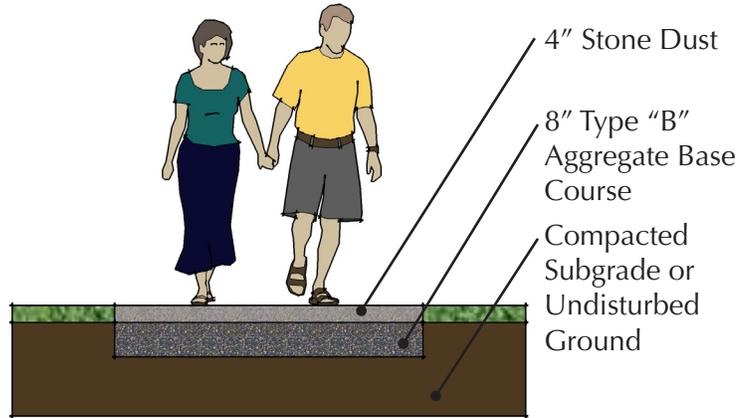


*The stone dust trail at the Breakwater pathway is less formal, less costly, and compatible with a more natural setting.*

Stone Dust



Stone dust trail at the Breakwater



Typical Stone Dust Trail Section  
Not to Scale

Design Considerations

- Low installation cost compared to other paving materials
- Compatible with natural setting
- Soft walking or running surface
- Two or three season use - not plowable and can also be waterlogged and unstable in spring
- Prone to wash out and erosion from surface runoff
- Surface becomes saturated in poorly drained areas
- Not suitable for heavy traffic
- Less reliable as an ADA accessible surface

Locations

- Snow Marine Park
- Buoy Park
- Pen Bay School Spur

Preliminary Cost Estimate - Linear Foot Cost

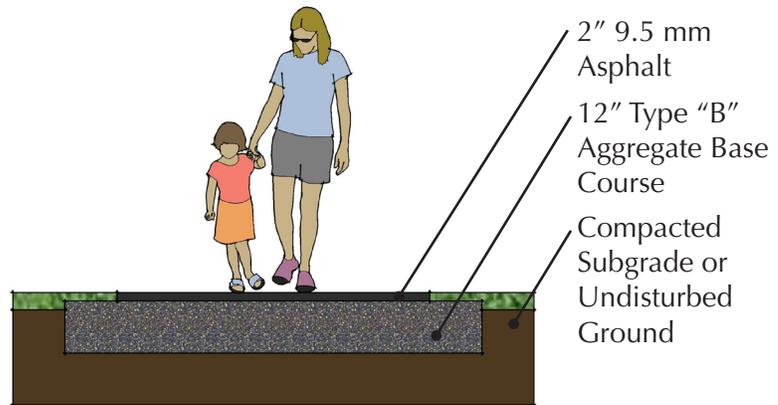
DESCRIPTION	QTY. UNIT	UNIT PRICE	LF PRICE	NOTES
1 Excavation/Fill	.22 CY	\$15.00	\$3.00	
2 Aggregate Base Course (8")	.148 CY	\$35.00	\$5.00	
3 Loaming and Seeding	1.1 SY	\$8.00	\$10.00	5' width - both sides
4 Stone Dust (4")	.074 CY	\$50.00	\$4.00	
5 Erosion Control	1 LF	\$3.00	\$3.00	
			Subtotal: \$25.00	
			10% Materials Contingency: \$2.50	
			<b>Total: \$27.50/LF</b>	

# 2011 City of Rockland Harbor Trail Master Plan

## Asphalt



Asphalt sidewalk downtown



Typical Asphalt Trail Section  
Not to Scale

### Design Considerations:

- Durable surface/ minimal maintenance
- Consistency with most City sidewalks
- Meets ADA accessibility criteria
- Four season use - plowable
- Average installation cost compared to other paving materials
- Perceived as a lower-quality material
- Less visible when adjacent to asphalt roadway
- Less compatible with natural settings outside of urban areas

### Locations

- Mechanic and Atlantic Streets
- Tillson District
- Main Street
- Washington Street
- Fales Street
- Waldo Avenue
- Samoset Road

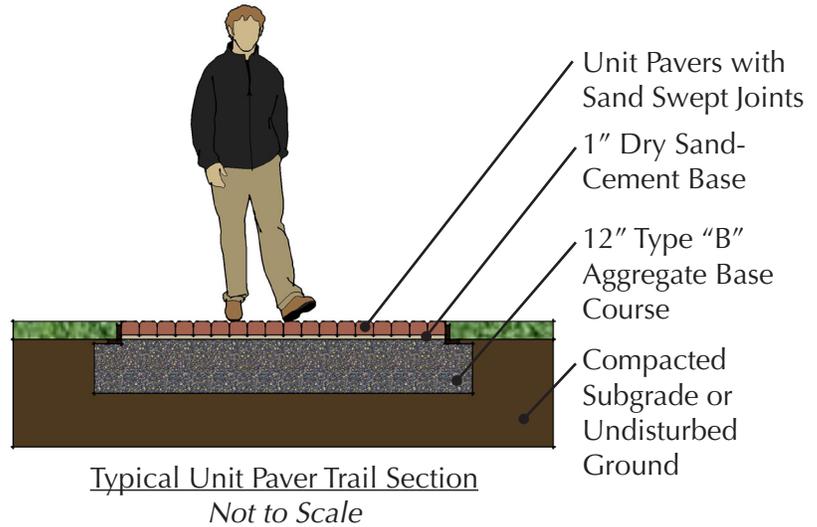
### Preliminary Cost Estimate - Linear Foot Cost

	DESCRIPTION	QTY. UNIT	UNIT PRICE	LF PRICE	NOTES
1	Excavation/Fill	.33 CY	\$15.00	\$5.00	
2	Aggregate Base Course (12")	.30 CY	\$35.00	\$11.00	1' beyond pavement
3	Loaming and Seeding	1.1 SY	\$8.00	\$10.00	5' width - both sides
4	Asphalt Pavement (2")	.075 TON	\$110.00	\$8.00	
5	Erosion Control	1 LF	\$3.00	\$3.00	
				Subtotal: \$37.00	
10% Materials Contingency:				\$3.70	
				<b>Total: \$40.70/LF</b>	

Concrete Unit Pavers



Unit paver trail at Sandy Beach



Design Considerations

- Durable surface
- Consistency with recent/future Main Street sidewalks
- Continuity with Sandy Beach and WWTF trails
- Meets ADA accessibility criteria
- Four season use - plowable
- Permeable option for stormwater infiltration
- Aesthetically pleasing
- Potential for fundraising opportunity through brick sponsor program
- High cost compared to most other paving materials
- Requires periodic maintenance due to weed control and damage from plows/vehicles

Locations

- Rockland Marine
- Buoy Park
- Tillson District
- Thorndike Parking Area
- Lermond Cove

Preliminary Cost Estimate - Linear Foot Cost

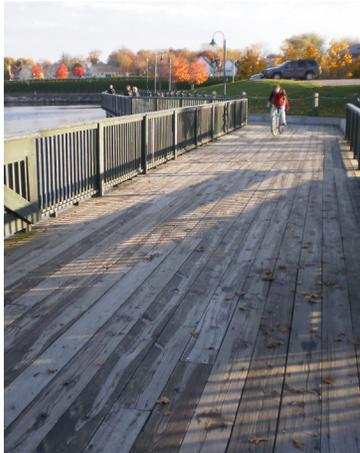
DESCRIPTION	QTY.	UNIT	UNIT PRICE	LF PRICE	NOTES
1 Excavation/Fill	.13	CY	\$15.00	\$2.00	
2 Aggregate Base Course (12")	.086	CY	\$40.00	\$3.00	
3 Loaming and Seeding	1.1	SY	\$8.00	\$10.00	5' width - both sides
4 Unit Pavers and Base	.67	SY	\$85.00	\$57.00	
5 Edge Restraint	2	LF	\$5.00	\$10.00	
6 Erosion Control	1	LF	\$3.00	\$3.00	

Subtotal: \$85.00

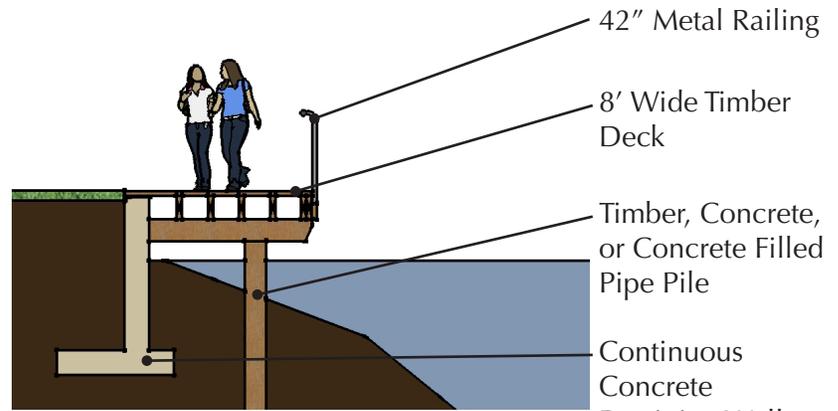
10% Materials Contingency: \$8.50

**Total: \$93.50/LF**

## Cantilevered Timber Decking



*The Harbor Walk boardwalk at the MBNA/Boston Financial property*



Example Cantilevered Timber Decking  
Section  
*Not to Scale*

### Design Considerations

- Continuity with boardwalk immediately to the south of Harbor Park
- Ability to cantilever over shoreline
- Compatible with marine use/aesthetic
- Four season use - plowable
- Meets ADA accessibility criteria
- High cost compared to other trail options
- Increased burden of required regulatory approvals
- Higher maintenance requirements

### Locations

- Harbor Park

### Preliminary Cost Estimate - Linear Foot Cost: \$600-\$1000/LF

*Further study is required to determine the appropriate construction method for the boardwalk based on existing conditions at Harbor Park. The preliminary cost estimate will need to be refined during preliminary engineering of the boardwalk, when more information is available.*



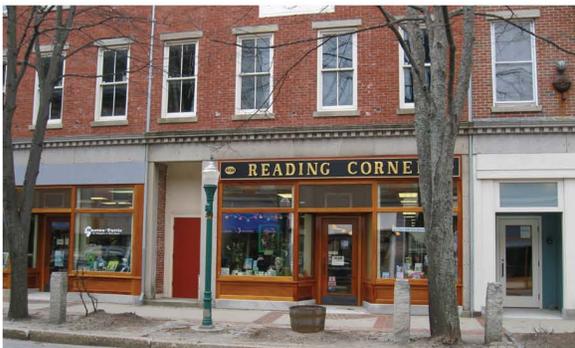
## Section 4 - Site Amenities

### Overview

Site amenities include furnishings, such as benches, bicycle racks, and trash receptacles, as well as lighting fixtures, and traffic control elements such as bollards and fencing. The consistent application of a limited palette of site amenities along the length of the trail represents a key strategy for reinforcing the trail’s continuity as it traverses the community.

Several different styles of site furnishings are currently used within Rockland, and even within individual districts it is not uncommon to see a variety of bench and lighting styles. In order to promote a cohesive vision for the Harbor Trail that works in concert with established and evolving identities for the City’s districts, this plan generally recommends two styles of amenities that reflect two distinct furniture groupings that appear to be gaining traction within the City.

The first style of furniture is recommended for use in Rockland’s current and expanding downtown districts. This style continues the granite benches, granite bollards, and traditional light fixtures as exemplified in the area around the Farnsworth Museum and Strand Theater in the downtown. Paint finishes should match the shade of green currently used on the downtown lighting standards and trash receptacles (see photo, below).



The second style draws on the wood slat bench, wooden bollard with copper detailing and rope railing, and rustic granite block traffic separation that contribute to the maritime aesthetic seen in several of Rockland’s waterfront parks. Once again, for the sake of consistency, finishes should match the green color currently used on the downtown lighting standards and trash receptacles.



## Benches



*Granite benches near the Strand Theater on Rockland's Main Street*

### Downtown Bench

6' long x 18" x 12" sawn granite bench with thermal finish on top, rock face on four sides. Legs approximately 12" x 12" x 8" tall, sawn top and bottom and rock face on four sides, embedded into the ground

### Design Considerations

- Long lasting, durable material
- Low maintenance
- Vandal resistant
- Less comfortable
- Material can be reused in future

### Locations and Proposed Quantities

- Thorndike Area: 3
- Existing Main Street Trail to end of Ferry Terminal: 1

**Preliminary Cost Estimate:** \$1,050\* to \$1,200 installed

*\*Cost supplied by the City of Rockland*

### Park Bench

6' backed wood slat bench with cast aluminum supporting members, no arm rests, fastened to concrete pad

### Design Consideration

- Option to incorporate recycled plastic or sustainably harvested wood slats
- More comfortable than granite or metal
- Shorter life span

### Locations and Proposed Quantities

- Snow Marine Park Trailhead: 3
- Rockland Marine: 2 (backless)



*Landscape Forms' Gretchen bench*

- Harbor Park: 6 (backless)
- Thorndike Area: 2
- Lermond Cove: 2
- Fales Street and Pen Bay Spur: 3
- Samoset Road Overlook: 3

**Preliminary Cost Estimate:** \$1,050\* to \$1,800 installed (with concrete base)

*\*Cost supplied by the City of Rockland*



*Bench on the Harbor Trail at Sandy Beach*

### Bicycle Racks



*Cycle-Safe's U-2 bike racks*

#### All Bicycle Racks

Inverted steel u-type loop racks, with a heavy rubberized coating, mounted in-ground

#### Design Considerations

- Rubberized coating provides a long lasting, durable finish
- In-ground installation is most secure mounting option - surface mounting would allow bike rack removal/replacement
- Bicycles can lean against rack - 2 per loop
- Easy to lock to
- Must be installed following spacing provided by manufacturer
- Low visual profile compatible with most settings

#### Locations and Proposed Quantities

- Snow Marine Park Trailhead: 3
- Harbor Park: 3
- Buoy Park: 3
- Thorndike Area: 3
- Lermond Cove: 3
- Existing Main Street Trail to end of Ferry Terminal: As Needed
- Fales Street and Pen Bay Spur: 3
- Samoset Road Overlook: 2
- The Breakwater Trailhead: 3

**Preliminary Cost Estimate:** \$250 per loop, installed

## Trash Receptacles

### All Trash Receptacles

Wooden trash receptacle, painted green, with planter, fastened to concrete pad

### Design Considerations

- Low cost
- Incorporates decorative plantings
- Shorter life span than metal
- Can be constructed by the City
- Plantings will require regular maintenance



*This wooden trash receptacle with planter is the model for Rockland's new downtown and Harbor Trail trash receptacle*

### Locations and Estimated Quantities

- Snow Marine Park Trailhead: 2
- Mechanic/Atlantic Streets: 1
- Harbor Park: 2
- Buoy Park: 2
- Thorndike Area: 3
- Lermond Cove: 1
- Existing Main Street Trail to end of Ferry Terminal: 1
- Fales Street and Pen Bay Spur: 1
- Samoset Road Overlook: 1
- The Breakwater Trailhead: 2

**Preliminary Cost Estimate\*:** \$450 installed  
(with concrete base)

\*Cost supplied by the City of Rockland



*Rockland's current trash receptacle. Estimated cost: \$300 to construct*

## Bollards and Guardrail



*Bollards on Rockland's Main Street*

### Downtown Bollard

In keeping with the City's standard downtown bollard, a 8"x8"x8'-0" sawn granite post with thermal finish on two sides and rock face finish on two sides, embedded into the ground

### Design Considerations

- Long lasting, durable material
- Low maintenance
- Compatible with downtown bench

### Locations and Estimated Quantities

- Thorndike Area: 5

**Preliminary Cost Estimate:** \$600 installed

### Wooden Guardrail

Pressure treated Southern Yellow Pine or Cedar guardrail 2'-0" above finish grade. Posts spaced 8'-0" on center.

### Design Considerations

- Low maintenance and easy to install
- Relatively low cost

### Locations and Estimated Quantities

- As needed where additional separation between trail and roadway is desired, based on traffic volumes and speeds and available right-of-way

**Preliminary Cost Estimate:** \$40/LF installed

### Rope Fence

Marine-grade rope strung through green wooden bollards with copper caps.

### Design Considerations

- Compatible with marine aesthetic

### Locations and Estimated Quantities

- As needed where additional separation between trail and low volume driveways, parking lots or waterbodies is desired

**Preliminary Cost Estimate:** \$40/LF installed



*The guardrail at the landslide property along Samoset Road*



*Rope fence follows both sides of the concrete portion of the Harbor Walk*

## Pedestrian Lighting



*Holophane's Granville LED Premier decorative luminaire with a standard finial, no trim, and a green housing, on a green Charleston cast aluminum pole*

### Locations and Estimated Quantities

- Tillson District: 23 (assumes 60' spacing along entire 1335' trail section)
- It may be desirable to extend lighting down Tillson Avenue in the area shown as completed in Section 2
- As needed where additional lighting is desired, based on nighttime use and increased surveillance

**Preliminary Cost Estimate:** \$8,250/light fixture, installed (includes conduit, trenching, electrical controls, handholes, and concrete pole bases)

### All Pedestrian Lighting

The recommended fixture is Holophane's Granville LED Premier decorative luminaire with a standard finial, no trim, and a green housing, on a green Charleston cast aluminum pole, for consistency with the Energy Committee's lighting recommendations for Rockland's historic downtown (February, 2011)

### Design Considerations

- Compatible with downtown setting
- Energy-efficient
- Lighting is only recommended in the current and expanding downtown districts
- If lighting for the trail is extended beyond the downtown, an alternative fixture might be considered for parks and trailhead areas (see picture below)



*Shepherd's crook style lights are used along the Harbor Walk section of the trail*

## Section 5 - Signage

### Introduction

Maintaining a consistent style and application of signage along the full length of the Harbor Trail will be crucial to the Trail's cohesiveness, will strengthen the trail's identity, and will serve as an essential aid to wayfinding. Accordingly, it is the City's goal to use directional & destination signs, trail markers, and interpretive signs at key locations along the trail's route. Design recommendations for each type of signage follow.

### Directional and Destination Signage

An urban trail can vary in character considerably along its length. Along its approximately 5 miles of length, the Harbor Trail will variously take the form of an asphalt sidewalk, a paver sidewalk, a paver pathway, a concrete pathway, a stone dust pathway, and a wooden boardwalk. Its numerous twists and turns, designed to follow the shoreline and take advantage of existing infrastructure, could result in frustration to unfamiliar users if the trail is not clearly signed.

Good directional and destination signage is key to ensuring that trail users are able to construct a mental map of the trail and plan walks that are in keeping with their expectations. At the Harbor Trail's gateways of Snow Marine Park in the South End and the Breakwater's Sis Reed Park in the North End, as well as at the intermediate points of Gilbert Adams Park and the Ferry Terminal, upright signs similar to the one pictured below should display a map of the entire trail route, with an indication of the viewer's current position, and relevant information about significant trail destinations, with



*Example of trailhead signage with map, distances to major destinations and a description of the trailhead*

## 2011 City of Rockland Harbor Trail Master Plan

distances. The signs at Snow Marine Park and the Breakwater will be located near parking lots used for recreational purposes, while the sign at Gilbert Adams Park will serve trail users coming from Route One. The sign at the Ferry Terminal will acquaint short-term visitors with the Trail, suggesting rambles into the downtown and to other points of interest.

Pedestrian oriented directional signage should be placed in strategic locations along the trail to supplement the larger trail maps. Directional signs should be used where trail users might be confused about how to proceed (e.g. where the trail crosses roadways or the footbed material changes), or where significant destinations lie just off the trail, such as in the case of the Business District. The name of the destination, a directional arrow, and an approximate distance will aid with wayfinding and exploration. Directional signs could generally follow the format pictured in 10" x 12" sign pictured below. Potential locations for directional signs are shown on the Harbor Trail Signage Plan on pages 26 and 27.

Possible points of interest to include on the directional signs are:

- 91 Camden Street
- Windjammer's Wharf
- The Ferry Terminal
- Snow Marine Park
- The Business District
- Gilbert Adams Central Park
- The Bird Block
- The Schooner Landing
- Public Restrooms
- Winslow Holbrook Park
- The Harbor Park
- Buoy Park
- The Breakwater
- The Public Landing
- The Fish Pier
- The Farnsworth Museum
- The U.S. Coast Guard Station
- Overlook and Trailhead Areas

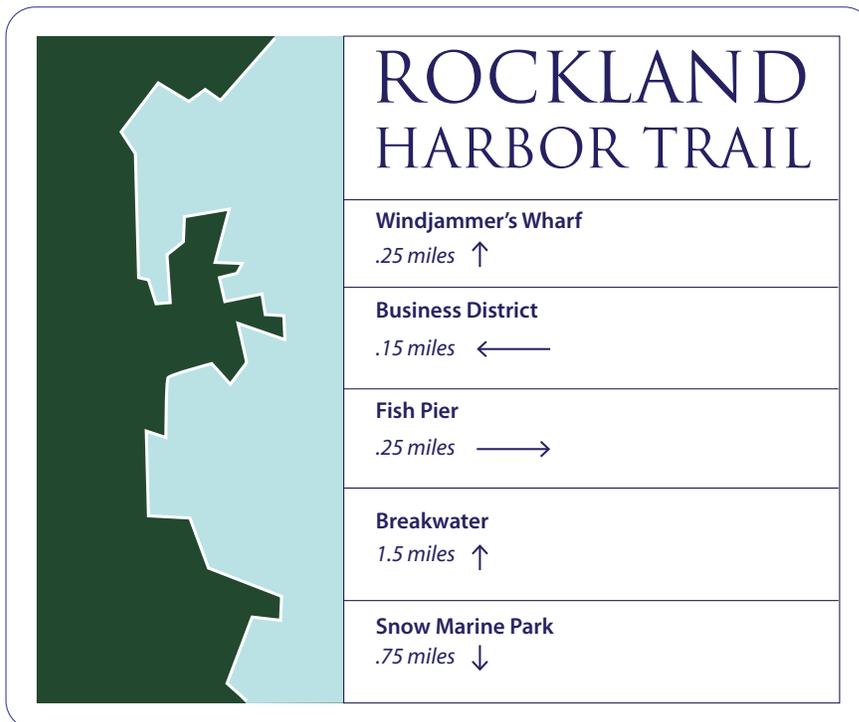


Figure 5-1: Sample directional sign, with destination names, directional arrows, distances, and the Rockland Harbor Trail Logo with heightened color contrast for improved visibility. Signs would be 10" x 12" and mounted on a u-channel post.

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A trail logo, limited selection of fonts, and consistent color palette should be used on all Harbor Trail directional signs and trail markers to strengthen the trail's image and increase its visibility.

### Trail Markers

In the 1990's, the original Rockland Harbor Trail Coalition produced a hundred or more of 7 1/2" by 3 7/10" painted aluminum trail markers to be mounted along the trail (see Figure 5-2). The graphic selected by the Coalition does an effective job of communicating the trail's purpose, but because the colors are close in value, the marker lacks the contrast that would make it easy to pick out in the visually stimulating context of Rockland's downtown. In order to add legibility to the marker, it is recommended that a smaller arrow sign be used in conjunction with each of the existing trail markers. This would add visibility to the route and assist with wayfinding, as the arrow can be

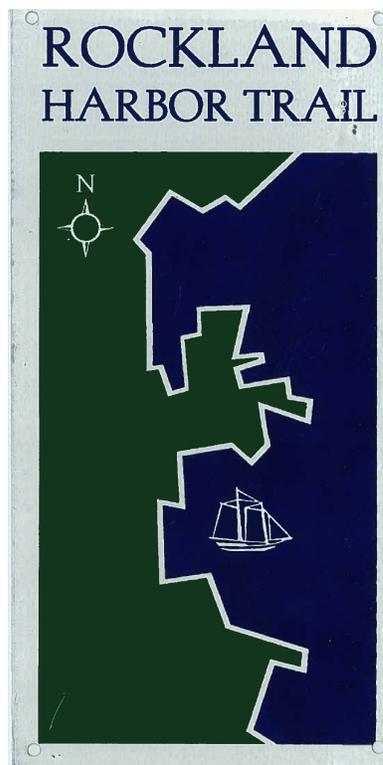


Figure 5-2 Existing Harbor Trail Marker

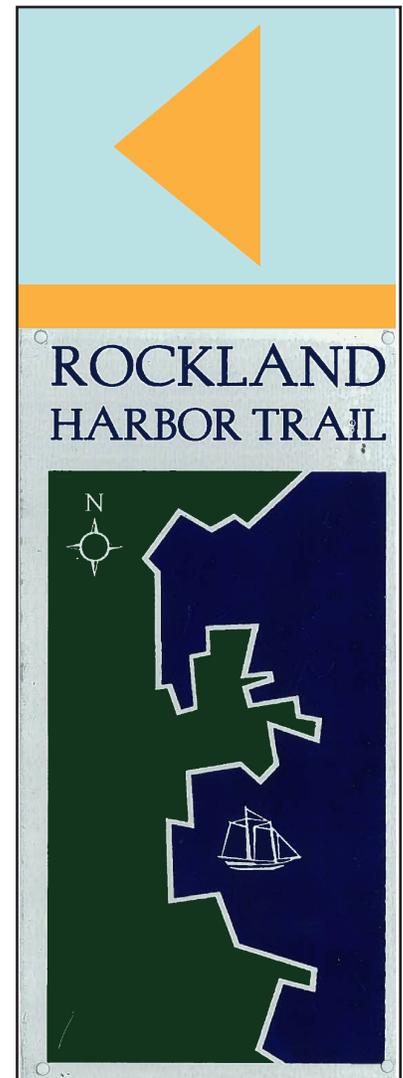
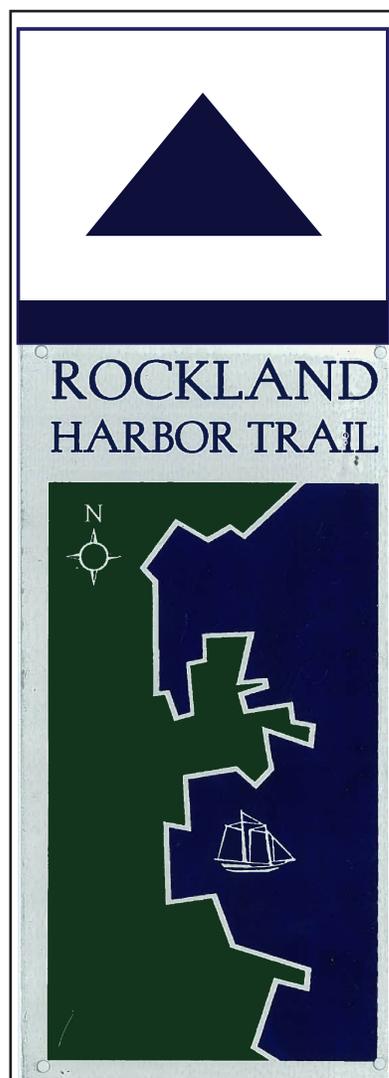


Figure 5-3 Examples of Harbor Trail markers with different examples of directional arrow blazes. Blazes should use a consistent color and design.

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oriented to indicate changes in trail direction (see Figure 5-3).

It is important to note that the trail markers will set the tone for the rest of the Harbor Trail signage and for other signage initiatives in the Downtown. In light of this fact, the City should consider abandoning the existing markers in favor of a new design that is more visually prominent and imageable, and one that could be designed as part of a comprehensive trail signage system compatible with other Downtown signage initiatives.

Once the directional signs described above have been placed, trail markers locations can be determined. Markers should supplement the directional signs to help avoid confusion where numerous directional changes are present, and along long, uninterrupted stretches that might cause users to wonder whether they are still on the trail. Rather than following a uniform interval, their placement should be based on the results of a field assessment that takes into account the unique issues surrounding each trail segment. For example, trail markers will be needed more frequently in the Tillson Avenue and Downtown Districts, as a supplement to directional signs (described in more detail below). Along longer stretches of trail where a uniform trail surface is present, such as on the paver trail at Sandy Beach or the long stretch of new trail along Samoset Road, markers can be used more sparingly. In general, the trail markers should be used judiciously and with restraint.

Markers should ideally be positioned 2 to 4 feet beyond the trail tread (e.g. edge of pavement) with the bottom of the marker located 4 to 5 feet above ground level. North and southbound signs should be paired where possible and placed in close proximity to one another. To reduce visual clutter, markers should be mounted on existing signposts or lampposts to the greatest extent possible. In the Downtown, marker signs may be attached to existing lampposts using a banding kit consisting of a  $\frac{3}{4}$ " stainless steel band, .030" thickness in diameter (see photo, facing page). Where possible, signs may be bolted to the u-channel posts supporting existing traffic signs. According to MaineDOT, Harbor Trail markers may be mounted on MaineDOT's route markers (u-channel), green directional signs (u-channel), and route marker clusters (which use a 4" x 4" wooden post) (see photo, facing page). Possible intra-community signs on which trail markers can be mounted include parking signs and signs for community institutions such as the Public Library or the Chamber of Commerce. Any mounting of markers on intra-community signs must gain prior approval by the Rockland Public Works Department. Signs on which the Harbor Trail markers may not be mounted include: red and white prohibition signs (e.g. STOP signs), black and white regulatory signs (e.g. SPEED LIMIT, however, the route markers and route marker clusters described above are an exception to this rule), and black and yellow warning signs (e.g. CURVE AHEAD). Avoid mounting the markers on official business directory signs. It is not practicable to mount the markers on utility poles.

In some cases, new u-channel posts will need to be installed for the Harbor Trail markers. Where more space is available, it may be preferable to mount the signs on a 4" x 4" wooden post with an angled top (see photo, facing page). Some communities have opted to replace all u-channel posts in their downtown with a more decorative, and costly, black 3"-3 1/2" dia. metal pole. While this is an option, it may be that the costs of doing so outweigh the benefits.

Typically, in an urban situation, 7' of clearance is required to the bottom of a sign. Because the Harbor Trail marker signs are only slightly wider than the posts to which they will be affixed, MaineDOT has indicated that this clearance will not be required.

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Directional trail signs fastened to pole and traffic light post with stainless steel bands



Trail marker attached to a u-channel post supporting a green and white directional sign. Source: East Coast Greenway Alliance.



Examples of trail markers from the Bayside Trail in Portland. The trail marker at left is attached to an existing pole. The trail marker at right is mounted on a wooden post with an angled top. Note the consistent use of colors, the inclusion of distances to other trails, and the use of directional arrows.

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For further questions regarding the installation of Harbor Trail Markers on specific existing road signs, contact MaineDOT Region 2: (207) 624-8200. All sign locations should be reviewed with MaineDOT and Rockland's Department of Public Works before final installation.

### Interpretive Signage

In 2003, through the efforts of the Harbor Master's Office and the Public Works Department, five interpretive signs were installed along the Harbor Trail using public funds. The signs, measuring 30" by 42", were designed and assembled by CheTed Gallery of Rockport, Maine, and were paid for with private funds donated to the City by the now-defunct Rockland Harbor Trail Coalition, December 2001. The signs were installed in 2003 at the Sewage Treatment Plant, Maritime Traditions Wharf, Snow Marine Park, The Breakwater, and on Main Street near Atlantic Challenge.

After eight years of service the signs are showing signs of wear and tear. The interpretive panels have become cloudy and faded due to ultraviolet (UV) exposure, making them difficult to read. They are unsuitable for four-season use and are presently taken in for storage during the winter months.

It is recommended that the interpretive signage panels be updated in a UV, graffiti, and scratch-resistant, long-lasting material, such as a high pressure laminate (HPL). A 1/2" thick 24" x 36" HPL panel with digitally produced graphics, mounted at a 30 or 45 degree angle in a powder coated aluminum double post pedestal is the standard for four-season interpretive signage (see examples on the facing page). Other, more creative and site specific mounting options are available, depending on budget and the thickness of the HPL panel used.

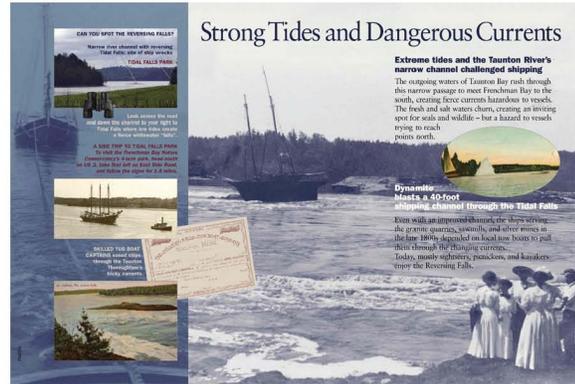
Because interpretive signage represents a considerable investment in time and money, it is recommended that a Rockland City staff person or Rockland Main Street, Inc. staff member take the lead in managing the signs' design and implementation. It will be necessary to assess the existing signage, and determine whether to reuse the signs' location and content, or start with a blank slate, taking a fresh look at sign locations and the stories the City would like to feature.

For a general sense of the costs involved, it would not be unreasonable to budget \$3,500/sign for a HPL sign with 3" x 3" aluminum or steel supports and mounting hardware, including staff time from the organization taking the lead. Assumed in the \$3,500 figure are a 24" x 36" 1/2 inch thick digital HPL sign, with three professional photos per sign, graphic design/layout, and 60 hours of staff time at \$25/hour.

### Conclusion

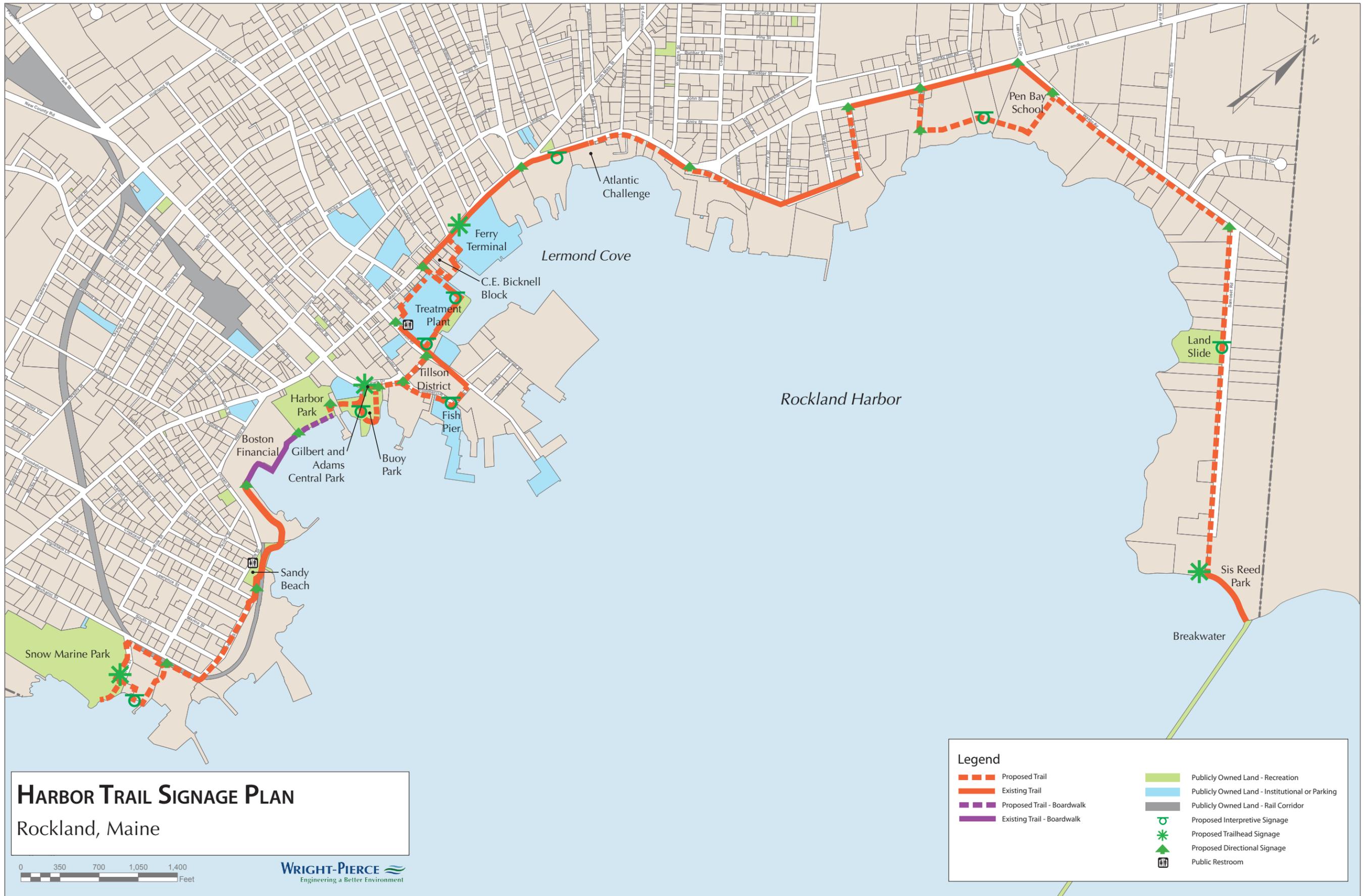
Because, at the time of writing, Rockland Main Street is only beginning to discuss a style and approach for Rockland's Downtown signage, the Harbor Trail signage will almost certainly be designed and installed first. With this in mind, the design of the Harbor Trail directional signs, markers, and, to a lesser extent, interpretive panels should be carefully considered, knowing that whatever is installed will set the tone for signage throughout the Downtown.

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Examples of interpretive signs. Top: Schoodic Byway Signage, Ellsworth, Maine; Bottom Left: Kennebec River Rail Trail, Hallowell; Bottom Right: Standard mounting assembly for HPL panels







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## Section 6 - Costs, Funding, and Implementation

### Costs

The planning level cost estimates below will allow the community to anticipate general project funding amounts for each section of the Harbor Trail. Most of the unit prices used to develop the cost estimates were based on prices associated with similar projects that were bid in Maine within the past year. Unit prices for benches and trash receptacles were provided by the City of Rockland.

Because market prices fluctuate from year to year, we have carried a materials contingency of 10% to take into account possible increases. In general, permitting, professional design services, and construction administration services can add another 20% to the total project costs. These standard cost considerations are reflected in the 30% contingency that has been applied to each trail section.

Another key consideration for a project of this scale is that it will be implemented in phases over several years. Because of this, the City may desire to know what the project costs for implementation of a trail segment will be five years from now. While we cannot say for certain how much prices will fluctuate from year to year, national standards based on past industry trends can indicate what degree of variation might be reasonable to expect. We often refer to the Engineering News Record's Construction Cost Index for a 20-City average. Based on information they have collected, the national trend has shown an increase in construction costs of approximately 5% year over year.

The estimates below do not include costs for acquisition of private property or easements.

Planning-level costs for implementing each section of the Harbor Trail are as follows:

### 1) Snow Marine Park

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>WATERFRONT TRAIL</b>				
EXCAVATION/FILL	70	CY	\$15.00	\$1,050
8" AGGREGATE BASE	45	CY	\$35.00	\$1,575
4" STONE DUST SURFACE	25	CY	\$50.00	\$1,250
EDGING FOR TRAIL	560	LF	\$1.25	\$700
LOAMING AND SEEDING 5' EACH SIDE	320	SY	\$8.00	\$2,560
<b>SNOW STREET TRAIL</b>				
EXCAVATION/FILL	90	CY	\$15.00	\$1,350
8" AGGREGATE BASE	60	CY	\$35.00	\$2,100
4" STONE DUST SURFACE	30	CY	\$50.00	\$1,500
EDGING FOR TRAIL	770	LF	\$1.25	\$963
LOAMING AND SEEDING 5' EACH SIDE	430	SY	\$8.00	\$3,440
<b>MECHANIC STREET TRAIL</b>				
EXCAVATION/FILL	130	CY	\$15.00	\$1,950
12" AGGREGATE BASE	85	CY	\$35.00	\$2,975
2" ASPHALT SURFACE	30	TON	\$50.00	\$1,500
LOAMING AND SEEDING 3' / 5'	330	SY	\$8.00	\$2,640
GUARDRAIL, ONE SIDE	375	LF	\$40.00	\$15,000
<b>ORIENTATION PLAZA (20' X 20')</b>				

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8" AGGREGATE BASE	10 CY	\$35.00	\$350
2" STONE DUST SURFACE	5 SY	\$16.00	\$80
EDGING FOR PLAZA	80 LF	\$1.25	\$100
<b>SITE AMENITIES</b>			
BENCH	3 EA	\$1,050.00	\$3,150
TRASH RECEPTACLE	2 EA	\$450.00	\$900
BIKE LOOP	3 EA	\$250.00	\$750
TRAILHEAD & WAYFINDING SIGNAGE	1 LS	\$7,500.00	\$7,500
EROSION & SEDIMENTATION CONTROL	1 LS	\$1,500.00	\$1,500
			<b>SUBTOTAL: \$54,883</b>
30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY:			<b>\$16,465</b>
			<b>TOTAL: \$71,347</b>

### 2a) Rockland Marine and Sharpe Property - Blazes Only

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>TRAIL (BLAZES ONLY)</b>				
<b>GRANITE STAIR (6' WIDTH)</b>				
GRANITE CURBING	50	LF	\$40.00	\$2,000
LOAMING AND SEEDING 5' EACH SIDE	30	SY	\$8.00	\$240
<b>SITE AMENITIES</b>				
BENCH (BACKLESS)	2	EA	\$1,050.00	\$2,100
INTERPRETIVE AND WAYFINDING SIGNAGE AND STRIPING	1	LS	\$5,000.00	\$5,000
EROSION & SEDIMENTATION	1	LS	\$250.00	\$250
			<b>SUBTOTAL: \$9,590</b>	
30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY:			<b>\$2,877</b>	
			<b>TOTAL: \$12,467</b>	
RAIL CROSSING	1	LS	\$20,000 to \$200,000	

### 2b) Rockland Marine and Sharpe Property - Paver Trail Assumed for 2/3

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>TRAIL (PAVERS FOR 2/3 THE LENGTH)</b>				
EXCAVATION/FILL	80	CY	\$15.00	\$1,200
12" AGGREGATE BASE	60	CY	\$35.00	\$2,100
PAVERS AND 1" SAND CEMENT BASE	370	SY	\$85.00	\$31,450
EDGING FOR TRAIL	1,100	LF	\$1.25	\$1,375
LOAMING AND SEEDING 5' ONE SIDE	310	SY	\$8.00	\$2,480
<b>GRANITE STAIR (6' WIDTH)</b>				
GRANITE CURBING FOR 8 RISERS	50	LF	\$40.00	\$2,000
LOAMING AND SEEDING 5' EACH SIDE	30	SY	\$8.00	\$240
<b>SITE AMENITIES</b>				
BENCH (BACKLESS)	2	EA	\$1,050.00	\$2,100

## 2011 City of Rockland Harbor Trail Master Plan

INTERPRETIVE AND WAYFINDING SIGNAGE	1 LS	\$4,500.00	\$4,500
EROSION & SEDIMENTATION	1 LS	\$500.00	\$500
			<b>SUBTOTAL: \$47,945</b>
30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY:			<b>\$14,384</b>
			<b>TOTAL: \$63,329</b>
RAIL CROSSING	1 LS	\$20,000 to \$200,000	

### 3) Mechanic Street

DESCRIPTION	QTY	UNIT	UNIT PRICE	COST
<b>UNCURBED ASPHALT TRAIL</b>				
EXCAVATION/FILL	120	CY	\$15.00	\$1,800
12" AGGREGATE BASE	80	CY	\$35.00	\$2,800
2" ASPHALT SURFACE	30	TON	\$50.00	\$1,500
LOAMING AND SEEDING 3' / 5'	320	SY	\$8.00	\$2,560
GUARDRAIL, ONE SIDE	350	LF	\$40.00	\$14,000
WAYFINDING SIGNAGE	1	LS	\$500.00	\$500
EROSION & SEDIMENTATION CONTROL	1	LS	\$500.00	\$500
			<b>SUBTOTAL: \$23,660</b>	
30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY:			<b>\$7,098</b>	
			<b>TOTAL: \$30,758</b>	

### 4) Atlantic Street

DESCRIPTION	QTY	UNIT	UNIT PRICE	COST
<b>UNCURBED ASPHALT TRAIL</b>				
EXCAVATION/FILL	320	CY	\$15.00	\$4,800
12" AGGREGATE BASE	220	CY	\$35.00	\$7,700
2" ASPHALT SURFACE	80	TON	\$50.00	\$4,000
LOAMING AND SEEDING 5' BOTH SIDES	1,100	SY	\$8.00	\$8,800
GUARDRAIL, ONE SIDE	950	LF	\$40.00	\$38,000
<b>SITE AMENITIES</b>				
TRASH RECEPTACLE	1	EA	\$450.00	\$450
WAYFINDING SIGNAGE	1	LS	\$500.00	\$500
EROSION & SEDIMENTATION CONTROL	1	LS	\$500.00	\$500
			<b>SUBTOTAL: \$64,750</b>	
30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY:			<b>\$19,425</b>	
			<b>TOTAL: \$84,175</b>	

## 2011 City of Rockland Harbor Trail Master Plan

### 5a) Harbor Park - Low End

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>CANTILEVERED BOARDWALK</b>				
BOARDWALK (INCL, STRUCT. SUPPORTS AND RAILING)	380	LF	\$600.00	\$228,000
<b>SITE AMENITIES</b>				
BENCH (BACKLESS)	6	EA	\$1,050.00	\$6,300
TRASH RECEPTACLE	2	EA	\$450.00	\$900
BIKE LOOP	3	EA	\$250.00	\$750
ROPE FENCE	380	LF	\$40.00	\$15,200
WAYFINDING SIGNAGE	1	LS	\$1,000.00	\$1,000
EROSION & SEDIMENTATION CONTROL	1	LS	\$500.00	\$500
				<b>SUBTOTAL: \$252,650</b>
30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY:				<b>\$75,795</b>
				<b>TOTAL: \$328,445</b>

### 5b) Harbor Park - High End

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>CANTILEVERED BOARDWALK</b>				
BOARDWALK (INCL, STRUCT. SUPPORTS AND RAILING)	380	LF	\$1,000.00	\$380,000
<b>SITE AMENITIES</b>				
BENCH (BACKLESS)	6	EA	\$1,050.00	\$6,300
TRASH RECEPTACLE	2	EA	\$450.00	\$900
BIKE LOOP	3	EA	\$250.00	\$750
ROPE FENCE	380	LF	\$40.00	\$15,200
WAYFINDING SIGNAGE	1	LS	\$1,000.00	\$1,000
EROSION & SEDIMENTATION CONTROL	1	LS	\$500.00	\$500
				<b>SUBTOTAL \$404,650</b>
30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY:				<b>\$121,395</b>
				<b>TOTAL \$526,045</b>

### 6a) Buoy Park - Low End

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>PRIMARY TRAIL (BLAZES ONLY)</b>				
WAYFINDING SIGNAGE AND STRIPING	1	LS	\$5,000.00	\$5,000
<b>CROSSWALKS</b>				
STRIPED ONLY	1	LS	\$10,000.00	\$10,000
<b>SPUR TRAIL</b>				
EXCAVATION/FILL	110	CY	\$15.00	\$1,650
8" AGGREGATE BASE	75	CY	\$35.00	\$2,625
4" STONE DUST SURFACE	40	CY	\$50.00	\$2,000
EDGING FOR TRAIL	1,000	LF	\$1.25	\$1,250
LOAMING AND SEEDING 5' EACH SIDE	560	SY	\$8.00	\$4,480

## 2011 City of Rockland Harbor Trail Master Plan

GUARDRAIL, ONE SIDE,PARTIAL	200 LF	\$40.00	\$8,000
<b>GRANITE STAIR (6' WIDTH)</b>			
GRANITE CURBING	180 LF	\$40.00	\$7,200
LOAMING AND SEEDING 5' EACH SIDE	200 SY	\$8.00	\$1,600
<b>SITE AMENITIES</b>			
TRASH RECEPTACLE	2 EA	\$450.00	\$900
BIKE LOOP	3 EA	\$250.00	\$750
ROPE FENCE	380 LF	\$40.00	\$15,200
BENCH (BACKLESS)	2 EA	\$1,050.00	\$2,100
<b>TRAILHEAD, INTERPRETIVE &amp; WAYFINDING SIGNAGE</b>	1 LS	\$10,000.00	\$10,000
<b>EROSION &amp; SEDIMENTATION CONTROL</b>	1 LS	\$1,000.00	\$1,000
			<b>SUBTOTAL: \$73,755</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>			<b>\$22,127</b>
			<b>TOTAL: \$95,882</b>

### 6b) Buoy Park - High End

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>PRIMARY TRAIL (PAVERS FOR WHOLE LENGTH)</b>				
EXCAVATION/FILL	70	CY	\$15.00	\$1,050
12" AGGREGATE BASE	115	CY	\$35.00	\$4,025
PAVERS AND 1" SAND CEMENT BASE	335	SY	\$85.00	\$28,475
EDGING FOR TRAIL	1,000	LF	\$1.25	\$1,250
LOAMING AND SEEDING 5' ONE SIDE	280	SY	\$8.00	\$2,240
<b>CROSSWALKS</b>				
SUPPLEMENT TO ACCOUNT FOR EXTRA WORK AT CROSSINGS	1	LS	\$10,000.00	\$10,000
<b>SPUR TRAIL</b>				
EXCAVATION/FILL	110	CY	\$15.00	\$1,650
8" AGGREGATE BASE	75	CY	\$35.00	\$2,625
4" STONE DUST SURFACE	40	CY	\$50.00	\$2,000
EDGING FOR TRAIL	1,000	LF	\$1.25	\$1,250
LOAMING AND SEEDING 5' EACH SIDE	560	SY	\$8.00	\$4,480
GUARDRAIL, ONE SIDE,PARTIAL	200	LF	\$40.00	\$8,000
<b>GRANITE STAIR (6' WIDTH)</b>				
GRANITE CURBING	180	LF	\$40.00	\$7,200
LOAMING AND SEEDING 5' EACH SIDE	200	SY	\$8.00	\$1,600
<b>SITE AMENITIES</b>				
TRASH RECEPTACLE	2	EA	\$450.00	\$900
BIKE LOOP	3	EA	\$250.00	\$750
ROPE FENCE	380	LF	\$40.00	\$15,200
BENCH (BACKLESS)	2	EA	\$1,050.00	\$2,100
<b>TRAILHEAD, INTERPRETIVE &amp; WAYFINDING SIGNAGE</b>	1	LS	\$10,000.00	\$10,000

## 2011 City of Rockland Harbor Trail Master Plan

EROSION & SEDIMENTATION CONTROL	1 LS	\$1,500.00	\$1,500
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**SUBTOTAL: \$106,295**

**30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY: \$31,889**

**TOTAL: \$138,184**

### 7a) Tillson District - Blazes Only

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
INTERPRETIVE AND WAYFINDING SIGNAGE AND STRIPING	1	LS	\$5,500.00	\$5,500
EROSION & SEDIMENTATION CONTROL	1	LS	\$250.00	\$250

**SUBTOTAL: \$5,750**

**30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY: \$1,725**

**TOTAL: \$7,475**

### 7b) Tillson District - Curbed Paver Trail with Street Lighting

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>CURBED PAVER TRAIL</b>				
EXCAVATION/FILL	180	CY	\$15.00	\$2,700
12" AGGREGATE BASE	305	CY	\$35.00	\$10,675
PAVERS AND 1" SAND CEMENT BASE	905	SY	\$85.00	\$76,925
GRANITE CURBING	1,355	LF	\$35.00	\$47,425
EDGING FOR TRAIL	1,355	LF	\$1.25	\$1,694
LOAMING AND SEEDING 5' ONE SIDE	755	SY	\$8.00	\$6,040
<b>STREET LIGHTING AND ELECTRICAL SERVICE*</b>	1	LS	\$190,000	\$190,000
INTERPRETIVE AND WAYFINDING SIGNAGE AND STRIPING	1	LS	\$4,500.00	\$4,500
EROSION & SEDIMENTATION CONTROL	1	LS	\$1,000.00	\$1,000

**SUBTOTAL: \$340,959**

**30% PERMITTING, ENGINEERING & MATERIALS CONTINGENCY: \$102,288**

**TOTAL: \$443,246**

\* Lighting is discussed in more detail in Section 4 - Site Amenities.

### 8) Thorndike Parking Area

**TOTAL: \$290,000\***

\*From Preliminary Design Report cost estimate. The Preliminary Design Report, which Wright-Pierce prepared for the City in June 2011, details planned parking area improvements with cost estimates for all phases of the project. The \$290,00 figure cited above includes all work needed to install the sidewalk adjacent to the Main Street buildings and to complete landscaping, lighting, and crosswalk work associated with that area of the project.

## 2011 City of Rockland Harbor Trail Master Plan

### 9) Lermond Cove

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>PAVER TRAIL</b>				
EXCAVATION/FILL	80	CY	\$15.00	\$1,200
12" AGGREGATE BASE	130	CY	\$35.00	\$4,550
PAVERS AND 1" SAND CEMENT BASE	385	SY	\$85.00	\$32,725
EDGING FOR TRAIL	1,150	LF	\$1.25	\$1,438
LOAMING AND SEEDING 5' BOTH SIDES	640	SY	\$8.00	\$5,120
<b>CROSSWALKS</b>				
PAINTED CROSSWALK	1	LS	\$5,000.00	\$5,000
<b>GRANITE STAIR (6' WIDTH)</b>				
GRANITE CURBING	180	LF	\$40.00	\$7,200
LOAMING AND SEEDING 5' EACH SIDE	200	SY	\$8.00	\$1,600
<b>SITE AMENITIES</b>				
TRASH RECEPTACLE	1	EA	\$450.00	\$450
BIKE LOOP	3	EA	\$250.00	\$750
BENCH	2	EA	\$1,050.00	\$2,100
TRAILHEAD & WAYFINDING SIGNAGE	1	LS	\$7,500.00	\$7,500
EROSION & SEDIMENTATION CONTROL	1	LS	\$1,500.00	\$1,500
				<b>SUBTOTAL: \$71,133</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>				<b>\$21,340</b>
				<b>TOTAL: \$92,472</b>

PEDESTRIAN BRIDGE	1	LS	\$50,000 to \$75,000
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### 10) Main Street

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>CURBED ASPHALT TRAIL</b>				
EXCAVATION/FILL	380	CY	\$15.00	\$5,700
12" AGGREGATE BASE	260	CY	\$35.00	\$9,100
2" ASPHALT SURFACE	90	TON	\$50.00	\$4,500
LOAMING AND SEEDING 5' ONE SIDE	640	SY	\$8.00	\$5,120
GRANITE CURBING	1,150	LF	\$40.00	\$46,000
<b>SITE AMENITIES</b>				
BENCH	1	EA	\$1,050.00	\$1,050
TRASH RECEPTACLE	1	EA	\$450.00	\$450
INTERPRETIVE & WAYFINDING SIGNAGE	1	LS	\$5,000.00	\$5,000
CATCH BASINS & STORM DRAIN	1	LS	\$50,000.00	\$50,000
EROSION & SEDIMENTATION CONTROL	1	LS	\$1,000.00	\$1,000
				<b>SUBTOTAL: \$127,920</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>				<b>\$38,376</b>
				<b>TOTAL: \$166,296</b>

\* Some catch basins are present, but they will need to be adjusted. This number assumes 8 catch basins at \$2,400/EA and 500 LF of 15" storm drain at \$60/LF.

## 2011 City of Rockland Harbor Trail Master Plan

### 11) Washington Street

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>CURBED ASPHALT TRAIL</b>				
EXCAVATION/FILL	210	CY	\$15.00	\$3,150
12" AGGREGATE BASE	140	CY	\$32.00	\$4,480
2" ASPHALT SURFACE	20	TON	\$50.00	\$1,000
LOAMING AND SEEDING 5' ONE SIDE	350	SY	\$8.00	\$2,800
GRANITE CURBING	630	LF	\$40.00	\$25,200
WAYFINDING SIGNAGE	1	LS	\$1,000.00	\$1,000
CATCH BASINS & STORM DRAIN*	1	LS	\$40,000.00	\$40,000
EROSION & SEDIMENTATION CONTROL	1	LS	\$500.00	\$500
				<b>SUBTOTAL: \$78,130</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>				<b>\$23,439</b>
				<b>TOTAL: \$101,569</b>

\* Some catch basins are present, but they will need to be adjusted. This number assumes 4 catch basins at \$2,400/EA and 500 LF of 15" storm drain at \$60/LF.

### 12) Fales and Pen Bay\*

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>CURBED ASPHALT TRAIL</b>				
EXCAVATION/FILL	130	CY	\$15.00	\$1,950
12" AGGREGATE BASE	85	CY	\$35.00	\$2,975
2" ASPHALT SURFACE	30	TON	\$50.00	\$1,500
LOAMING AND SEEDING 5' ONE SIDE	210	SY	\$8.00	\$1,680
GRANITE CURBING	370	LF	\$35.00	\$12,950
<b>SPUR TRAIL (STONE DUST)</b>				
EXCAVATION/FILL	320	CY	\$15.00	\$4,800
8" AGGREGATE BASE	210	CY	\$32.00	\$6,720
4" STONE DUST SURFACE	105	CY	\$50.00	\$5,250
EDGING FOR TRAIL	2,840	LF	\$1.25	\$3,550
LOAMING AND SEEDING 5' EACH SIDE	1,580	SY	\$8.00	\$12,640
<b>SITE AMENITIES</b>				
TRASH RECEPTACLE	1	EA	\$450.00	\$450
BIKE LOOP	3	EA	\$250.00	\$750
BENCH	3	EA	\$1,050.00	\$3,150
INTERPRETIVE & WAYFINDING SIGNAGE	1	LS	\$4,500.00	\$4,500
EROSION & SEDIMENTATION CONTROL	1	LS	\$1,000.00	\$1,000
				<b>SUBTOTAL: \$63,865</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>				<b>\$19,160</b>
				<b>TOTAL: \$83,025</b>
PEDESTRIAN BRIDGE	1	LS	\$50,000 to \$75,000	

\*Assumes drainage is handled using existing structures in parking lot

## 2011 City of Rockland Harbor Trail Master Plan

### 13) Waldo Avenue

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>CURBED ASPHALT TRAIL</b>				
EXCAVATION/FILL	670	CY	\$15.00	\$10,050
12" AGGREGATE BASE	150	CY	\$35.00	\$5,250
2" ASPHALT SURFACE	155	TON	\$50.00	\$7,750
LOAMING AND SEEDING 5' ONE SIDE	1,130	SY	\$8.00	\$9,040
GRANITE CURBING	2,035	LF	\$35.00	\$71,225
WAYFINDING SIGNAGE	1	LS	\$1,500.00	\$1,500
CATCH BASINS & STORM DRAIN	1	LS	\$95,000.00	\$95,000
EROSION & SEDIMENTATION CONTROL	1	LS	\$1,000.00	\$1,000
<b>SUBTOTAL:</b>				<b>\$200,815</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>				<b>\$60,245</b>
<b>TOTAL:</b>				<b>\$261,060</b>

\* Some catch basins are present, but they will need to be adjusted. This number assumes 14 catch basins at \$2,400/EA and 1000 LF of 15" storm drain at \$60/LF.

### 14a) Samoset Road - Blazes Only

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
INTERPRETIVE AND WAYFINDING SIGNAGE AND STRIPING	1	LS	\$5,500.00	\$5,500
EROSION & SEDIMENTATION CONTROL	1	LS	\$250.00	\$250
<b>SUBTOTAL:</b>				<b>\$5,750</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>				<b>\$1,725</b>
<b>TOTAL:</b>				<b>\$7,475</b>

### 14b) Samoset Road - Uncurbed Asphalt Trail

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
<b>UNCURBED ASPHALT TRAIL</b>				
EXCAVATION/FILL	1,010	CY	\$15.00	\$15,150
12" AGGREGATE BASE	680	CY	\$35.00	\$23,800
2" ASPHALT SURFACE	230	TON	\$50.00	\$11,500
LOAMING AND SEEDING 5' / 8'	4,420	SY	\$8.00	\$35,360
INTERPRETIVE AND WAYFINDING SIGNAGE	1	LS	\$4,500.00	\$4,500
EROSION & SEDIMENTATION CONTROL	1	LS	\$1,000.00	\$1,000
<b>SUBTOTAL:</b>				<b>\$91,310</b>
<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>				<b>\$27,393</b>
<b>TOTAL:</b>				<b>\$118,703</b>

## 2011 City of Rockland Harbor Trail Master Plan

### 15) Breakwater Trailhead and Pathway

DESCRIPTION	QTY.	UNIT	UNIT PRICE	COST
STONE DUST TRAIL REPAIRS AND BANK STABILIZATION	1	LS	\$20,000.00	\$20,000
<b>SITE AMENITIES</b>				
TRASH RECEPTACLE	2	EA	\$450.00	\$900
BIKE LOOP	3	EA	\$250.00	\$750
TRAILHEAD AND WAYFINDING SIGNAGE	1	LS	\$7,500.00	\$7,500
EROSION & SEDIMENTATION CONTROL	1	LS	\$1,000.00	\$1,000
			<b>SUBTOTAL:</b>	<b>\$30,150</b>
			<b>30% PERMITTING, ENGINEERING &amp; MATERIALS CONTINGENCY:</b>	<b>\$9,045</b>
			<b>TOTAL:</b>	<b>\$39,195</b>

### Total Project Costs

**GRAND TOTAL: \$1,795,000 TO \$2,860,000**

### Funding and Implementation

The following is a listing of funding resources for the implementation of the Harbor Trail Master Plan, along with the status of each funding source and timeframes.

#### Thorndike Parking Area

**Funding Resource and Agency:** The 2011 Community for Maine's Future (CFMF) Bond Program funding from a 3.5 million dollar bond approved by the voters in June 2010. Eligible uses include walking trails. The program is administered by the Maine Department of Economic and Community Development (MeDECD).

**Status:** The City has received a CFMF grant for \$200,000 of which a part will be used to install a paver crosswalk along the northern end of the Thorndike Parking Area which will link the recently completed Lermond Cove segment of the Harbor Trail in the vicinity of the Waste Water Treatment Plant to the downtown Main Street segment of the trail system.

**Timeframe:** Construction Spring 2012

**Responsibility:** Rockland Community Development Department

#### Atlantic Street

**Funding Resource and Agency:** The Recreational Trail Grant (RTP) Program sponsored by the Maine Department of Conservation, Bureau of Parks and Lands for up to \$35,000 for new trail construction along with 20% local match. The local match may include cash, volunteer labor, equipment, and materials and other state and local grants as well as certain federal grants.

**Status:** Dragon Cement Company has informed the City that it will donate an easement for the approximately 950 foot Atlantic Street segment of the trail. In order to acquire the easement or even apply for a grant to construct the segment, a survey has to be undertaken and engineering design work has to be completed. The estimated project cost is \$68,000 to \$84,200 (including surveying and engineering). The Penobscot Bay YMCA, located in Rockport, through the Federal Center for

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## 2011 City of Rockland Harbor Trail Master Plan

Disease Control and the Knox County Coalition Healthy Maine Partnership has provided the City with a \$10,000 grant for the survey and engineering work and has indicated that they may fund some part of the cost not covered by an RTP grant.

**Timeframe:** Conduct the surveying and engineering work in the Summer 2011 and apply for the RTP grant in December 2011, with construction either in 2012 or 2103. The Harbor Trail Master Plan will serve as the basis for the grant application.

**Responsibility:** Harbor Trail Committee and Rockland Community Development Department

### Project-Wide

**Funding Resource and Agency:** The Maine Department of Transportation (MaineDOT) Quality Community Program. The two Quality Community Programs operated by MaineDOT consist of the Transportation Enhancement Program (TEP) and the Safe Routes to School program. The TEP is an 80/20 Federal and State funding program. The program supports pedestrian and bicycle projects such as sidewalks, crosswalks, walkways, curb ramps, downtown revitalization, traffic calming, wide paved shoulders, bike striping, bike racks, bike and pedestrian bridges and off road trails as well as promotes safety awareness and training. More specifically, paved sidewalks and shoulders on minor collectors or local roads, and new sidewalks on arterials and major collectors with enclosed drainage. Each activity must show a relationship to surface transportation.

**Status:** Rockland's previous success with the Quality Community Program has included receiving \$210,000 in 2010-2011 Biennial Capital Work Plan funding for Route 1 and side street crosswalks and traffic calming measures in the section of Main Street from Limerock Street north to the intersection of Rankin Street and Main Street as part of the 2010-2012 Downtown Streetscapes Improvement Project. Under the Fiscal Year 2012-2013 Quality Community Program the City applied for TEP funding for \$50,000 for new sidewalk construction on the east side of White Street and along the north side of Limerock Street. In order to get the project moving forward, the FY2012-2013 MaineDOT Work Plan included a \$3,400 grant for the engineering design work with an \$860 local match. When completed, the City can anticipate 80% construction funding from MaineDOT in FY2014 -2015. The project will link the Library, the Rockland Long-Term Nursing Care Facility, the Community Recreation Building, and the downtown together in one seamless sidewalk or walking path.

Safe Routes to School is a Federal and State program that provides up to 100% for infrastructure improvements that will improve or increase the number of children walking or bicycling to school or to after school activities. The program applies to new sidewalk or walking pathway projects within two miles of an elementary or middle school. Typical projects include sidewalks, traffic calming, on-street and off street bike and pedestrian facilities and pedestrian crossings. The City of Rockland is familiar with this program having applied for FY2012-2013 funding in the amount of \$132,000 for new Rockland South End sidewalks in the vicinity of the South School and the Middle School. (The application was not approved.) Closely associated with the Quality Community Program is the 80/20 Go Maine cost sharing for bike racks with capacities of 2, 6, or 8 bikes.

**Timeframe:** The next Safe Routes to School application is due in the Spring of 2012 for funding available in FY2014-21015.

**Responsibility:** The Rockland Community Development Department will need to update the current Safe Routes to School application for re-submission in the Spring of 2012.

## 2011 City of Rockland Harbor Trail Master Plan

### Lermond Cove/WWTF

**Funding Resource and Agency:** The Maine Downtown Center’s Green Downtowns Program funded by a \$100,000 grant from the Maine Community Foundation’s Environmental Funder’s Network focuses on green initiatives. Under this program challenge or matching grants are provided to Main Street Maine communities for technical assistance in historic preservation; for recycling; preserving or re-use of the historic built environment; and supporting the development of multi-use trail system and sidewalks that will link pedestrians directly to Main Street and Main Street sidewalks; as well as, providing environmentally sensitive community design assistance to the Center’s Maine Downtown Network communities.

**Status:** In 2011, Rockland Main Street, Inc. (RMSI) received a \$10,000 grant from the Green Downtowns program with in-kind/cash matching funds provided by the City of Rockland. The grant will be used as part of the local cash match for the 2011 Communities for Maine’s Future Program. Specifically it will be used for connecting the historic schooners located in the completed Lermond Cove segment of the Harbor Trail through the north end of the Thorndike Parking area with the newly refurbished Main Street sidewalks located on the east or waterside of the Main Street. The latter has been integrated into the Harbor Trail system.

**Timeframe:** RMSI and the City’s Community Development Department should consider applying for another grant in 2012 after the present planned trail connector has been completed in the Spring 2012.

**Responsibility:** RMSI and the Rockland Community Development Department

### Summary of Funding Resources and Timeframes

Trail Section	Funding Agency & Program	Timeframe and Amount
Thorndike Parking Area	Maine Department of Economic and Community Development Community for Maine’s Future Bond Program	Construction Spring 2012 \$200,000
Atlantic Street	Center for Disease Control and Maine Healthy Partnership Pen Bay YMCA	Survey Summer 2011 \$10,000
Atlantic Street	Maine Department of Conservation, Bureau of Parks and Lands Recreational Trail Grant Program	Construction 2012 or 2013 \$35,000 (20% match)
Project-Wide	MaineDOT Quality Community Program TE Program, Safe Routes to School, and <i>Go Maine</i>	Construction 2014-2015 Application Spring 2012
Lermond Cove/ WWTF	Maine Downtown Center Green Downtowns Program	Construction Spring 2012 \$10,000 Re-Application Spring 2012

### Appendix A - Workshop Results

#### Public Comment

The following comments and questions regarding the Draft Harbor Trail Master Plan were recorded at a public workshop held on Thursday June 23rd, 2011 at 7:00 p.m. in the Rockland City Hall Council Chambers. The workshop was sponsored and hosted by the Rockland Community Development Department, RMSI, and the Rockland Harbor Trail Committee. Jennifer Claster, RLA from Wright-Pierce Engineers in Topsham presented the plan in a PowerPoint format and responded to attendee questions. 17 members of the public attended the meeting.

- High priority should be given to the Atlantic Street and Mechanic Street segments of the trail, which are heavily used by pedestrians
- The southerly end of the Sandy Beach pathway section terminates on Atlantic Street and the trail needs to connect to this terminus
- Speed limit enforcement is needed
- ADA accessibility may be an issue on certain segments of the trail
- Historical interpretive signage should be placed on the trail especially at Ingraham's corner at the end of Crescent Street and along Atlantic Street to Mechanic Street because of the location of the shipyards and kilns
- City councilors emphasized recruitment of Harbor Committee members
- Porous asphalt and pavers discussed as to advantages and disadvantages/costs
- The issue of obtaining private easements for the trail segments and the importance of using public property for the trail route were discussed
- The trail segment from Snow Marine Park to the Downtown should be given the highest priority because it can most readily be financed and completed



### Appendix B - National Park Service Technical Assistance Application

#### Introduction

The Rockland Harbor Trail Committee and the Rockland Community Development Department have submitted an application for technical assistance to the National Park Service (NPS) under their Rivers, Trails, and Conservation Assistance Program. If approved, the technical assistance will be provided by NPS personnel located in Brunswick, Maine, who will assist in the implementation of the Harbor Trail Master Plan. Long-term technical assistance from the NPS will be critical to the completion of the Harbor Trail, as a support to City staff juggling multiple priorities.





# Application Form for NPS RTCA Assistance

## Steps for applicant:

- ✓ Contact RTCA staff at least two weeks before applying for assistance;
- ✓ Send Applicant Information and Project Description to [RTCA\\_Application@nps.gov](mailto:RTCA_Application@nps.gov) by August 1 or by U.S. Mail to appropriate Program Manager postmarked by August 1;
- ✓ We recommend sending maps, large background documents and support letters by U.S. Mail to appropriate

*Program Manager postmarked by August 1.*

**Project Name:** Rockland Harbor Trail      **Date:** August 1, 2011

**Project Location:** City of Rockland, Maine Harbor and Waterfront area

**City, County and State:** Rockland, Maine

**Congressional District(s):** 1<sup>st</sup>

**Applicant organization:** City of Rockland Community Development Department and the Rockland Harbor Trail Committee

**Primary Contact:** Audrey Lovering    **Title:** Community Development Director/Deputy Economic Development Director

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**City:** Rockland    **State:** Maine    **Zip Code:** 04841

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## Project Description:

1. Describe the goals of your project and any tangible conservation or outdoor recreation results expected. Quantify the expected results in terms of miles of trail or protected river, acres of open space, parkland, habitat, etc. Briefly describe any prior activity or history, if any, on the project and its current status: What aspects of projects are going well, aspects you think need the most help. Include expected completion date if known.

**Project Goals:** To complete the remaining length of the Harbor Trail of approximately 16,300 feet or 3 miles (the total approximate length of the Harbor Trail is 5 miles) in segments, and to raise \$1.6M to \$2M in grant and private donation funding to cover the cost of the project. The most immediate goal, slated for 2012-13, is the completion of the 950 foot segment along Atlantic Street in the Harbor's South End.

### Description: of Prior Project Activity and Status:

- In 2009, a 690 foot long concrete unit paver pathway was constructed by the City at Sandy Beach. In order to connect the pathway to Atlantic Street, and eventually Snow Marine Park in the South End, the City purchased an adjacent .61 acre parcel of land from Dragon Cement Company in 2009 for \$100,000 using available funds from the City's Land Sales account. This allowed the City to continue the pathway and pavers to a terminus at Atlantic Street.

- Former MBNA constructed a 1,385 foot boardwalk and concrete walkway at what is now known as the Harbor Walk at the now Boston Financial Building in 2001.

- In 2009, the Harbor Trail was extended around the Wastewater Treatment Facility (WWTP) parcel in the form of a concrete unit paver walkway and gravel path with landscaping, a picnic area,

and a connection to the landing at Lermond Cove with its working fleet of historic schooners.

- From 2008-2012, the City began constructing sidewalk improvements along the segment of Main Street between Limerock Street, Rankin Street, and North Main Street. When completed, the sidewalks on the east side of Main Street to Rankin Street and North Main Street will be integrated into the Harbor Trail System via the brick paver inlays along Glover's Passage by 449 Main Street, then across the northern end of the Thorndike Parking Lot, connecting with the sewer treatment plant segment of the trail.

- In the Spring of 2007, the City completed a 1,500 foot length of asphalt sidewalk between the Ferry Terminal and Atlantic Challenge.

- Dragon Cement Company has made a verbal commitment to the City to donate a 950 foot easement along their property on the east or water of side Atlantic Street for the extension of the Harbor Trail. This donation is contingent on the completion of a survey by the City which will confirm the location of the Street right-of-way and the Dragon property line. A \$10,000 ACHIEVE grant from the Federal Center for Disease Control via the Penobscot Bay YMCA located in Rockport has been received for the surveying and engineering work. After this segment is constructed, the City expects to construct the final segment in the South End along the remainder of Atlantic Street onto Mechanic Street, terminating at Snow Marine Park. This last segment in the South End will be approximately 860 feet in length. City recently received

- Another future project will be the construction of a boardwalk along Harbor Park, similar to the wooden boardwalk installed by MBNA (now Boston Financial). A proposal for the boardwalk has been put forth by the Harbor Park Re-Design Committee and is now in the conceptual design stage.

- Conceptual and preliminary design work has been completed on improvements to sidewalks within the Thorndike Parking Area adjacent to the buildings along with the preparation of a 2011 Communities for Maine's Future grant application for funding. The concrete unit sidewalks will provide an accessible route between the Tillson District and Main Street sections of the Harbor Trail by-passing the stairway at the Wastewater Treatment Facility.

Aspects of the Project Going Well: Aspects of the project going well include the Community Development Department and WWTP leadership in pushing the project forward; completion of the Harbor Trail Master Plan by Jennifer Claster, LA, Wright-Pierce Engineers of Topsham, and Rodney Lynch, AICP, and former Community Development Director for the City of Rockland; since 2008 obtaining \$204,000 in grant and other funding for the project; and bringing the membership of the recently re-activated Harbor Trail Committee up to full strength.

Aspects Needing Help: Maintaining the Harbor Trail momentum because of the limited City staff resources that can be devoted to the project, and finding and obtaining the large amount of grant moneys and private donations necessary to complete the project without burdening the Rockland property tax payers with higher taxes and fees. It is anticipated that NPS RTCA Assistance will fill-in the gap in staff resources and provide the continuity needed over the next 20-25 years if the project is ever to be completed.

2. Describe how your project will protect or improve important natural resources and/or enhance outdoor recreation opportunities.

- The project will enhance outdoor recreational opportunities by increasing the number of walkers utilizing the Harbor Trail. Anecdotally, there was a significant increase in the Harbor Trail usage upon the completion of the Sandy Beach segment of the trail; especially, by South End residents.

3. List the partners involved and describe how they are actively and substantively involved in the project. Identify those partners that embrace any of the current strategic themes for RTCA. Briefly summarize the existing or anticipated role and contribution of each. *(Three support letters from partners required)*

List of the Partners Involved in the Project: The partners involved in the project include the Harbor Trail Committee appointed by the City Council; Rockland Main Street Inc., (RMSI); the Penobscot YMCA and

the Knox County Community Healthy Coalition branch of the Healthy Maine Partnership; and, the Georges Valley Land Trust.

Involvement of the Partners: The Harbor Trail Committee will act as the public's and City Council's sounding board and representative for the planning and completion of various segments of the remaining length of the Harbor Trail, and assist in obtaining support and staff resources and funding for the completion of the Harbor Trail; RMSI will serve as the advocate and a funding resource for the Downtown portion of the trail; the Penobscot YMCA and the Knox County Community Healthy Coalition branch of the Healthy Maine Partnership will serve as advocates for persons to use the trail as a means of addressing the issue of the lack of physical activity, and as a continuing funding resource for project completion; and the City will utilize the experience and resources of the Georges River Land Trust for rail planning and completion, and in accessing private and not-for profit funding sources.

Identification of the Partners that Embrace Current Strategic Themes for RTCA. Partners that embrace RTCA themes include PenBay YMCA and Healthy Maine Partnership which are health related organizations, and the Georges River Land Trust which includes both outdoor recreation and natural resources conservation goals.

4. Provide other examples of support for the project including: supporting language in local, regional and state plans, endorsements from elected officials and boards, supportive votes or public survey results, other grants or awards received, or examples of media coverage. *Letters of support are welcome.* Describe public participation, if any, in the project so far, and any future public participation plans.

Supporting language in local plans:

*2002 Rockland Comprehensive Plan Goals:* "Make the Harbor Trail a permanent feature."

*2005 Tillson District and Waterfront Redevelopment Plan:* "Implement the Harbor Trail in segments."

*2009 Downtown Revitalization Plan Update:* "Continue planning efforts to develop a permanent Harbor Trail through the Tillson District and the Downtown."

*2010 Waterfront Area Redevelopment Plan:* "Finalize the trail route and determine the design standards such as pavement material, signage and amenities and implement the trail in segments."

\$204,000 in Grant and Other Awards Received:

- An \$82,000 2008 State of Maine Municipal Investment Trust Fund (MITF) for the construction of the Sandy Beach segment of the Harbor Trail.
- A private matching donation in the amount of \$82,000 from the new owners of the MBNA building on the harbor for the construction of the Sandy Beach segment of the Harbor Trail.
- A 2010 \$10,000 grant from the Maine Downtown Center Green Downtown Program obtained by RMSI to connect the Harbor Trail to Main Street.
- A 2011 ACHIEVE grant in the amount of \$10,000 from the Penobscot Bay YMCA, Federal CDC and the Knox County branch of the Healthy Maine Partnership for surveying and engineering design work for the next segment of the Harbor Trail along Atlantic Street.
- The 2010-2013 pro bono services from Wright-Pierce Engineers of Topsham for Jennifer Claster, Landscape Architect, to research, develop and prepare the strategic Rockland Harbor Trail Master Plan. The estimated value of this service is \$20,000.

These awards demonstrate the City's long term commitment to the completion of the project.

Examples of Media Coverage:

- The June 23, 2011 public workshop on the draft Harbor Trail Master Plan was reported on in the *Free Press*.
- The July 21, 2011 edition of the *Free Press* reported on the City's ACHIEVE grant award and the extension of the Harbor Trail system along the Rockland waterfront.

Public Participation:

- The public workshop on the draft Harbor Trail Master Plan was held on June 23, 2011 in the Rockland City Council Chambers. It was attended by 17 persons. The general consensus of the attendees was to focus on the uncompleted Atlantic Street segment of the Harbor Trail with its high number of pedestrians and to connect it to the completed Sandy Beach segment in order to make it safer.
- Future public participation efforts will involve public workshop on the proposed plans for the construction of the Atlantic Street segment of the Harbor Trail to be hosted by the Community Development Department and Harbor Trail Committee and facilitated by NPS RTCA.

5. Describe the kind of assistance you are seeking from RTCA staff. *For examples of the kinds of assistance RTCA staff can provide, go to "What we do" on our website, [www.nps.gov/rtca](http://www.nps.gov/rtca).*

Kinds of Assistance Seeking:

- Technical assistance in implementing the strategic 2011 Harbor Trail Master Plan.
- Building and enlarging collaborative partnerships.
- Preparation of specific conceptual plans, renderings and drawings for each of the uncompleted segments of the Harbor Trail.
- Assisting the Community Development Department and the Harbor Trail Committee with facilitating the public participation element for each segment project such as the forthcoming Atlantic Street segment slated for construction in 2012-13.
- Identifying various potential funding options and assistance in applying for these funds.
- Providing project continuity between changes in City staff, committee members and City priorities.

Current strategic themes: *(check boxes that apply)*

- Project provides physical connection among resources;
- Project includes both outdoor recreation and natural resource conservation goals;
- Project partners with an NPS area and/or connects communities to NPS areas parks; *NPS areas include: National Parks and Monuments, National Heritage Areas, National Trails and Wild & Scenic Rivers.*
- Project partners with a health organization (active and substantial);
- Project engages youth partners.





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