
MILL STREET STREETSCAPE PROJECT

Brunswick, Maine



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1. INTRODUCTION

A half-mile of Route 1 in Brunswick becomes Mill Street between Cumberland Farms on Pleasant Street and Fort Andross. This is a busy section of roadway. According to the MDOT the Annual Average Daily Traffic count was 31,560 vehicles in 2000. This two-lane road runs parallel to the Androscoggin River. Regrettably, the trees between the road and the river have not received much care over the past decade. While this section of road is somewhat forgotten, many consider it a “gateway” to Mid Coast Maine. Opportunities for streetscape improvement present themselves in this much-overlooked location.

The notion of making improvements to Mill Street is certainly not a new one. The Brunswick Comprehensive Plan recommended that “The town should study potential improvements to Pleasant and Mill Streets in order to reduce congestion, improve safety, facilitate access to adjacent businesses, and improve the aesthetics of this roadway.”

The 1997 Downtown Master Development



Goal 1: Reestablish open views to the river

Plan noted that “Mill Street, from Maine Street to Pleasant Street, is an important component of the downtown area...The length of the street should be studied for ways to improve its visual image and provide a better edge/gateway into Brunswick.”

In February, 2002, the Town of Brunswick received an Ice Storm Recovery Grant from the Maine Bureau of Forestry. These funds are made available to help communities recover from the tree damage caused by the 1998 ice



Goal 2: Develop a tree plan for Mill Street

storm and to strengthen and support efforts to improve the health of community trees.

The work plan for the grant called for developing a strategy for streetscape improvements for Mill Street focusing on:

1. Tree pruning along the Androscoggin to re-establish and/or enhance views of the river from the road.



Goal 3: Install pedestrian improvements

2. Tree planting plan along the town-side of the road.
3. Pedestrian improvements from the so-called “Swinging Bridge” (a pedestrian-only connection to Topsham) to Fort Andross/Frank Wood Bridge and downtown Brunswick.
4. Landscape improvements of a MDOT-owned truck-turnaround along Mill Street.



Goal 4: Improve the MDOT turnaround

A VISION FOR THE FUTURE

Mill Street is a street with a past... but more importantly it is a place with a tremendous future. The recommendations in this report are designed to transform this half-mile of somewhat forgotten roadway into a riverfront parkway that celebrates one of Maine's premier waterbodies. Mill Street is envisioned as a gateway into Mid-Coast Maine, uniting two livable communities.

The highlights of this vision include:

- Views of the Androscoggin River opened up for residents, motorists, and pedestrians to appreciate.
- A park-like landscape along the roadway that helps to unify two of Brunswick's most significant commercial areas: Pleasant Street and Maine Street.
- New plantings of native species that will replace the opaque jungle that now characterizes the storefront.
- Pedestrian improvements that encourage people to walk along the riverfront on their way to work or just out for a stroll.
- Pedestrian-scaled lighting fixtures that will help create a parkway atmosphere and encourage evening activity.

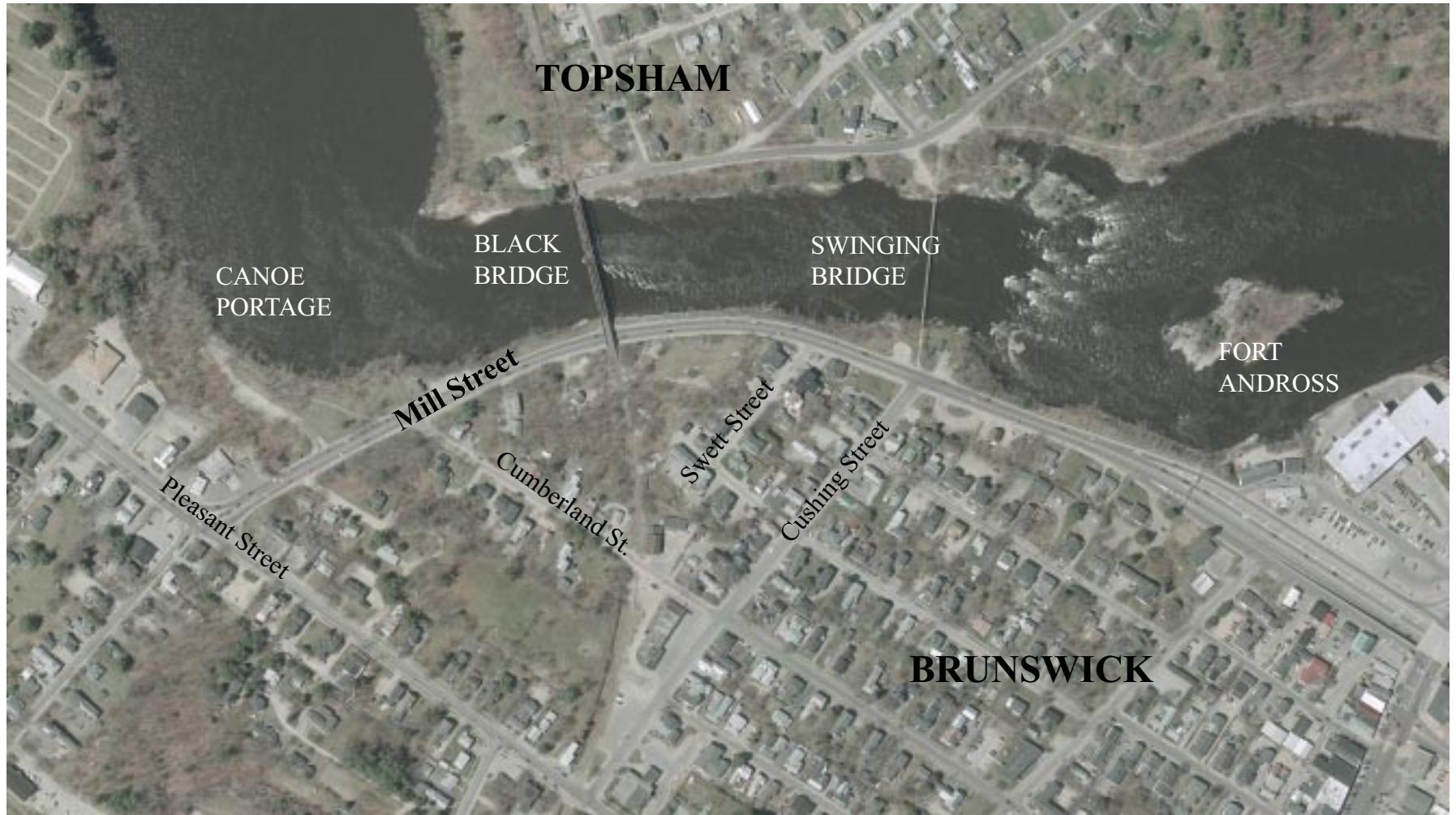
- New street trees along Mill Street that will add shade and pedestrian scale while helping to separate the roadway from the abutting homes.
- Crosswalks, guardrails, and esplanades that increase pedestrian safety while helping to calm the traffic.
- Rest areas installed periodically along the length of Mill Street to afford a place to rest and appreciate the moving river.



While this report has focussed on the roadway, the town should also be looking at all land uses along Mill Street and the streets that feed into it. There are many opportunities to create more housing opportunities, additional green space, walkways, and view corridors to help tie these neighborhoods into the riverfront. The Mill Street improvements will be of significant benefit to the entire community.

The Mill Street vision, as seen in a computer-enhanced photograph.

- Relocation of the MDOT turnaround, replaced with a pedestrian pocket park that adds color and green space to the neighborhood.
- An overlook park that creates a suitable setting for the historic Swinging Bridge.
- Artwork at key places to celebrate the river and the people who live and work there.



The study area extends from Cumberland Farms (at the corner of Mill Street and Pleasant Street) to Fort Andross.



2. EXISTING CONDITIONS

Mill Street is seen by thousands of people every day: people driving the roadway as part of Route One, local motorists making their way around Brunswick and over the Black Bridge into Topsham, pedestrians navigating the irregular walkways to go downtown, and neighborhood residents whose homes face the Androscoggin River.

This section of the report presents a summary of the existing conditions along Mill Street. For ease of presentation, the study area is divided into five sections:

- Pleasant Street to Cumberland Street
- Cumberland Street to the Black Bridge
- Black Bridge to Cushing Street
- Cushing Street to Swinging Bridge
- Swinging Bridge to Fort Andross.

A sequence of photographs taken through the windshield of a car travelling westerly on Mill Street (June, 2002). In several locations the roadway seems excessively wide, which may be a factor in the average rate of speed. The detailing of Mill Street – the light standards, guardrails, and fencing – are designed to a highway scale.



Close proximity to town



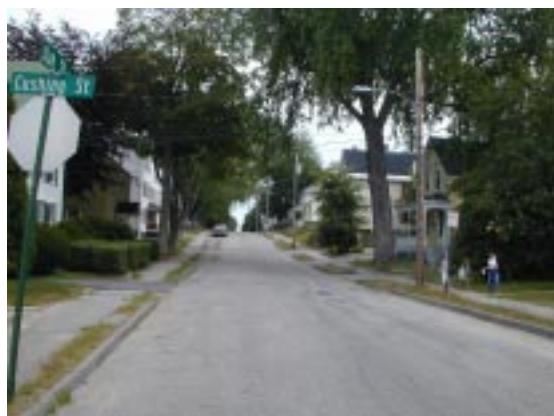
Dramatic river views



Waterfront Park



Historic structures



Walkable neighborhoods



Open Space

OPPORTUNITIES

Mill Street possesses a wealth of opportunities, as seen in these photographs.

Proximity to Town. Mill Street is located within easy walking distance of downtown.

River Views. Views to the river are one of the town's most significant resources. While the views are hidden in many instances, it will not take a significant effort to open them to the public.

Existing Waterfront Park. The Canoe Portage at the upper end of Mill Street is a hidden gem in the Brunswick park system. In addition to the boat launch, it features picnic tables, benches, a gravel parking area, an easy path up to Mill Street, and dramatic views of the river.

Historic Context. The Swinging Bridge between Brunswick and Topsham is one has been recognized as a significant cultural resource, to be appreciated by residents of nearby homes, pedestrians, and motorists alike.

Walkable Neighborhoods. Many of the surrounding residential streets are prime examples of the Great American Neighborhood model of community planning.

Open Space. A number of existing parcels are already well established open spaces, providing a buffer along Mill Street.



Heavy traffic/ lack of curbing



No sidewalks / little space to plant



Narrow sidewalks/steep drop-off



Overhead utility structures



Detailing inappropriate for a neighborhood setting



Invasive plants / lack of maintenance

CHALLENGES

Mill Street is faced with a number of environmental and physical challenges that will require unique solutions.

Heavy Traffic. Mill Street is the intown location of Route One with high traffic volumes that include significant number of trucks.

Lack of Adequate Curbing. Most of the curbing is badly deteriorated bituminous which offers no protection to the pedestrian.

Lack of Adequate Sidewalks. Where walks exist they generally are in poor condition.

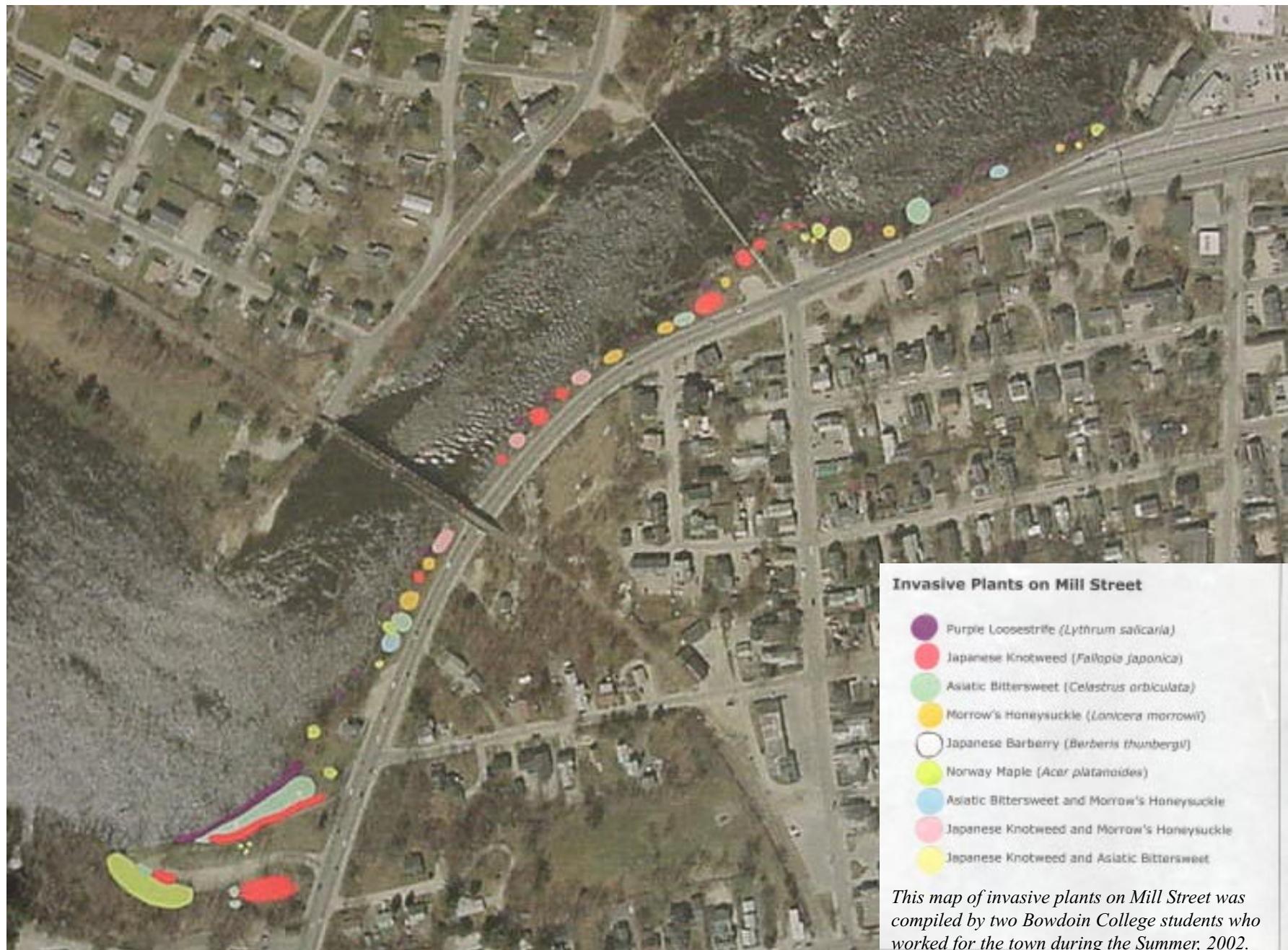
Limitations on Planting. There are few places for planting new trees on the south side of the road.

Steep Riverfront Topography. In many places there is little room for a path before the grade drops into the river.

Overhead Utility Structures. Tree planting and walkway construction is further limited by overhead wire utilities and traffic control signs.

Highway Detailing. The guardrails, fencing, and other details used along Mill Street are typical of interstate highways.

Invasive Plants. Much of the lush vegetation along the corridor is actually highly invasive, non-native species. See map on next page.





EXISTING CONDITIONS SEGMENT 1 Pleasant Street to Cumberland Street

Curbs and Sidewalks are generally in poor condition. Low asphalt curbs do not protect the pedestrian. Gravel walkway leads to the canoe launch with a pleasant, serpentine alignment.

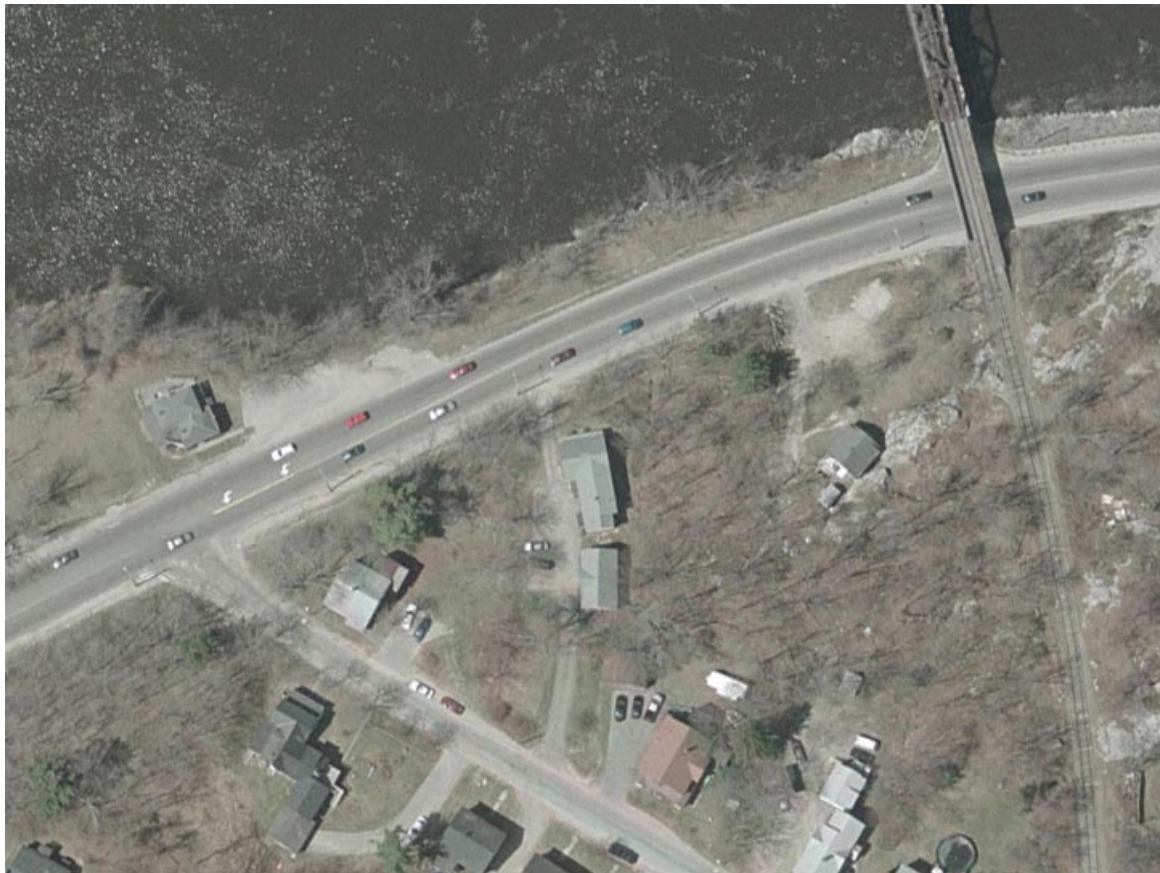
Riverfront Vegetation is well maintained, affording good views to the river. A buffer strip at the edge provides some riparian habitat.

Views. Well-maintained parkland leads down to the river throughout the Canoe Launch. The town has done a good job in establishing viewing opportunities.

Site Features. The Canoe Launch is a significant open space for the community, providing parking, picnicking, trails, and a boat launch.

Miscellaneous. The lack of transition from the heavy commercial patterns of Pleasant Street to the park-like atmosphere of Mill Street is jarring.





EXISTING CONDITIONS SEGMENT 2
Cumberland Street to Black Bridge

Curbs and Sidewalks are generally in poor condition where they exist at all. Low asphalt curbs do not protect the pedestrian. Sidewalks do not extend east of the small commercial building. Narrow beaten paths show evidence of active pedestrian use.

Riverfront Vegetation is primarily second growth hardwoods with many non-native invasive species. Town mows the grass behind the guardrail throughout the summer.

Views. Limited views of the river and Black Bridge are found in this segment. View corridors would be relatively easy to establish through the narrow band of riverfront trees.

Site Features The small commercial building on Mill Street features oversized signs which detract from the setting. It's parking lot lacks landscaping and proper definition along the edges.

Black Bridge offers an opportunity to reinforce Mill Street's role as the gateway into the Mid-Coast region.





EXISTING CONDITIONS SEGMENT 3 Black Bridge to Cushing Street

Curbs and Sidewalks are generally in poor condition. A heavy guardrail protects the occasional pedestrian walking on top of the bank. There is a narrow sidewalk on the south side of the Mill Street, but crossing traffic is difficult.

Riverfront Vegetation is very thin to non-existent along the narrow embankment closest to the Black Bridge. Stands of Japanese Knotweed and Honeysuckle dominant the shoreline near Cushing Street.

Views of the Black Bridge and river are common throughout much of this segment, but invasive species will need to be kept in check to maintain water views from Cushing Street.

Site Features. Sideslopes on the roadway adjacent to the river are extremely steep and offer very little opportunity for sidewalk development. Planting trees on the opposite side of Mill Street will be difficult due to steep slopes and ledge outcrops.





EXISTING CONDITIONS SEGMENT 4

A: Swinging Bridge

Curbs and Sidewalks are sparse to nonexistent in this segment. A pathway leads from the swinging bridge to Mill Street. A small parking area and access drive services the pump station. Cars had been parking along a gravel pullout, but large rocks have been placed to limit access.

Riverfront Vegetation is typically overgrown near the Swinging Bridge. The land surrounding the pump station has a parklike appearance with grass, day lilies and ornamental shrubs. A specimen ash next to the pump station needs reshaping.

Views of the water and Swinging Bridge are blocked by the overgrown vegetation. These are some of the most dramatic views along Mill Street, due to the nature of the shoreline.

Site Features. The swinging bridge provides an important focal point to Mill Street as well as a pedestrian connection to Topsham. A separate Town Committee has already made recommendations for improvements to the bridge.





**EXISTING CONDITIONS SEGMENT 4
B: MDOT Turnaround and Vacant Lot**

Curbs and Sidewalks are in poor condition. The sidewalk on the south side of Mill Street continues in front of the vacant lot and turnaround. Low asphalt curbs are deteriorating and do not protect pedestrians from traffic.

Vegetation. The unpaved land in the turnaround consists of grass, deciduous trees, and a variety of shrubs. Following the first public meeting on July 23, 2002, MDOT crews mowed the grass and cleaned up the turnaround. The grass on the vacant lot is maintained by the abutting property owner under an informal arrangement with MDOT.

Views Both the turnaround and vacant lot are highly visible from the Mill Street. Views of the riverfront from these sites are blocked by overgrown shoreline vegetation.

Site Features. A chain link fence was recently installed on the vacant lot to restrict vehicle access. Remnants of stone retaining walls are found on the corner. A post and cable guardrail runs along the vacant lot.



**EXISTING CONDITIONS SEGMENT 5:
Swinging Bridge to Fort Andross**

Curbs and Sidewalks. in this segment are in fair to poor condition. Granite curbing extends from the urban compact line east of the Swinging Bridge to Bow Street. Sidewalks next to the river are narrow and do not allow more than two people to pass.

Riverfront Vegetation. The embankment adjacent to the road is grassy with some larger trees and shrubs closer to the riverfront. Most of the vegetation is overgrown with a considerable number of invasive species.

Views. Overgrown vegetation blocks potential water views. A few clearings allow for views of the river and Goat Island.

Site Features. The embankment in this segment is wide enough to allow the sidewalk to be located away from the roadway. Grade changes will require low retaining walls.

Miscellaneous. A battered chain link fence marks the end of the Maine Street underpass. The buildings along Bow Street form an attractive street edge leading to Fort Andross.





3. RECOMMENDATIONS

CONCEPT PLAN

The Concept Plan provides an overview of the recommendations for Mill Street.

Vegetation Management

- Open view corridors at the ends of Cushing, Cumberland, and Swett Streets.
- Remove invasive species and replace with native trees and shrubs.

- Establish views along Mill Street by selective clearing and removal of branches from lower 1/3 of trees.

Pedestrian Improvements

- Install new granite curbing the length of Mill Street
- Replace existing asphalt sidewalks with decorative pavers similar to Maine Street and inner Pleasant Street.
- Create rest areas and smaller overlooks at scattered locations along the river.
- Install pedestrian-scale street lamps the length of Mill Street.

- Create a pedestrian plaza/river overlook at the Swinging Bridge.
- Incorporate artwork throughout the street.
- Minor improvements to the Canoe Launch.

MDOT Property

- Perform general clean-up on turnaround.
- Plant ornamental shrubs, perennials, and deciduous trees to create a more park-like atmosphere.
- Separate Mill Street traffic from Cushing Street with berms, stone walls, and plantings.

RECOMMENDATIONS: SEGMENT 1



- Establish a view corridor from Cumberland Street to the river.
- Continue vegetation managed to maintain views to the river from within the park and from Mill Street.
- Partially bury existing boulders along pathway to canoe launch or incorporate into environmental art piece.
- Install a focal point for the park, e.g., a large piece of sculpture or environmental art, gazebo, fountain, or similar landscape element.
- Extend pedestrian improvements and granite curbing to Pleasant Street on both sides of Mill Street.



RECOMMENDATIONS: SEGMENT 2



Install a new sidewalk from the end of the parking lot to the Black Bridge, following a curvilinear alignment. Plant Rosa rugosa and other low maintenance shrubs to help separate the walk from Mill Street.

Open views to the river at periodic locations along Mill Street.

Plant street trees in the parking lot island.

Install granite curbing on both sides of Mill Street. Replace asphalt sidewalks with interlocking concrete pavers, similar to Maine Street.

Consideration should be given to repainting the railroad bridge over Mill Street. This is an opportunity to reinforce Mill Street as the gateway to Mid-Coast Maine.

Bottom Left: Existing Conditions.

Photosimulations Middle and Right. Artwork creates a colorful gateway.



RECOMMENDATIONS: SEGMENT 3



Open views to the river at periodic locations along Mill Street.

Install granite curbing on both sides of Mill Street. Replace asphalt sidewalks with interlocking concrete pavers, similar to Maine Street.

Establish a view corridor from Cushing Street to the river.

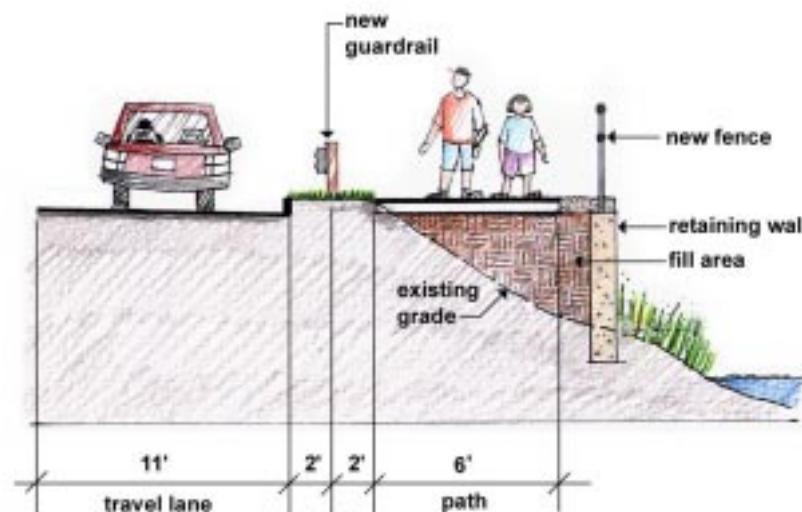
Install gabions or concrete retaining wall in area within dashed yellow line to create additional width for a new sidewalk. The wall should be designed to blend into the existing rip-rap and exposed ledge. See photosimulation below and cross sections on following page.



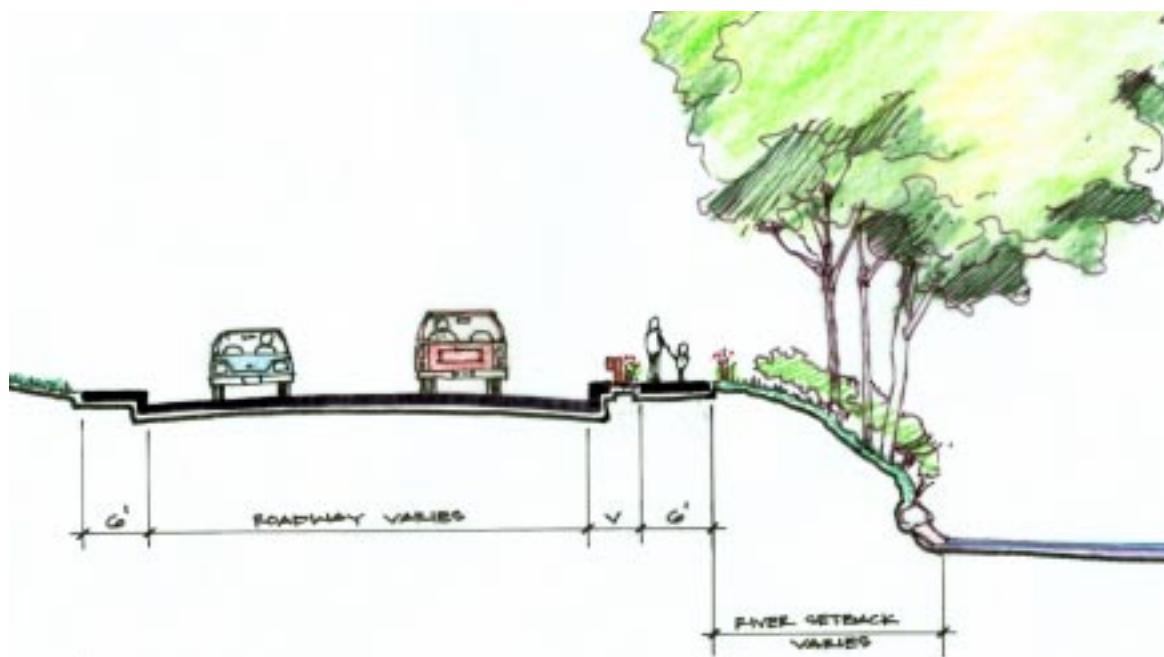
Left: Existing conditions only provide enough room for a single width path.

Photosimulation Right: A five-foot sidewalk installed along the river provides a safe, attractive pedestrian environment. Guardrail has been partially screened by Rosa rugosa plantings. Stainless steel cable fence marks the edge of the walkway, which is supported by gabians or a concrete wall.

Typical Cross-Sections



Cross section showing treatment of riverbank east of Black Bridge. Gabians or concrete retaining wall may be necessary to support new sidewalk.



Typical cross section west of Black Bridge. Guardrail should remain in place, partially screened by low plantings of Rosa rugosa or similar species. Vegetative management calls for removal of invasive species and selective pruning of trees to open up views to Androscoggin River.

RECOMMENDATIONS: SEGMENT 4

Swinging Bridge Park. Create a pedestrian plaza to complement the Swinging Bridge. Improvements should include the following:

- Construct a low stone wall at the edge of the river to define the space and protect the public. Walls should terminate with sculpture or similar elements.
- Install walkway with pedestrian lighting to provide access to Mill Street.
- Remove existing parking and boulders west of the bridge. Install granite curbing the length of Mill Street.
- Plant low maintenance perennials to reinforce the shape of the plaza and add seasonal color.
- Prune mature ash tree to create a focal point for the park.
- Prune trees at the edge of the river to open up views to the north.
- Relocate sidewalk to provide room for an esplanade along Mill Street.
- Design and install interpretive signage about the bridge.



MDOT Corner Lot. Several additional improvements should be made to the corner lot to complement the turnaround and create a small neighborhood park:

- Construct a stone wall to match stonework at turnaround.
- Create low earth berm to separate lot from traffic on Mill Street. Plant with low maintenance flowering shrubs and perennials (see cross section on next page)
- Remove chain link fence after wall and berm are installed.

Miscellaneous Improvements

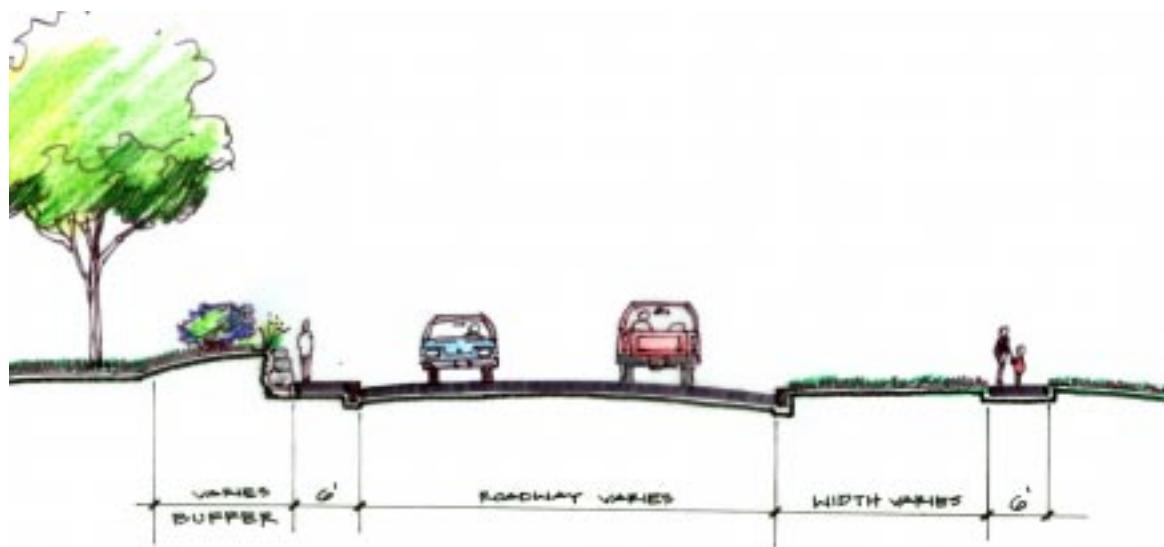
- Follow recommendations of Swinging Bridge Committee for restoration of this landmark structure.
- Install a sculptural focal point on the opposite side of Mill Street to align with the Swinging Bridge.

Long Term Improvements. MDOT should consider alternative locations for the snowplow turnaround to allow this land to be used for community purposes.

MDOT Turnaround. MDOT should upgrade their turnaround with a number of short-term improvements:

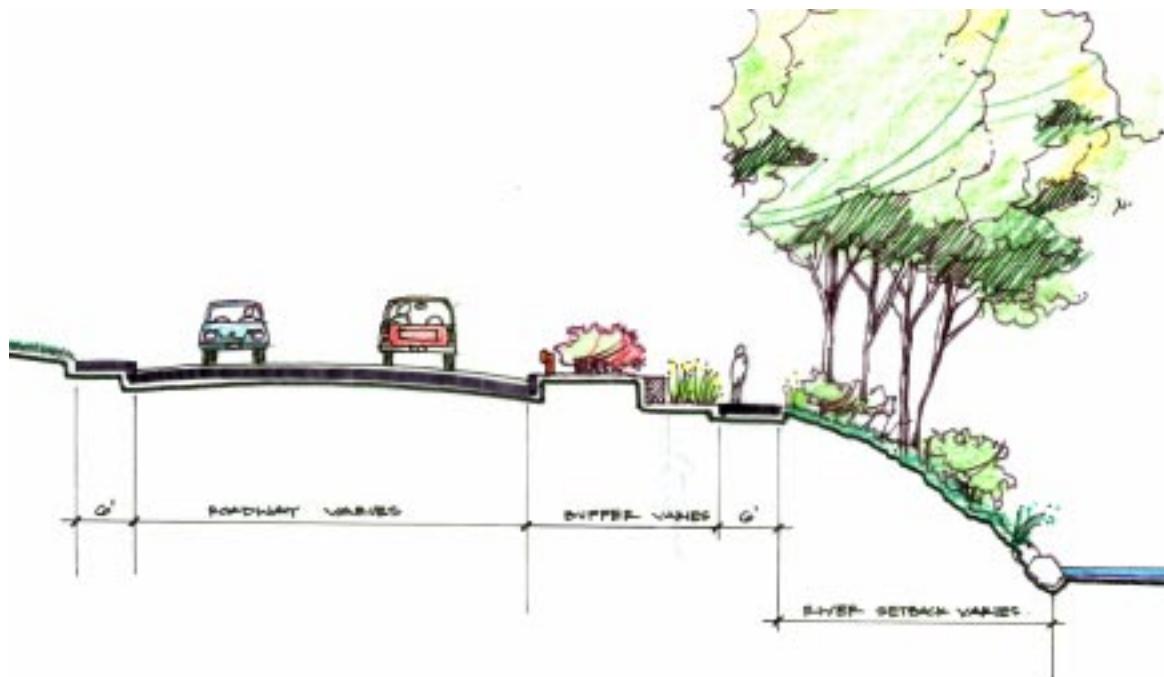
- General clean-up and removal of invasive vegetation.
- Install low maintenance perennials (e.g., daylilies) on the back side of the turnaround.
- Plant street trees along Mill Street.
- Restore the stone wall on the corner.
- Construct a new stone wall to define the arc of the turnaround.

Typical Cross Sections



Cross-section through vacant lot owned by MDOT on Cushing Street at Mill Street. Stone wall and earth berms are used to provide screening to nearby residents.

Sidewalk on north side of Mill Street - near Swinging Bridge - is separated from Mill Street by a grass esplanade.



Typical cross section between Swinging Bridge and Bow Street. New sidewalk is constructed 2-3' below the grade of the road on a plateau overlooking the river. A low retaining wall is used to provide vertical separation. Vegetation management calls for removal of invasive species, planting new native shrubs, and selective thinning of existing trees.

RECOMMENDATIONS: SEGMENT 5





Typical existing conditions along Mill Street (Summer, 2002). Views to the river have been blocked by overgrown vegetation. The sidewalks are too narrow and in poor repair, creating a negative experience for the pedestrian.



This photosimulation illustrates recommended improvements to the Androscoggin Riverfront adjacent to Mill Street:

- Existing vegetation has been thinned.
- Significant trees have been pruned from the ground up to 1/3 their height.
- Invasive vegetation has been removed and replaced with native shrubs.
- The sidewalk has been relocated closer to the river.
- Decorative pavement has been used to create a more attractive pedestrian environment.
- Period light fixtures have been installed to encourage evening strolling along the river.
- The anodized guardrail has been replaced with Corten steel and partially hidden by a Rosa rugosa hedge.
- An esplanade has been installed to create a safety buffer for pedestrians.



Left: Existing conditions on Mill Street.

Right Top: Photosimulation illustrating basic, short-term improvements, primarily the removal of invasive vegetation and limbs on the bottom 1/3 of existing trees to open views to the Androscoggin River.



Right Middle: In this photosimulation the sidewalk has been replaced with decorative pavers and the guardrail has been replaced with Corten steel.



Right Bottom: Alternate improvements include the installation of period light fixtures and hanging planters. The sidewalk in this photosimulation has been widened to six feet to create a more human-scaled space and allow for easier movement.





4. PHASING AND FUNDING

PHASING PLAN

The improvements recommended for Mill Street are extensive and should be carried out in phases as funding becomes available. The Phasing Plan illustrates how this might be accomplished in a logical order based upon the Town's priorities.

Phasing can be accomplished in a variety of ways. This plan illustrates logical bodies of work that will result in finished, usable products.

MILL STREET STREETSCAPE PROJECT

PRELIMINARY OPINION OF COSTS

A preliminary opinion of costs for each of the five phases of Mill Street improvements are provided in spreadsheet form. These numbers were derived by applying current contractors' costs to the quantities of materials estimated from the conceptual plans in this report.

The numbers should be considered an order of magnitude estimate. Final costs will require accurate topographic and boundary surveys as well as a more refined design.

	Quantity	Unit	\$ / Unit	Cost	Subtotal
PLEASANT STREET TO BLACK BRIDGE					
Site Prep. & Veg. clearing	1	LS		\$1,500	
Temp. erosion control	1	LS		\$1,000	
New sidewalk: pavers, 6' wide	740	SY	\$75	\$55,500	
Granite Curb	1,100	LF	\$32	\$35,200	
Street Lights	7	EA	\$4,000	\$28,000	
Landscaping	1	LS		\$6,000	\$127,200
				Contingency	\$19,080
				Subtotal	\$146,280
				Design/Eng.	\$14,628
				Total	\$160,908
BLACK BRIDGE BRIDGE TO FORT ANDROS					
Site Prep. & Veg. clearing	1	LS		\$2,000	
Temp. erosion control	1	LS		\$1,300	
New sidewalk: pavers, 6' wide	950	SY	\$75	\$71,250	
Granite Curb	2,400	LF	\$32	\$76,800	
Street Lights	14	EA	\$4,000	\$56,000	
Conc. unit retaining wall	800	SF	\$30	\$24,000	
Landscaping	1	LS		\$6,000	\$237,350
				Contingency	\$35,603
				Subtotal	\$272,953
				Design/Eng.	\$27,295
				Total	\$300,248
SWINGING BRIDGE PARK					
Site Prep. & Veg. clearing	1	LS		\$2,000	
Temp. erosion control	1	LS		\$800	
New sidewalk: pavers, 6' wide	200	SY	\$75	\$15,000	
Granite Curb	250	LF	\$32	\$8,000	
Bollards: 36" ht.	10	EA	\$1,000	\$10,000	
Bike Rack	1	EA	\$800	\$800	
Stone wall	360	FF	\$110	\$39,600	
Landscaping	1	LS		\$10,000	\$86,200
				Contingency	\$12,930
				Subtotal	\$99,130
				Design/Eng.	\$9,913
				Total	\$109,043
MDOT TURNAROUND					
Street Lights	2	EA	\$4,000	\$8,000	
Stone wall	200	FF	\$110	\$22,000	
Landscaping	1	LS		\$10,000	\$40,000
				Contingency	\$6,000
				Subtotal	\$46,000
				Design/Eng.	\$4,600
				Total	\$50,600
EAST SIDE OF MILL STREET					
Site Prep. & Veg. clearing	1	LS		\$2,000	
Temp. erosion control	1	LS		\$500	
New sidewalk: pavers, 6' wide	1,500	SY	\$75	\$112,500	
Granite Curb	2,400	LF	\$32	\$76,800	
Street Lights	20	EA	\$4,000	\$80,000	
Stone wall	150	SF	\$110	\$16,500	
Landscaping	1	LS		\$11,000	\$299,300
				Contingency	\$44,895
				Subtotal	\$344,195
				Design/Eng.	\$34,420
				Total	\$378,615
				TOTAL	\$999,413

FUNDING

The public should anticipate that the recommended improvements to Mill Street will be phased over several years. The actual schedule will be based upon the people's desire to see the pathway extended, available funding sources, the towns' success at securing these funds, and the towns' willingness to raise the necessary matching funds.

A variety of private and public funding sources should be pursued. Some of the likely sources include:

- **Federal Highway Administration's (FHWA) Transportation Enhancement Program**, administered through the Maine Department of Transportation (MDOT), offers funding to help communities expand their transportation and livability choices. Brunswick has had a highly visible success with using these funds for the Androscoggin River Bik Path. Mill Street represents an opportunity to expand transportation choice, connect two neighboring communities, enhance a significant gateway, and extend the concept of a linear riverfront corridor. Applications for the next round of funding are due in October 2004 for projects in 2005. For further information see: www.state.me.us/mdot/msp/teinfo.htm
- **MDOT Community Gateways Program** makes funds available for land-

scaping, signage, and other improvements to enhance the entranceways into Maine communities. These are generally \$10,000 grants and are available every two years. For further information see: www.state.me.us/mdot/env/gateways/2002_gateway_pdf.pdf

- **Recreational Trails Grants**, administered by the Maine Bureau of Parks and Lands, provides money for trail development and trailhead parking. Up to \$30,000 is available to any applicant. A 20% Town match is required. For further information see: www.state.me.us/doc/parks/programs/community/trailsfund.html for further information.
- **Roadway improvement projects** funded through the Maine Department of Transportation that could include roadway reconstruction, sidewalks, and shoulder work. Long term plans should include the relocation of the current MDOT turnaround on Mill Street.
- **Private donations** of money, land, or labor. Once specific projects were identified, local civic groups should be approached. Lumber, sand and gravel, and construction companies may be willing to donate time, materials and equipment to the project as part of the town's requirement for matching funds.
- **Town funds** raised through the annual budgeting process.