

Coastal Communities Grant Program

Project Title: Machias Waterfront Resilience and Renewal

Region covered: Machias coastal waterfront.

MCP Goal(s) addressed:

- **Preparing for coastal storms, erosion and flooding, coastal hazards:** The project develops feasibility and economic analysis to assess hazards and plan for increased resilience to storms and flooding.
- **Improving Coastal Public Access:** The project will support plans to improve public access to the Machias River waterfront at the head of tide in the center of Machias.
- **Ensuring Sustainable, Vibrant Coastal Communities:** The project will support future creation of sustainable jobs and business opportunities by assessing seawall improvements needed to reduce coastal flooding and plan for downtown revitalization.

Grant request: \$45,094

Match proposed: \$16,282

Source of match: Town of Machias \$2500 cash; \$9328 in-kind
Machias Savings Bank \$2500 cash
University of Maine at Machias GIS Service Center \$ 1954 in-kind.

Project Manager:

Christine Therrien – Town Manager – Town of Machias.

PO Box 418, Machias, ME 04619. townmanager@machiasme.org; 207-255-6621 (office) 207-316-2425 (cell)

Project partners/supporters:

Judy East – Executive Director, Washington County Council of Governments.

PO Box 631, Calais, ME 04619. jceast@wccog.net; 207-454-0465(office); 207-214-8403(cell)

Tora Johnson – Director, University of Maine GIS Service Center.

UMM GIS Laboratory, 116 O'Brien Ave. Machias, ME 04654.

tjohnson@maine.edu 207-255-1214

Project start date: September, 2017

Project end date: November, 2018

Project Summary Statement:

This proposal seeks funds to complete three discrete yet related planning tasks: a feasibility study which will identify conceptual designs and establish a plan to build flood protection along the existing seawall in downtown Machias; an economic analysis of the protection afforded by improving flood protection to the businesses in downtown Machias; and incorporation of seawall improvements into restoration of the historic wharf and river walk to separate pedestrians from vehicle traffic and revitalize downtown Machias. Each task individually prepares Machias for a more resilient downtown, and all three define a complimentary approach to achieving a more sustainable and vibrant community.

Executive Summary

This proposal seeks funds to complete three discrete yet related planning tasks: 1) a feasibility study which will identify conceptual designs and establish a plan to build flood protection along the existing seawall in downtown Machias; 2) an economic analysis of the protection afforded by improving flood protection to the businesses in downtown Machias; and 3) incorporation of seawall improvements into restoration of the historic wharf and river walk to separate pedestrians from vehicle traffic and revitalize downtown Machias. Each task individually prepares Machias for a more resilient downtown, and all three define a complimentary approach to achieving a more sustainable and vibrant community.

The methods used to complete the project expand the 3 tasks noted above into the 5 listed in the project budget. The first task in the budget references meetings of and reporting to an Advisory Committee composed of community representatives and those with expertise in emergency management, coastal flooding and downtown revitalization. The second and third tasks in the budget corresponds with Task 1 and Task 2 above and the fourth and fifth tasks in the budget correspond with Task 3 above as well as integration of the entire project into a final report.

Project Summary

History, partners and stakeholders: The Machias village center lies at the head of tide for the Machias River estuary. The town is working to revitalize the downtown by improving waterfront access while making it more resilient to storm surges and sea level rise. This is a multi-year effort and will involve significant changes to transportation infrastructure, water treatment, landscaping, and shoreline stabilization. Storm surge inundation modeling completed in 2014¹ indicates that downtown Machias faces the highest risk of flooding of any coastal embayment in Washington County.

The screen capture at right depicts likely flooding under conditions of a Category 1 Hurricane hitting Penobscot Bay with associated storm surge in Machias Bay at Mean Tide. Significant portions of the Machias downtown including portions of the wastewater treatment plant are flooded in this



¹ Johnson, T and J. East. 2014. Climate Vulnerability Assessment for Washington County. Accompanying online GIS mapping analysis: <http://gro-wa.org/washington-county-climate-change-response.htm> and Machias-specific map viewer: <http://machias.maps.arcgis.com/home/webmap/viewer.html?webmap=e650fd66cd694d0baf49cf01d074fc5>

plausible scenario.

Since the 2014 Climate Vulnerability Assessment was released, the Federal Emergency Management Agency (FEMA) has issued updated Flood Insurance Rate Maps (FIRM) based on updated coastal flood hazard analyses and the same LiDAR data used to generate the storm surge inundation models created in 2014. The new FIRM, which will most likely become effective in July of this year, increases the coastal Base Flood Elevation (BFE) for Downtown Machias and places a number of downtown properties which were not in the Special Flood Hazard Area (SFHA) SFHA on the previous FIRM² into the 1% annual chance SFHA. While there is always fine tuning to be done in any mapping exercise, the flood hazards faced by the central village area of Machias are significant. The economic impacts of the present flood risk will be felt almost immediately, and property owners in Machias are compelled to purchase flood insurance through the National Flood Insurance Program. Furthermore, with rising sea levels, these risks and associated economic impacts are only expected to increase in the future.

Partners with the Town of Machias include its Downtown Revitalization Committee and downtown businesses as well as the WCCOG-UMM-GIS partnership that developed the county-wide Climate Vulnerability Assessment. In addition to providing online access to Machias-specific storm surge inundation model output (link in Footnote 1 below), the WCCOG-UMM-GIS partnership has prepared online maps depicting the previous and new flood zones to enable property owners to see how the changes affect their property.

Stakeholders in this project include local businesses, civic institutions, and wastewater treatment plant rate payers in downtown Machias. Travellers, freight and commuters on US Route 1 are also at risk from projected flooding as Route 1 traverses the downtown and continues east across the Machias dike that separates Middle River from the Machias River. In addition, the shellfish harvesters in Machiasport face closure of their clamflats whenever the Machias wastewater treatment plant experiences a Sanitary Sewer Overflow (SSO) or an uncontrolled wastewater release. Even a short-term closure of the clamflats can result in hundreds of thousands of dollars in lost revenue to the local economy. Downtown flooding may also impact emergency response and management access in Machias and beyond, particularly if Route 1 is flooded.

The geographic scope of this proposal is the center of the Town of Machias. The Machias Comprehensive Plan was found consistent on April 12, 2007 and adopted September 25, 2007. The Comprehensive Plan describes flooding events over the past century, and natural resources policies recommend that the Town ensure their Floodplain Management Ordinance is kept up to date (a public hearing on updates is scheduled for May 4, 2017). It was also recommended that new development be located out of floodplains. In addition, the Comprehensive Plan recommends a focus on downtown revitalization based on tourism and a focus on the historic and scenic waterfront. Finally, protection of the wastewater treatment plant from coastal flooding supports several significant capital investments in wastewater infrastructure by the Town of Machias over the past decade. Each proposed task of this project is consistent with and would offer measurable results in realizing the Machias Comprehensive Plan.

Problem and need

² Ransom Consulting, Inc. 2017. Preliminary Flood Insurance Rate Maps Initial Review. Memorandum prepared for the Town of Machias by Ransom Consulting, Inc., Feb. 24, 2017.

The specific **problems** we are addressing in this proposal are;

- Flooding threatens the health, safety, and welfare of the people of Machias. More specifically, downtown businesses and infrastructure are vulnerable to flooding under a variety of scenarios (e.g. Category 1-4 hurricane at mean and high tide at both current sea levels and with 3 feet of sea level rise, Extra-tropical coastal storm concurrent with high astronomical tides and sea level rise).
- The aging Machias dike is at risk of being overtopped by flooding (and possibly failing). Machias has informed MDOT of their plans to assess the feasibility of flood risk reduction for the downtown and has initiated contact with MDOT in the development of conceptual solutions (see attached letter dated April 28, 2017 from Machias Town Manager to William Pulver, PE Director of Project Development Maine DOT).
- The health of Machias, surrounding communities, and surrounding ecosystems depends on effective wastewater treatment. Flooding of the sewage treatment plant could cause a release of raw sewage to the Machias River that would have multiple negative impacts on water quality and would result in closure of shellfish harvesting areas in Machias Bay. Closure of these areas would be economically devastating because Machias Bay has produced the highest average value and tonnage of landings in the State over the last 7 years³.

The specific **needs** we are addressing in this proposal are;

- Creation of a conceptual design, next steps and cost estimates required to develop a final design and build flood protection to provide a level of resiliency against future sea level rise while also meeting FEMA requirements to protect against the 1% annual chance flood so that the flood maps could be revised after it is built.
- Quantifying the potential economic impacts of flooding and sea level rise. This will help make the case in grant proposals for funding the effort, and will provide information to help stakeholders make complex and potentially contentious decisions.
- Integrating seawall improvements into downtown revitalization efforts to restore historic wharf and riverfront access within the downtown to the river.
- Downtown revitalization to support the growing tourism economy and improving access to our greatest asset: Bad Little Falls and the Machias River.

Project Approach: The Coastal Communities Grant funds requested here will allow the town to accomplish three things:

1) **Procure the services of an engineering firm to assess the feasibility of downtown flood protection:**

Machias will retain the services of a qualified engineering firm to develop conceptual design and cost estimates for building flood protection along the Machias downtown waterfront. The design will include design criteria such as; structure heights and alignment based on up-to-date

³ <http://www.wccog.net/clams-economy.htm>
<http://www.maine.gov/dmr/commercial-fishing/landings/index.html>

flood hazard information and sea level rise projections, estimated costs for final design and construction, and a plan for next steps including required site investigations and identification of permitting requirements and potential obstacles (though no permitting is included in the scope of this project).

2) **Quantify the economic impacts of various flooding scenarios:**

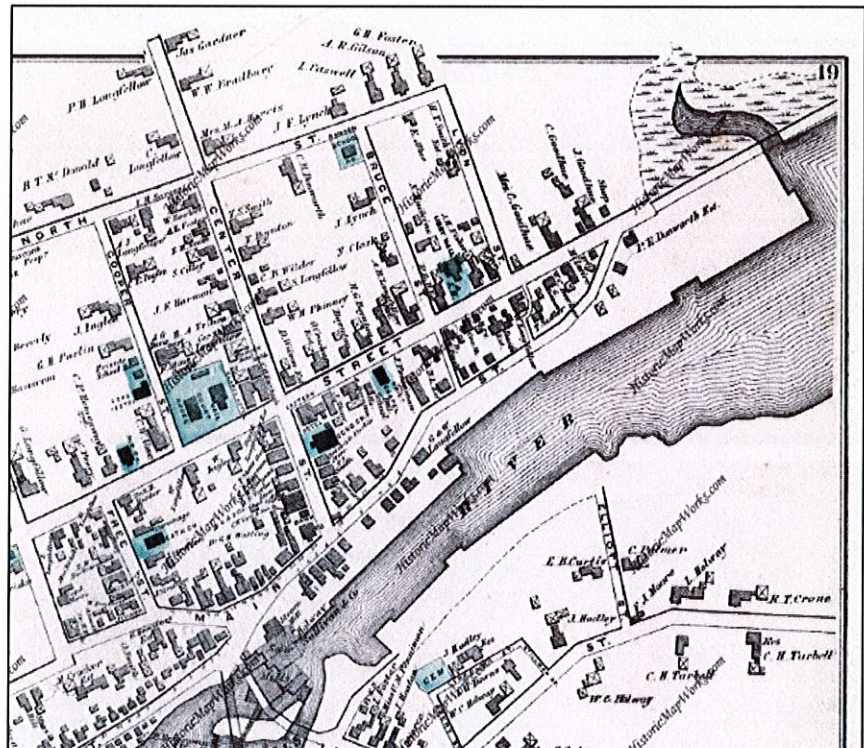
The UMM-GIS Service Center has already digitized structures in downtown Machias that will be affected by flooding. In addition, the Fall 2017 semester Community Applications in GIS class will focus their work on quantification of the economic impacts of partial or complete structure damage from various flooding scenarios. This will be done using town assessment and insurance values under a variety of inundation scenarios. The resulting analysis will enable decision-makers to assess the relative merits of capital investments in shore hardening structures vs. other mitigation measures.

3) **Integrate resilience planning with downtown revitalization efforts:**

The Machias Downtown Revitalization Committee is working on several fronts to support downtown businesses, improve the safety of pedestrians, and capitalize on the tremendous and under-utilized asset of the Machias River that tumbles over Bad Little Falls in the center of the village. There are photographs from less than a hundred years ago showing the water and land side activities of lumber movement from the upper watershed, sawmills at the dam at Bad Little Falls, and then stevedoring services directly onto ships at the wharves. These wharves flanked the waterfront along the downtown and could again be integrated with a riverwalk and seawall that has the 3-fold purpose of providing resilience to flooding, improving pedestrian safety, and enhancing economic development opportunity from tourism.

The Town of Machias owes its existence to the Machias River and Bad Little Falls. The historic deep water access to the mouth of the River (now inaccessible to large vessels due to the construction of the Route 92 bridge) combined with the hydraulic power provided by the Falls gave the location unique value in uniting inland industry and sea-faring trade.

The first settlement between the Penobscot River and St. Croix, Machias was incorporated in 1784. By that time, it was already a productive commercial center.



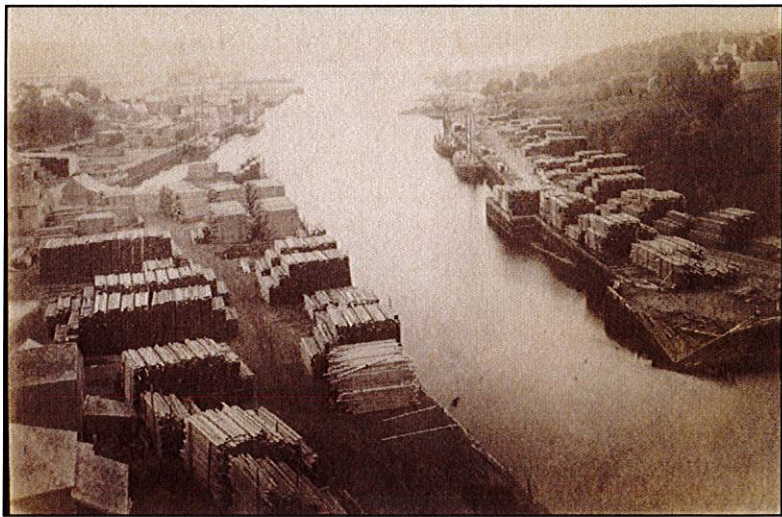
Town of Machias 1881

Mills sprang up around Bad Little Falls, allowing lumber driven down the Machias River to be milled within 300 feet of wharves that could accommodate 600-ton vessels. Due in part to its value as a lumber port, the Machias River was the scene of the first maritime engagement of the Revolutionary War.

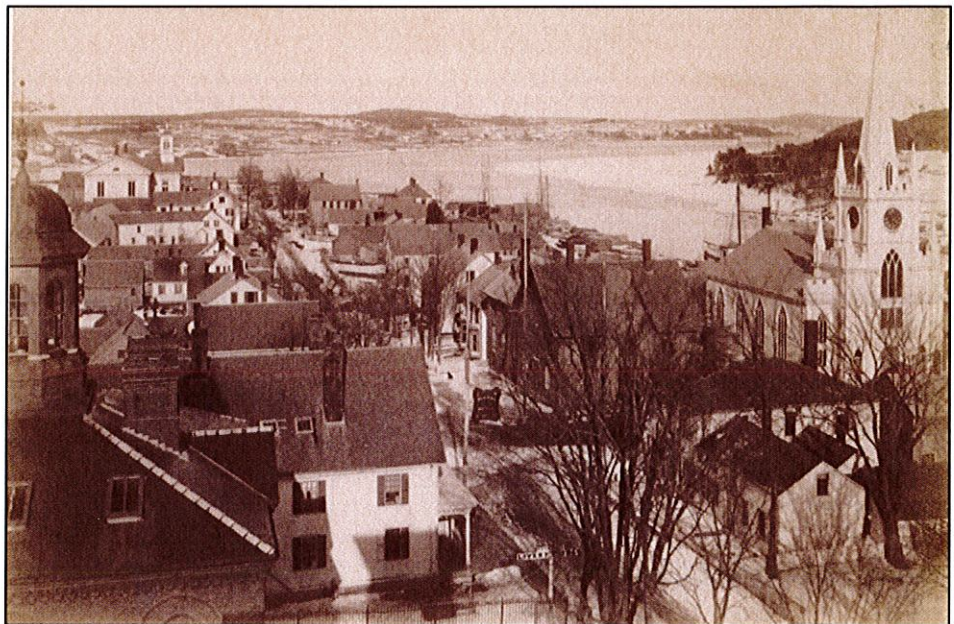
The Town has a strong record of valuing historical significance. Home to historic buildings including the Burnham Tavern Museum (ca. 1770), Center Street Congregational Church (ca. 1782), Machias Railroad Station (ca. 1898), Porter Memorial Library, Machias

Courthouse & Jail (ca. 1853 & 1858), and Post Office & Custom House (ca. 1872), Machias has an impressive collection of historical resources and an appreciation of their value. While the buildings are snapshots of historical significance, the riverfront has been a constant presence and asset in the Town's heritage.

Machias' Comprehensive Plan aims to provide and improve access to the riverfront. It includes measures to allow the public to interact with the resource as it is, but it will also be an opportunity for the public to learn about and appreciate its historic value through signs and displays. This project seeks to unite the goals of honoring the past while preparing for the future.



Lumber and Ships along wharfs, Machias 1880s
looking east from Bad Little Falls Photo Courtesy of Machias



Experience with similar work:

Town of Machias: The Town of Machias, and Town Manager Christina Therrien in particular, has considerable experience in obtaining and administering grants from non-profit (Belvedere Fund of Maine Community Foundation), State (multiple CDBG projects in Infrastructure, Community Facilities and Planning; Maine DEP for wastewater treatment upgrades, Maine DOT for Small Harbor Improvement) and federal (FEMA, Rural Development) levels.

Washington County Council of Governments: WCCOG is the regional planning agency serving Washington County and has 15 years of experience fulfilling the work plans supported by the Maine Coastal Program. This has included a) creation of Harbor Management Plans and Maritime ordinances, mooring plans and rights of way research; b) collaboration with the UMM-GIS Service Center in the creation of online GIS mapping of storm surge scenarios for the entire Washington County coastline, c) educational outreach to shellfish and harbor committees on rules and best management practices in water quality and land use to protect shellfish resources; d) assistance to Washington County municipalities in successful applications for Working Waterfront Access funds; and e) project management of contracts from municipal, regional, state and federal agencies.

University of Maine at Machias GIS Service Center and Laboratory (UMM-GIS): UMM-GIS is recognized throughout Maine and nationally as an innovator in GIS mapping education and application. The coastal inundation mapping created for and tailored to specific circumstances in Washington County has been vetted and approved by Maine State Geologist Pete Slovinsky and is in active use by Washington County Emergency Management Director Mike Hinerman and many local EMA officials.

Project Narrative/Project Schedule

What the project will do and project implementation

Project Schedule dates are noted in parentheses:

1. Increase the resilience of downtown Machias to flooding. To be completed through feasibility study that identifies conceptual designs and creates a plan to build flood protection along the existing waterfront. Itemized tasks to include:
 - a) Issue RFP for engineering firm (July, 2017)
 - b) Procure engineering services (by end of August 2017) to prepare the following:
 - Assemble all recent and current analyses of flood risk (end of October 2017)
 - Determine elevation and alignment for flood protection along the Machias Riverwalk (end of October, 2017)
 - Prepare conceptual design with costs estimates for two design options, assess feasibility based on cost, accessibility and historic character. (end of March 2018)
 - Identify potential flood protection measure tie-ins for boat launch and Route 1 (end of March 2018)
 - Identify permitting obstacles and next steps, i.e. geotechnical investigation, sediment sampling if dredging, and final design of flood protection (end of July 2018)

- Coordinate with MaineDOT on entire project specifically geotechnical conditions under Route 1 through Downtown and under the Machias dike (end of October 2017)
- 2. Quantify the economic impacts of various flooding scenarios. To be completed by the Community Applications in GIS class as supervised by Dr. Tora Johnson, Director of the University of Maine at Machias GIS Service Center and Laboratory. Itemized tasks to include:
 - a) Integrate economic analysis into Community Applications in GIS curriculum (Fall semester, 2017)
 - b) Assemble assessment and insurance values of (already digitized) structures in downtown Machias (end of July 2017)
 - c) Analyze loss in values based on percentage loss of structure under a variety of flood inundation scenarios (end of March, 2018)
 - d) Summarize in report format to allow comparison with infrastructure costs
- 3. Integrate resilience planning with downtown revitalization efforts. To be completed by the Washington County Council of Governments through development of a plan that coordinates previous downtown revitalization efforts with historic waterfront use and the latest information in climate resilience. Itemized tasks to include:
 - a) Coordinate riverwalk improvements with Downtown Revitalization Committee and previous Downtown Revitalization Plans (end of October, 2017)
 - b) Assemble historic photographs and oral histories of activities along wharves in downtown Machias (end of November, 2017)
 - c) Hold public meetings to obtain resident and property owner interest in Riverwalk improvements (end of March, 2018)
 - d) Prepare report of outreach and research with recommendations for capital improvements integrated with design and technical feasibility conclusions of item 1 above. (end of July, 2018)

All of the activities above will receive guidance, direction and oversight by an Advisory Committee, listed below, to ensure they are consistent with community goals, business needs and future aspirations.

Project Measures and Outcomes:

Increase the resilience of downtown Machias resilience to flooding.

Measure: Completed feasibility report that will allow the Town of Machias to pursue funding to complete final design engineering specifications and permits for seawall construction.

Quantify the economic impacts of various flooding scenarios

Measure: Completed report documenting current values of structures and their values according to insurance industry standards for loss determinations under a variety of flooding scenarios.

Integrate resilience planning with downtown revitalization efforts

Measure: Fully documented public process describing input from residents and affected property owners into riverwalk improvement concept and downtown revitalization needs..

Who will do it:

The Town of Machias will administer the grant and Christine Therrien will be project manager of the overall project.

Task 1 will be completed by an engineering firm chosen through an open RFP process.

Task 2 will be completed by the Community Applications in GIS class to be held in the Fall Semester of 2017 at the University of Maine under the supervision of Dr. Tora Johnson, Director of the GIS Service Center and Laboratory.

Task 3 will be completed by the Washington County Council of Governments.

Project Advisory Committee:

Mike Hinerman – County EMA Director
Betsy Fitzgerald – CEO, Deputy EMA Director
Charles Croan – Wastewater Treatment Plant Director (under contract with Olver Associates)
Michael Schoppee – Public Works Director
Christine Therrien – Machias Town Manager
Angela Fochasato – Downtown Revitalization Committee Chair
Sharon Mack – Machias Chamber of Commerce Director
Tora Johnson – UMM GIS Service Center Director
Joshua Rolfe – Machias Selectman

Community Participation:

Community participation is demonstrated by volunteer and financial support from the Town itself across multiple departments, the Machias Savings Bank, the Machias Chamber of Commerce, the University of Maine at Machias, and the Machias Downtown Revitalization Committee. Their respective support letters and pledges of cash and in-kind assistance are attached.

Project budget:

Please see attached spreadsheet
filename: FY18 CoastalCommGrantBudgetMachias.xls.

Note that the budget Task #s differ from the Task #s above as follows:

Task 1 above is described in the budget as part of Task 1 and most of Task 2 in the budget

Task 2 above is described as part of Task 1 and most of Task 3 in the budget

Task 3 above is described as part of Task 1 and most of Tasks 4 and 5 in the budget.

The Town of Machias received assistance from Ransom Consulting, Inc. in developing the scope of work and budget estimate for the feasibility study and conceptual design based on similar projects and the project goals established by Machias.

| Budget Table 2: Sources and Types of Match | | | | | |
|---|--|-----------------|--|-------------------------|--------------------|
| Source of Cash Match | Status of Cash Match | Amount of Match | Source of In-Kind Match | Status of In-Kind Match | Amount of Match |
| Machias | Secured; Machias (see cover letter) | \$2,500.00 | | | \$2,500.00 |
| Machias Savings Bank | Secured; Machias Savings Bank (see PDF attached) | \$2,500.00 | | | \$2,500.00 |
| | | \$2,054.00 | Machias Downtown Revitalization Committee | Pledged | \$2,054.00 |
| | | \$1,132.80 | UMM-GIS Lab Director | Pledged | \$1,132.80 |
| | | \$821.60 | Community Applications in GIS students | Pledged | \$821.60 |
| | | \$513.50 | Machias Planning Board | Pledged | \$513.50 |
| | | \$864.00 | Machias contract with Olver Associates (WWTP Operator) | Pledged | \$864.00 |
| | | \$600.00 | Machias - Code Enforcement Officer | Pledged | \$600.00 |
| | | \$711.12 | Machias Public Works Director | Pledged | \$711.12 |
| | | \$4,585.20 | Machias Manager | Pledged | \$4,585.20 |
| | | | | | \$16,282.22 |

| Budget Table 3 – Budget by Cost Category | | | |
|---|--------------|-------------------|--------------|
| Cost Category | MCP Grant | Non-Federal Match | Total Cost |
| Personnel | 6788 | 10182 | 16970 |
| Fringe Benefits | 2023 | 3000 | 5023 |
| Travel | 874 | | 874 |
| Equipment | | | 0 |
| Supplies | 500 | 500 | 1000 |
| Contractual | 30000 | 2600 | 32600 |
| Other (specify) | | | 0 |
| Indirect | 4909 | | 4909 |
| Totals | 45094 | 16282 | 61376 |

Appendices

Letters of Support:

- Machias Downtown Revitalization Committee
- Maine Department of Environmental Protection
- University of Maine at Machias GIS Service Center and Laboratory
- Machias Savings Bank with pledge of \$2500 in cash
- Machias Chamber of Commerce
- Washington County Council of Governments
- Olver and Associates

Resumes

- Dr. Tora Johnson, Director UMM-GIS Service Center and laboratory
- Judy East, Executive Director, Washington County Council of Governments

Program Statement: FY2018 MCP Grant
 Budget Table 1 : Coastal Community Grant: Project Budget by Task and Cost Category

List name of Grantee here: **Town of Machias**

| A | B | C | D | E | F | G | H | I | J | K |
|---|--|---|--|----------------------------|--------------------------------------|---------------------------------------|---------------------------------------|-----------------------|-----------|--------------------------|
| Task (break down by task) | Personnel (list name) | Affiliation: Grantee, Partner Organization or Contractual | " Column D" | # Project Hours by Task | Total hourly compensation rate | Hourly compensation rate breakdown | Fringe benefits | Total Cost by Task | MCP Grant | Non- Federal Match |
| Salaries (please note each persons role in column D) | | | | | | | | | | |
| Task 1: Advisory Committee Meetings & Reporting | Christina Therrien | Grantee | Town Manager | 40 | \$38.28 | \$30.28 | \$8.00 | \$ 1,531 | \$ - | \$ 1,531 |
| | Committee members | Downtown Revitalization Committee | Members | 100 | \$20.54 | | | \$ 2,054 | \$ - | \$ 2,054 |
| | Board Members | Machias Planning Board | Members | 25 | \$20.54 | | | \$ 514 | \$ - | \$ 514 |
| | Consultant | Contractual | Consulting Engineer | 20 | | | | | | |
| Task 2: Engineering Feasibility Study | Consultant | Contractual | WCCOG - Judy East | 35 | \$48.12 | \$34.53 | \$13.59 | \$ 1,684 | \$ 1,684 | \$ - |
| | Christina Therrien | Grantee | Town Manager | 10 | \$38.28 | \$30.28 | \$8.00 | \$ 383 | \$ - | \$ 383 |
| | Betsy Fitzgerald | Contractual | Code Enforcement | 10 | | | | | | |
| | Mike Schoppée | Grantee | Public Works | 24 | \$29.63 | \$21.63 | \$8.00 | \$ 711 | \$ - | \$ 711 |
| Task 3: Quantify economic impacts | Charles Croan | Grantee | Waste Water Treatment Plant | 24 | \$36.00 | \$24.00 | \$12.00 | \$ 864 | \$ - | \$ 864 |
| | Consultant | Contractual | Consulting Engineer | 290 | | | | | | |
| | Tora Johnson | UUM-GIS Lab | Director | 20 | \$56.64 | \$36.78 | \$19.86 | \$ 1,133 | | \$ 1,133 |
| | Community Applications in GIS students | | Students | 40 | \$20.54 | | | \$ 821.60 | | \$ 821.60 |
| Task 4: Revitalization Integration | Christina Therrien | Grantee | Town Manager | 40 | \$38.28 | \$30.28 | 8 | \$ 1,531 | \$ - | \$ 1,531 |
| | Betsy Fitzgerald | Contractual | Code Enforcement | 10 | | | | | | |
| | Consultant | Contractual | WCCOG - Judy East | 150 | \$48.12 | \$34.53 | \$13.59 | \$ 7,218 | \$ 4,718 | \$ 2,500 |
| | Christina Therrien | Grantee | Town Manager | 30 | \$38.00 | \$30.28 | 8 | \$ 1,140 | \$ - | \$ 1,140 |
| Task 5: Prepare Final Report | Consultant | Contractual | WCCOG - Judy East | 50 | \$48.17 | \$34.58 | 13.59 | \$ 2,409 | \$ 2,409 | \$ - |
| | | | | | | | Total Salaries: \$ 21,993 | | \$ 8,811 | \$ 13,182 |
| Travel (please note cost assumptions in column D) | | | | | | | | | | |
| | | Contractual | WCCOG - Judy East | | | | | \$ 374 | \$ 374 | |
| | | Contractual | Consulting Engineer | | | | | \$ 500 | \$ 500 | |
| | | | | | | Total Travel: \$ 874 | | \$ 874 | \$ - | |
| Supplies (please list in Column D) | | | | | | | | | | |
| | | | Public & Stakeholder Outreach - Meeting space, materials, distribution, etc. | | | | | \$ 1,000 | \$ 500 | \$ 500 |
| | | | | | | | Total Supplies: \$ 1,000 | | \$ 500 | \$ 500 |
| Other Contractual Services (please list in Column D) | | | | | | | | | | |
| Task 1: Advisory Committee Meetings & Reporting | | | | | | | | | | |
| | | Contractual | Consulting Engineer | | | | | \$ 2,000 | \$ 2,000 | |
| | | Contractual | Consulting Engineer | | | | | \$ 30,000 | \$ 28,000 | \$ 2,000.00 |
| | | Contractual | Code Enforcement | | | | | \$ 300 | | \$ 300.00 |
| Task 4: Revitalization Integration | | Contractual | Code Enforcement | | | | | \$ 300 | | \$ 300.00 |
| | | | | | | | Total Contractual Services: \$ 32,600 | | \$ 30,000 | \$ 2,600.00 |
| Indirect Costs | | | | | | | | | | |
| | | | WCCOG | | | | | \$ 4,909 | \$ 4,909 | \$ - |
| | | | | | | | Total Indirect Costs: \$ 4,909 | | \$ 4,909 | \$ - |
| Other (list in Column D) | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | Total Other Expenses: \$ - | | \$ - | \$ - |
| | | | | | | GRAND TOTAL: \$ 61,376 | | \$ 45,094 | \$ 16,282 | |

Judith Cooper East, AICP

EDUCATION/CERTIFICATION/BOARD and COMMISSION MEMBERSHIPS

A.I.C.P. American Institute of Certified Planners - May 1991

M.Sc. Planning, School of Community and Regional Planning, University of British Columbia. Vancouver, British Columbia. 1985 - 1988.

B.Sc. Biology Specialist (Freshwater Ecology), Major in Environmental Studies, Minor in Economics, University of Toronto. Toronto, Ontario. 1978 - 1982.

Certified Community Development Block Grant Administrator – July, 2006

St. Croix International Waterway Commission, Maine Co-Chair

EMPLOYMENT

EXECUTIVE DIRECTOR, WASHINGTON COUNTY COUNCIL OF GOVERNMENTS: Calais, Maine. 2002 – present. Direct regional planning office serving organized and unorganized municipalities in Downeast Maine. Provide planning, advisory and resource development services to municipalities in the preparation of municipal comprehensive plans, land use and shoreland zoning ordinances, regional sustainability planning, capital investment planning, emergency management planning, assistance with meeting federal requirements and interacting online. Educate, advocate and facilitate on behalf of municipal and regional planning entities, supporting volunteer boards in their regulatory functions.

Initiatives, many in collaboration with partner organizations, include telecommunications infrastructure assessment/plan, brochure exploring cultural relationships in working waterfront communities; sustainable tourism development, and regional transportation planning throughout Washington County. Provide extensive funding source opportunities to municipalities through technical assistance with obtaining and administering federal CDBG programs particularly for public facilities and public infrastructure; Homeland Security grants in support of emergency management infrastructure and planning, Solid Waste Management planning and, EPA Brownfields Assessment funds for petroleum and hazardous materials sites. Recently completed a 3-year Regional Plan for Sustainable Development in cooperation with multiple partners in Washington and Aroostook Counties.

Extensive collaboration with the University of Maine Machias GIS Service Center including online GIS mapping services to all Washington County municipalities (Public Parcel Viewer with linkage to County Registry of deeds; Planners Maps for support to local Planning Boards and Code Enforcement Officers in planning and development site review; Storm Surge Scenarios based on output of National Weather Service SLOSH model under assumptions of current sea levels and 3 feet of sea level rise); GIS decision support model to prepare a coastal strategic conservation plan, county wide Shoreland Zoning GIS model to assist towns to map/identify property impact of changes to the State SZ Guidelines, a coastal scenic inventory; documentation of emergency equipment, infrastructure and personnel, and bay-specific Climate Vulnerability Assessments across the county.

Currently preparing a regional plan for the Washington County Unorganized Territories pursuant to the Community Guided Planning and Zoning process guiding prospective zoning within the jurisdiction of the Land Use Planning Commission.

SENIOR PLANNER, STATE PLANNING OFFICE: Augusta, Maine. 2000 - 2002. Staff to inter-agency "Smart Growth Coordinating Committee" coordinating work of 10 agencies working to fulfill goals of 3

year strategic action plan "Smart Growth – The Competitive Advantage". Primary liaison to Agencies of Health, Environmental Protection and Conservation on legislative initiatives, regulatory policy and tax incentives in support of sustainable development. Review of municipal Comprehensive Plans and ordinances for consistency with State law. Extensive database development, grant program administration, and supervision of policy research. Specific experience with Brownfields redevelopment, sewer-line extensions in support of compact development, drinking water protection, stormwater management and rural septic systems.

DIRECTOR OF LAND PROTECTION, THE NATURE CONSERVANCY: East Hampton, New York. 1999 - 2000. Directed land protection program for The Nature Conservancy on Long Island. Included consultation with science and stewardship staff on identification of significant areas for protection, development of protection plans, negotiation and acquisition of land, and coordination with numerous public and private partners to approve and fund land acquisitions. Hired and supervised land protection department composed of three Land Protection Specialists, an Administrative Assistant and several interns.

MOUNTAIN VALLEY DIRECTOR, VERMONT LAND TRUST: Weston, Vermont. 1992 - 1999. Directed land conservation program for 15-town region. Developed regional land conservation priorities and provided landowner contact, assessment of landowner objectives, development and implementation of acceptable conservation and financial strategies. Consulted with landowners, their families and advisors, and with local, regional and state authorities to obtain funding for projects. Extensive community outreach, public speaking and fundraising. Administration of regional office including annual work plans, budget; supervision of interns and volunteer Steering Committee.

PLANNER, TOWN OF EAST HAMPTON PLANNING DEPARTMENT, East Hampton, New York. 1988 - 1992. Review of subdivision, site plan, natural resource special permit and variance applications, zone change requests and zoning code amendments before the Planning Board, Zoning Board of Appeals and Town Board. Primary author for Comprehensive Plan amendments including regional study in deep groundwater recharge area; public access to the waterfront; and policies to protect surface waters, wetlands and groundwater.

RESIDENT NATURALIST, HITHER HILLS STATE PARK, Long Island, New York. Summers of 1989, 1990. Created self-guided nature walks, interpretive signs and trail network maps.

RESEARCH ASSISTANT/TEACHING ASSISTANT, UNIVERSITY OF BRITISH COLUMBIA, Institute for Animal Resource Ecology, Vancouver, British Columbia. 1986 - 1987. Teaching assistant for graduate workshop course: Methods for Evaluating Sustainability of Resource Development. UBC, School of Community and Regional Planning. 1987 - 1988. Compiled literature review on public participation in environmental decision-making.

DATA COORDINATOR, SEISCOM DELTA UNITED (CANADA) LTD. Calgary, Alberta. 1984 - 1985. Marketing department representative for the sale of non-exclusive proprietary seismic data; computer processing, drafting and advertising.

BIOLOGIST AND RESEARCH ASSISTANT, ALBERTA MINISTRY OF ENERGY AND NATURAL RESOURCES. Calgary, Alberta. 1983 - 1984. Supervised field work for the improvement of elk and moose winter range; deer population studies; problem bear management; fieldwork and aerial survey.

TECHNICIAN, ALBERTA ENVIRONMENT. Calgary, Alberta. 1983. Twice monthly sampling of Red Deer River Monitoring Program - South Saskatchewan River Basin Eutrophication Control Study.

RESEARCH ASSISTANT, UNIVERSITY OF TORONTO, Toronto, Ontario. Summers 1981, 1982. Assisted graduate students in laboratory and field studies of acid precipitation research; prepared sediment for heavy metal analysis; catalogued documents for computer reference system.

AWARDS and PROFESSIONAL RECOGNITION

Downeast Resource Conservation & Development Area – Certificate of Merit for Washington County Service Providers Forum: October 2004

Downeast Resource Conservation & Development Area – Certificate of Merit to the Vacationland Resources Committee for DESTINY 2010 – Area Wide Project of the Year: October 2005

Maine Association of Planners - Project of the Year for the Downeast Sunrise Trail (with multiple partners including Sunrise Trail Coalition, Maine Department of Conservation, Maine Department of Transportation, Hancock County Planning Commission): June 2006

Sunrise County Economic Council – Partner of the Year: September 2008

Maine Association of Planners - Planner of the Year: June 2009

Governor's Award - Department of Economic and Community Development – CDBG Administrator of the Year: July 2010

Governor's Award – Department of Environmental Protection for Environmental Excellence for the WCCOG Brownfields Program: April 2012

University of Maine at Machias – Community Partner Award: May 2014

Maine Association of Planners Project of the Year with the University of Maine at Machias GIS Service Center for Online GIS Mapping to Assist Rural Washington County in Planning for the Future and Preparing for Impacts of Climate Change: June 2014

Northern New England Chapter of the American Planning Association Project of the Year Award with the University of Maine at Machias GIS Service Center for Online GIS Mapping to Assist Rural Washington County in Planning for the Future and Preparing for Impacts of Climate Change: September 2014



MACHIAS DOWNTOWN REVITALIZATION COMMITTEE

21 Court Street Suite A, Machias, Maine 04654 Phone: 255-3741 Extension 103

Email: angela@healthyacadia.org

April 25, 2017

Ruta Dzenis AICP, Senior Planner
Department of Agriculture, Conservation and Forestry
Municipal Planning Assistance Program
22 State House Station
Augusta, Maine 04333

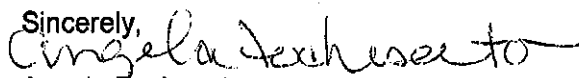
Dear Ms. Dzenis,

I am writing on behalf of the Downtown Revitalization Committee of Machias in strong support of the Machias Waterfront Resilience and Renewal project. The Downtown Revitalization Committee consists of a combination of volunteers from the business community, interested residents, Town Selectmen, and the Town Manager. The Committee coordinates efforts to improve community space through trail and pedestrian access projects, addressing traffic and signage concerns, and cooperation with the Town and local entities to facilitate community activities and economic growth.

The Machias Waterfront Resilience and Renewal project is consistent with the goals of the Downtown Revitalization Committee and the Town's Comprehensive Plan. Increasing accessibility and community connectivity in a way that also prepares for future storms and sea level rise will benefit the entire community. Resilience is key to sustainable revitalization, and we support this project.

In support of this initiative and as stakeholders, the Downtown Revitalization Committee will provide its members' time, perspective, community outreach, and the planning during five advisory committee meetings.

The committee is truly excited about the opportunity to participate in this process and thank you for your considering of this project.

Sincerely,

Angela Fochesato
Community Health Program Manager



Geographic Information Systems
Laboratory & Service Center

116 O'Brien Avenue
Machias, Maine 04654
207-255-1200
Fax: 207-255-4864

April 28, 2017

Ruta Dzenis, Senior Planner
Municipal Planning Assistance Program
Department of Agriculture, Conservation and Forestry
22 State House Station
Augusta ME 04333-0022

Dear Ruta,

RE: Machias Waterfront Resilience and Renewal

Please accept this letter in support of the Coastal Communities grant submitted today on behalf of the Town of Machias. The GIS Laboratory and Service Center at the University of Maine at Machias has provided the Town of Machias with several tools to support the town's understanding of their vulnerability to flooding. This includes the online storm surge inundation scenario maps created in 2014, online parcel and planner mapping tools and, just this month, an online application to allow property owners to see exactly how the new flood hazard zones (new FEMA-FIRM maps) have changed relative to existing FIRM maps. This new tool will be used next week in their public hearing on the new flood hazard maps.

The "Machias Waterfront Resilience and Renewal" project proposed in the FY18 Coastal Communities grant application, represents a very practical advance forward in developing the town's resilience to the anticipated impacts of extreme weather and sea level rise. As in several previous endeavors the UMM-GIS Laboratory will join this project in partnership with the town and the Washington County Council of Governments to provide mapping and technical services. Specifically, I will direct advanced students in the Community Applications in GIS class scheduled for the fall of 2017 to support the economic analysis of the protection afforded by improving flood protection and resilience to sea level rise for the businesses and infrastructure in downtown Machias.

The estimated value of these technical services is \$1963 based on my billing rate for supervision and the value of student services using the value of volunteer time of \$20.54 as established by the Maine Commission for Community Services (http://www.independentsector.org/volunteer_time).

Many thanks for your consideration of this crucial project.

Sincerely,

Dr. Tora Johnson
Associate Professor/ GIS Director

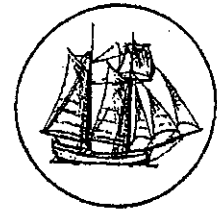
www.umm.maine.edu

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Town of Machias
Town Office
7 Court Street, Suite #1
P. O. Box 418
Machias, ME 04654



April 28, 2017

William Pulver, PE
Director of Project Development
Department of Transportation
16 State House Station
Augusta, Maine 04333-0016

Dear Mr. Pulver,

The Town of Machias is applying to the Maine Coastal Program for a Coastal Communities Grant to fund the Machias Waterfront Resilience and Renewal project. This correspondence is intended to notify the Maine Department of Transportation of the proposed project and initiate communication between the Town and Department regarding consideration of Route 1 in planning for future storms.

This proposed scope of work includes completing a feasibility study which will identify conceptual designs and estimated costs for flood protection measures along the Machias waterfront; performing an economic analysis of potential improvements to flood protection for the businesses in downtown Machias; and incorporating flood protection measures into restoration of the historic wharf and proposed Riverwalk. We see coordination with Maine DOT as an essential element in both the planning stages for and long-term viability of resiliency measures undertaken by Machias.

If awarded, the Town will seek to review available Route 1 construction drawings and geotechnical data as part of the conceptual design of flood protection measures. We will also seek Department input regarding the connection of proposed riverfront flood protection and Route 1.

We appreciate the work of the Department and hope to move forward in collaboration.

Sincerely,

A handwritten signature in cursive script, appearing to read "Christina Therrien".

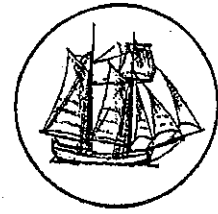
Christina Therrien

Machias Town Manager

Telephone: (207)-255-6621 Fax: (207) 255-6492 E-Mail: townmanager@machiasme.org
Visit our website at machiasme.org
"Town of Machias is an equal opportunity/affirmative action employer."



Town of Machias
Town Office
7 Court Street, Suite #1
P. O. Box 418
Machias, ME 04654



Ruta Dzenis AICP, Senior Planner
Department of Agriculture, Conservation and Forestry
Municipal Planning Assistance Program
22 State House Station
Augusta, Maine 04333

Dear Ruta Dzenis,

I am writing to ask your consideration in funding the Machias Waterfront Resilience and Renewal project through a Maine Coastal Program Coastal Communities Grant. The scope of work for this project addresses the MCP Coastal Communities Grant goals of preparing for coastal storms, erosion and flooding, coastal hazards, improving public coastal access, and ensuring sustainable, vibrant coastal communities. These goals are addressed through performing a feasibility and economic analysis to assess hazards and plan for increased resilience to storms and flooding, setting the stage for expanding public access to the Machias River waterfront, and directing revitalization of the waterfront area in conjunction with protecting businesses and community assets against future storms and sea level rise

As a result of storm surge inundation maps prepared in 2014 as part of the Climate Vulnerability Assessment for Washington County and updated Flood Insurance Maps issued by the Federal Emergency Management Agency (FEMA), the Town of Machias is well aware of the risk posed by flooding in the waterfront area. At the same time, our Comprehensive Plan focuses on measures that enhance the appearance, function, and accessibility of the waterfront area, as well as connectivity to the downtown area. Achieving these community goals in a resilient way is within reach; however, it will require planning. This project is a crucial next step in the Town of Machias achieving the goals set forth in our Comprehensive Plan. Work completed to date shows that the downtown and waterfront are vulnerable to coastal flooding during storms and high tides. We believe this project is especially well suited to the Maine Coastal Communities program in that it will build on our current understanding in a multi-faceted manner, looking at engineering feasibility and cost implications of flood protection, the economic value of protecting waterfront assets, and increasing public access.

The Town of Machias pledges to provide a \$ 2,500 direct cash match and \$ 9,328 in-kind match to the efforts of this study through the contribution of Town personnel time and the resources of supporting partners, including the Washington County Council of Governments and the University of Maine at Machias. Thank you for your consideration of this project.

Sincerely,

A handwritten signature in cursive script, reading "Christine M. Therrien".

Christine Therrien
Town Manager

Telephone: (207)-255-6621 Fax: (207) 255-6492 E-Mail: townmanager@machiasme.org
Visit our website at machiasme.org

"Town of Machias is an equal opportunity/affirmative action employer."

Subject: Support for Feasibility Study

From: CCates@machiassavings.com

To: townmanager@machiasme.org

Cc: townclerk@machiasme.org

Thu, 27 Apr 2017 17:40:44 +0000

Dear Christine,

Machias Savings Bank is pleased to support the collaboration of the Chamber of Commerce, Town of Machias, Washington County Council of Governments and UMM with a \$2,500 donation to fund an initial feasibility study to address flood protection concerns and economic revitalization for the businesses of Downtown Machias. While our contribution in no way commits usage of the bank's land or supports any particular conceptual design, we do applaud the Town's effort to bring viable solutions and provide informed decision making ability to our local businesses. We look forward to seeing the results and partnering with you for the betterment of our community.

Sincerely,

**Charlene Cates**

Corporate Giving and Community Relations

Tel: (207) 255-9328 | Fax: (207) 255-9344 | machiassavings.com

Voted One of the Top Ten Best Banks to Work For in the Nation-*American Banker Magazine*.

MSBMailGate.MachiasSavings.com made the following annotations

The information contained in e-mail messages from MSB may be privileged, confidential, proprietary, or otherwise protected from disclosure. If you have received this email in error, please notify us immediately by replying to the message and please delete the message from your computer. Thank you, MSB

Attachments (1)



- [MSB_Logo_Sails_2C_1eadcb8e-5b7c-440b-a088-dae5ea4af48e.png](#) PNG image - 2 KB

OLVER ASSOCIATES INC.

ENVIRONMENTAL ENGINEERS

April 25, 2017

Ms. Christina Therrien, Town Manager
Town of Machias
P.O. Box 418
Machias, Maine 04654

Dear Christina:

We are writing in support of the Towns application for a Coastal Communities Grant to plan for flood protection to the downtown Machias area. As you know, the wastewater treatment facility is within the mapped flood zone. Protection of this facility is vital to the environmental health of the Machias River.

Please let us know if there is anything we can do to support the Town's effort.

Very truly yours,

OLVER ASSOCIATES INC.



Mandy Olver P.E., Vice-President
Construction Services Manager

MHO/sb



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

April 25, 2017

Ms. Christina Therrien, Town Manager
Town of Machias
P.O. Box 418
Machias, Maine 04654

Subject: Town of Machias, Wastewater Collection System Improvements, Infrastructure Improvements

Dear Ms. Therrien,

The Department is writing this letter in strong support of the Town of Machias' efforts to improve their sewer collection system by creating a flood resiliency plan to protect valuable sewer infrastructure assets from the effects of climate change. These improvements may potentially reduce the number of shellfish closures and environmental impacts in the event of increased climatological events.

One of many climate related changes includes the impact of rising sea levels. This has the potential to hinder treatment capacity at the wastewater treatment facility as facilities become inundated with sea water. Ultimately, this could lead to a widespread release of sewage into the Machias River area and affect Machias and surrounding communities of the treatment plant. The Town would then be faced with costly emergency measures to return wastewater treatment to the area.

Further, rising water levels and increased precipitation events can also lead to problems away from the wastewater treatment plant. In downtown areas where significant infrastructure is situated, rising water levels could hinder the operation of pump stations, gravity sewers, and other sewage collection equipment. This could lead to increased costs of treatment, and damage to crucial wastewater infrastructure.

The Department supports the Town of Machias in their endeavor for creating a climate resiliency plan and implementing appropriate capital improvements.

Sincerely,

John Skelley, Engineer
Department of Environmental Protection
Division of Water Quality Management

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143



P O Box 606
Machias, ME 04654

Machias Bay Area Chamber of Commerce

(207) 255-4402
email:info@machiaschamber.org

Dear Ms. Dzenis,

The Machias Bay Area Chamber of Commerce seeks to support the Machias Waterfront Resilience and Renewal project. The Chamber of Commerce serves more than 30 communities in the region and has 220 member businesses. We provide advertising and marketing for our members as well as organizing and sponsoring community events and programs. Our mission is to provide leadership for a healthy and vibrant business environment and to encourage responsible economic growth which respects Washington County's quality of life.

The Machias Waterfront Resilience and Renewal project is consistent with our mission, and addresses issues related to economic stability and quality of life. On behalf of our member businesses located in Machias, we support the Town in seeking this funding. The Chamber of Commerce will provide its distribution and advertising network to raise public awareness of the project and solicit stakeholder input from the business community. We will also provide a meeting space for advisory committee meetings and public meetings.

Thank you for considering funding this project.

Sincerely,

Sharon Mack
Executive Director, Machias Bay Chamber of Commerce
2 Kilton Lane
PO Box 606
Machias, ME 04654