

## **REQUEST FOR PROPOSALS FOR ENGINEERING SERVICES:**

### **Downtown Boothbay Harbor Flood Impact Preliminary Engineering Study and Adaption Options to Protect Governmental and Commercial Structures From Flooding Associated with a 1% Storm and Sea Level Rise**

The Town of Boothbay Harbor is soliciting proposals for engineering services to prepare a preliminary engineering report outlining options and cost estimates for protecting waterfront commercial and governmental property within the project area from flooding associated with a 1% storm and sea level rise (SLR). All engineering services shall be in conformance with the requirements of the Maine Coastal Program, which is providing principal funding for this project funding this project. Additional financial and staff support is being provided by the Town of Boothbay Harbor and the Lincoln County Regional Planning Commission (LCRPC).

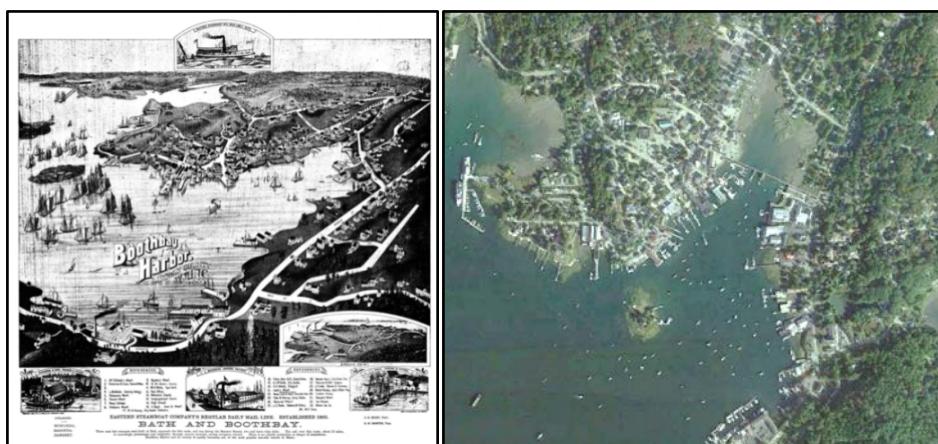
#### **I. Project Description**

The Federal Emergency Management Agency (FEMA) finalized new Flood Insurance Rate Maps (FIRMs) for Boothbay Harbor in 2015. The previous iteration of FIRMs did not visually represent the locations of structures within the flood zone. In some respects, this reduced the sense of vulnerability of the owners of such structures to potential loss from floods. The new generation of FIRMs is a digital product, printed on ortho-rectified aerial imagery, making locating structures much easier. They were also developed using very accurate topography from LiDAR data, which is capable of 2 foot contour intervals. Flood mapping methodology has also increased in terms of accuracy.

The project proposes to retain an engineering consultant to document ground level and elevations of doors, windows, vents and critical infrastructure in relation to established flood elevations on participating properties, evaluate such buildings for susceptibility to flood damage and recommend specific resilience actions with associated cost estimates. (This scope is similar to that utilized in the successfully completed Downtown Damariscotta Coastal Hazards Preliminary Engineering Study available at [http://www.townofdamariscotta.com/sites/townofdamariscotta.com/files/20150202\\_FinalReport\\_Revised.pdf](http://www.townofdamariscotta.com/sites/townofdamariscotta.com/files/20150202_FinalReport_Revised.pdf)). In addition, the project will raise the profile of the flood insurance program and encourage more owners of buildings within the flood zone to consider purchasing flood insurance. It will also assist the town as requested in revising local ordinances to increase the resilience of new and substantially reconstructed structures to flooding.

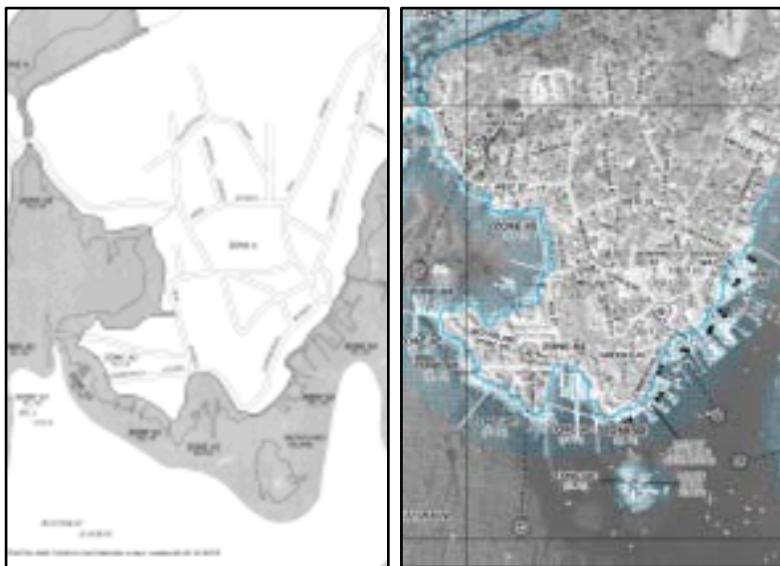
#### **II. Downtown Boothbay Harbor**

Boothbay Harbor developed as a fishing port in the 19<sup>th</sup> century and the harbor served as the commercial, industrial, residential and social center of the community and the Boothbay peninsula. Gradually, the traditional

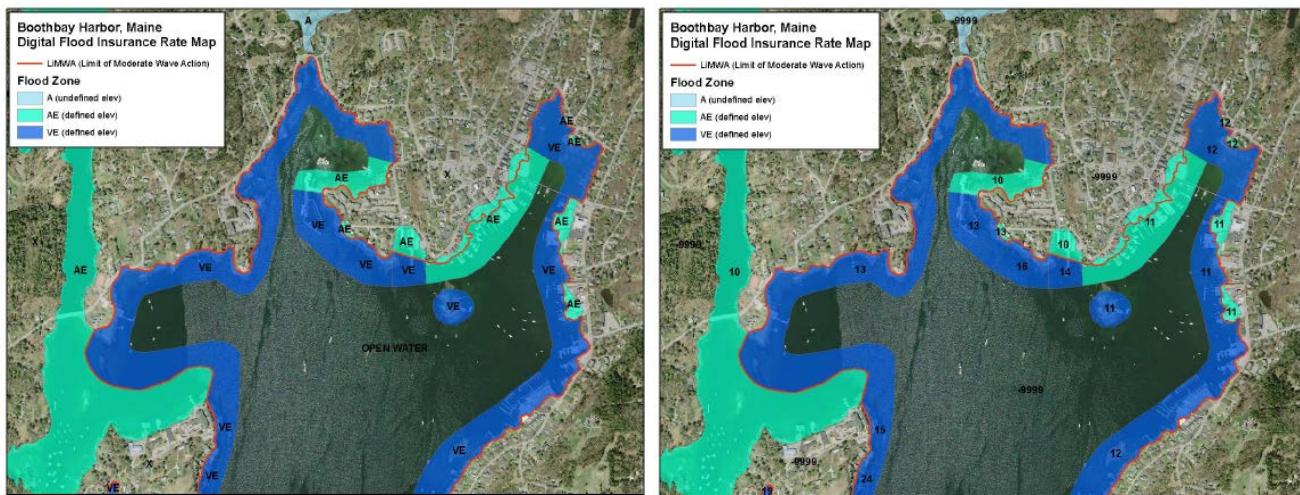


fishing sector largely disappeared from the community as the fishing industry and resources changed and as tourism and related commercial sectors grew and largely replaced shipbuilders and fish processors. There are still some commercial fishing and shipbuilding facilities in the harbor but, for the most part, the harbor consists primarily of hotels, recreational boating and sightseeing facilities and tourist support facilities.

The first FIRM shown below was in effect until 2015 (it represents only a portion of the full FIRM). An individual shorefront building owner would have difficulty in determining which part of his or her property was in a flood zone without engaging the services of a surveyor because of the absence of a map building layer. In 2015, the town adopted the new FIRM, a portion of which is represented as the second map. The new FIRM



makes it easier to place individual buildings and structures within the flood zone and to identify those areas impacted by AE zones (considered to be static flood areas with waves less than 1.5'), Coastal AE zones (AE zones with waves between 1.5' and 3', which defines the Limit of Moderate Wave Action or LiMWA) and VE zones (areas impacted by both wave set-up and wave run-up and with waves greater than 3'). Presented below are representations of the 2015 FIRM highlighting the AE, VE and LiMWA zones and a second map with the actual flood elevations associated with these zones.



### **III. Stakeholders**

The potential stakeholders include the owners of commercial properties with structures within the flood zone, the town, which is also the owner of several potentially affected properties, and the general public who live, shop and recreate in or near the downtown. Because downtown Boothbay Harbor also serves as the principal service center for the Boothbay Peninsula and for thousands of in- and out-of-state visitors to the area, persons throughout the Boothbay Peninsula and the mid-coast may also be considered interested parties.

The *preliminary* project boundaries are presented below. Parcels highlighted in yellow are those that have a commercial or governmental structure within the flood zone. Also shown is the mapped flood zone boundary (in red). Once the project moves forward, one of the first steps will be to finalize the boundaries of the project area and select those properties for inclusion in the project. As of the date of this RFP about half of the owners of highlighted properties have agreed to participate in the project. It is anticipated that prior to the start of on-site work most property owners will have agreed to participate.



Stakeholders include the owners and occupants of 29 buildings and commercial condominium units potentially affected by flooding associated with the 1% storm and rising sea levels, the Town of Boothbay Harbor, which owns the principal parking lot in the downtown, the Boothbay Harbor Fish Pier and 8 streets predicted to be inundated during various scenarios and several commercial tenants on the town pier. Project partners include the Town of Boothbay Harbor, Lincoln County and LCRPC. These entities have worked together on a number of projects with the most recent being the Coastal Hazards-Sea Level Rise Study and the ongoing Boothbay Harbor Sewage District Sea Level Rise Impact Study. Because the downtown also serves as an important access to the neighboring town of Southport and because Boothbay Harbor is a regional service center with an urgent care center-health campus, library, theater and major commercial district, residents throughout the Boothbay peninsula and the mid-coast may also be considered interested parties.

#### **IV. Scope of Services**

The project partners propose to retain an engineering consultant to determine the relationship between the 1% flood elevation and selected SLR scenarios at all participating properties and the elevations of potential points of water access into buildings as well as critical at-risk building infrastructure such as fuel tanks, electrical entrances, furnaces, etc. The engineering consultant will be tasked with identifying and evaluating potential adoptions techniques to make buildings and infrastructure more resilient to flooding and estimating costs associated with such adoption techniques for each building evaluated.

The principal question to be addressed by the proposed project is: "Are there adoption techniques that can be implemented to make downtown buildings and public infrastructure more resilient in the face of existing and future flooding hazards?" To answer this question, the Town of Boothbay Harbor, in cooperation with Lincoln County and the LCRPC, has appointed a project manager and created a Project Oversight Committee (Committee) composed of the following individuals and parties:

- Representatives of downtown Boothbay Harbor properties identified in the recently issued FIRMs as being potentially affected by flooding associated with a 1% storm
- Selectman
- Town Manager
- Planning Board Member
- Local Insurance Consultant with experience in the federal flood insurance program
- Town Planner
- Public Works Director
- Representative of the Maine Geological Survey
- Representative of the LCRPC, who will serve as project manager

The selected engineering consultant will be responsible for the following work tasks:

- Utilize data created by FEMA flood studies to confirm the structures and public infrastructure predicted to be impacted by flooding associated with a 1% storm and selected SLR scenarios.
- Use survey methods to determine the elevations of doors, windows, vents and other points of water access into buildings and the elevations of critical building infrastructure such as electrical entrances, fuel tanks, furnaces, etc. in relation to the 1% flood elevation.
- Conduct on-site external and internal inspections of all buildings predicted to be impacted and identify building, building systems and equipment vulnerabilities.
- Identify and analyze the feasibility of a range of adaptation strategies to achieve protection from flood levels as defined above, and estimate rough costs. The adaptation strategies may include but not be limited to walls, berms, building flood proofing, elevation of equipment within impacted buildings, tank anchoring and similar techniques. The consultant shall include strategies for "living shoreline" or soft structures, if appropriate. Specific information about each adaptation strategy will include estimated construction cost, life span, maintenance requirements, and any pros or cons. Case studies of where a particular adaptation strategy may have been implemented successfully elsewhere will be included, if applicable.
- Provide information on the Federal Flood Insurance Program including program requirements, application requirements, information on insurance premiums and estimates of the potential impact on premiums should building owners implement recommended building protection strategies.
- Many of the buildings and structures within the project area are sited on pilings as is typical of waterfront construction. During the course of completing individual building inspections, the engineering consultant may be asked by building owners for advice on other issues associated with

their properties. While not a principal focus of the project, the provision of any such advice will not be discouraged as long as it does not dilute the overall work effort of the consultant.

The engineering consultant will report directly to the Project Manager, who will keep the Committee up-to-date by providing status reports prepared by the engineering consultant and updates on the project schedule. The Project Manager will provide the engineering consultant with feedback from the Committee. The engineering consultant will periodically meet with the Committee to review progress to date and discuss potential changes in the scope of work to address new conditions or significant findings. At the conclusion of the project work tasks, the engineering consultant will prepare a project report summarizing the results of the on-site evaluations of building and infrastructure impacts, the range of potential adaption measures, cost estimates and recommended actions without identifying individual properties. Reports with details on individual buildings will be provided confidentially to building owners.

Upon receipt of the summary report and discussion by the Committee of its findings, the Committee will host a public informational meeting to which all owners of vulnerable property, local news outlets, local officials and the general public will be invited to attend. The engineering consultant will also attend the meeting to review the recommendations and answer questions. Following this public meeting, the report and recommendations may be updated to reflect comments made at the public meeting.

The Committee will be responsible for making recommendations to the Board of Selectmen on recommended improvements to public facilities including cost estimates and timing. The Committee will also make recommendations for revisions to local ordinances such as the floodplain management ordinance to facilitate the incorporation of adaption strategies for public and private facilities and to ensure new construction and substantial improvements to existing structures are similarly protected from impacts associated with coastal hazards and SLR. In addition, the Committee shall discuss and make recommendations regarding the role, if any, for the town in assisting property owners in implementing adaption strategies for at-risk buildings. Such strategies could include a special assessment district, grants, tax increment financing, or other assistance. The Committee or other committee appointed by the Board of Selectmen will be responsible for overseeing implementation of study recommendations.

## **V. Project Schedule**

The Committee will work with the selected consultant to develop an agreed upon project schedule. It is expected that the consultant will begin work in the winter of 2016-2017 with field work to be conducted in spring 2017 and the project completed by June 1, 2017.

## **VI. Maximum Award Amount:**

The maximum award amount for the above scope of services will be \$30,000.00.

## **VII. Contacts for Consultant**

*Project Manager and Main Point of Contact:* Bob Faunce, Lincoln County Regional Planning Commission

*Marine Geologist:* Peter A. Slovinsky, Marine Geologist, Maine Geological Survey.

*Town Manager:* Thomas Woodin

## **VIII. Responses to RFP**

Responses must include the following:

- the firm's legal name, address, and telephone number;
- the qualifications of the professional personnel to be assigned to the project demonstrating their knowledge and experience in completing the tasks identified in Section IV of the RFP; special attention

- should be given to demonstrating knowledge and experience of waterfront structures, many of which are supported by pilings and similar improvements;
- knowledge of FEMA flood regulations and the federal flood insurance program;
- capacity to meet time and project budget requirements;
- present and projected workload for key project staff;
- related experience on similar projects including the name and phone number of a local official knowledgeable of the firms work;
- proposed project approach, costs and schedule for activities to be performed.

## **IX. Proposals Evaluation**

Engineering proposals will be evaluated according to the following factors:

• Overall quality of the proposal	20%
• Overall understanding of the project and project approach	20%
• Staff qualifications	20%
• Experience with the design of hard or soft structures and techniques to mitigate flooding damage	15%
Experience with coastal and marine structural engineering	15%
• Cost or amount of work offered in exchange for maximum award amount	5%
• Geographic location of firm, availability to travel to Boothbay Harbor	5%

## **X. Selection Criteria**

The selection of a firm or firms to be interviewed will be based on the evaluation of the written responses, if deemed necessary. The Town of Boothbay Harbor reserves the right to select a firm directly from the written proposals without an interview. Interviews, if held, will be at the Boothbay Harbor Town Office within 3 weeks of the proposal submission deadline. The award will be made to the most qualified firm whose proposal is deemed most advantageous to the overall proposed project, all factors considered. Unsuccessful firms will be notified as soon as possible.

This solicitation is being offered in accordance with federal and Maine state requirements governing the procurement of professional services. Accordingly, The Town of Boothbay Harbor reserves the right to negotiate an agreement with the selected firm based on fair and reasonable compensation for the scope of work and services proposed as well as the right to reject any and all responses deemed unqualified, unsatisfactory, or inappropriate.

Questions and responses should be directed to:

Robert Faunce  
 Lincoln County Regional Planning Commission  
 297 Bath Road  
 Wiscasset, Maine 04578  
 Voice: (207) 784-2617  
 Email: [rfaunce@lcrpc.org](mailto:rfaunce@lcrpc.org)

## **XI. Proposal Submission Deadline**

Twelve (12) physical copies of the proposal must be received by 3:00 PM on December 16, 2016 at the Boothbay Harbor Town Office, 11 Howard Street, Boothbay Harbor, ME 04538. Please indicate: "RE: Flood Impact Project; Attn: Thomas Woodin" on the outside of the response package. Please transmit one copy in PDF format electronically [rfaunce@lcrpc.org](mailto:rfaunce@lcrpc.org) by the same deadline.