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Request for Proposals

Final Design of a Living Shoreline at Chittenden Park, Guilford, CT *and* Conceptual Coastal Resilience Designs in the Guilford Area

Request for Proposals:

Save the Sound, in partnership with the Town of Guilford and Project Advisory Committee, is soliciting proposals for design engineering and permitting services for

- 1) development of final designs and permitting for a living shoreline at the rapidly-eroding beachfront at Chittenden Park on Guilford Harbor, and
- 2) development of conceptual designs for 3 additional coastal resilience restoration projects that may include living shoreline, thin layer placement/marsh restoration, and tidal reconnection practices (sites as yet to be determined).

Applicants should demonstrate proven experience with living shorelines, coastal ecological restoration, benefit-cost analysis and quantification of ecosystem services, hydrologic and hydraulic modeling in tidal environments, environmental permitting, and project management.

Project Objectives: Halt erosion and stabilize the beachfront at Chittenden Park in Guilford through design of “living shoreline” practices that enhance coastal habitats and processes, and bring additional coastal restoration sites in the Guilford area into the “project pipeline” for future implementation.

Locations: Chittenden Park, 127 Seaside Ave, Guilford, CT 06437 <https://goo.gl/maps/f4qHZXyJsFjMqNgt9>
Additional coastal restoration sites (2-3) in the Guilford area to be determined





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Project Background:

Save the Sound has partnered with the Town of Guilford (together, the Project Partners) to hire an engineering firm with coastal restoration expertise (the Consultant) to develop final designs and permit applications for the Chittenden Park Living Shoreline, and 2-3 conceptual designs for additional restoration sites in the Guilford area (the Project).

The beachfront at Chittenden Park in Guilford, a Town park at the mouth of the West River, is undergoing rapid erosion. Aerial photographs and analysis in the Connecticut Shoreline Change Analysis by UConn Center for Land Use Education and Research show the beach and tidal wetlands eroding more than 50 feet per decade, with a total estimated loss of 377 feet to date. Chittenden Park protects the seaward edge of a 155-acre section of the West River Marsh. West River Marsh is part of the 1,100+ acre East River Marsh/West River Marsh complex, one of the largest and most ecologically important on the Long Island Sound coast. This patch of the West River Marsh ranked 8th out of 487 in the State of Connecticut by the Atlantic Coast Joint Venture's Saltmarsh Sparrow Habitat Prioritization Tool.

Restoration of this rapidly eroding site has been identified as a priority since 1985, and is called out in Guilford's Harbor Management Plan, Hazard Mitigation Plans, and Community Coastal Resilience Plan. The site was prioritized and became one of the ten concepts advanced from the Southern Connecticut Regional Framework for Coastal Resilience Framework (SCRCRF), developed by the South Central Regional Council of Governments and The Nature Conservancy, with input from regional experts. Engineered conceptual designs for the proposed Chittenden Park Living Shoreline, developed by Milone & MacBroom and GEI Consultants for the SCRCRF, will form the basis for final designs. Using design elements that mimic natural features and processes, the project will restore the site's coastal wetlands, stop the loss of landward tidal marsh habitat, buffer the Park's recreational resources and nearby low-lying residences along Field Road and Seaside Avenue from destructive storm surges, and protect navigation in the West River by reducing channel sedimentation and erosion. The completion of this project will enable future implementation of the Chittenden Park Living Shoreline.

Additional coastal resilience restoration project sites have been identified in the Guilford area through previous planning efforts, including DEEP's Sea Level Affecting Marshes Model (SLAMM), the SCRCRF, and the CIRCA/NOAA CREST (Coastal Resilience Evaluations and Siting Tool). These include (but are not limited to) potential living shoreline projects at Grass Island, Chaffinch Island Park, and East River Marsh at Sluice Creek; tidal reconnection at Long Cove; and marsh restoration using dredge material at Leetes Island Marsh. Based on the lessons learned and knowledge gained during the design and permitting of the Chittenden Park Living Shoreline, the Consultant and Project Partners will select 3 restoration sites for development of conceptual design plans, to a level similar to the previously prepared conceptual designs for the Chittenden Park Living Shoreline. This site selection will be further informed by the Project Advisory Committee (PAC), which includes local residents as well as coastal ecology and resilience experts. These plans will bring these sites into the "project pipeline" for further development of final designs, permits, and eventual implementation.

Scope of Services Requested:

Proposals should include Project understanding, background and design approach, and detailed description of tasks required to meet those goals. Bidders can include subtasks, additional tasks, or eliminate tasks deemed to be extraneous or redundant. If including additional tasks, please include a brief explanation of how this will further the objectives of the Project. If eliminating tasks, please explain how Project goals will be met. Schedule, cost, and deliverables for each task/subtask should be enumerated



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within the proposal. For conceptual designs, please provide a per conceptual design fee estimate, such that the number of additional sites selected can be modified as needed.

→ **Please note:** modification of tasks based on bidder input and experience is welcomed.

Task Details:

TASK 1 – Site Assessment and Studies

1.1 Chittenden Park Living Shoreline: The Consultant will gather and synthesize existing data, and perform additional on-site and desktop studies/analyses necessary to develop Final Designs and permit applications for the Chittenden Park Living Shoreline. The existing SCRCRF conceptual design will form the basis for Final Designs. The goal of Task 1.1 is to determine historic and current physical drivers of erosion at Chittenden Park, threats to ecological and other resources, and opportunities for restoration and resilience. Additionally, using the existing conceptual designs as a starting point, the Consultant will request guidance from local, state, and federal Regulators regarding what analyses and studies will be required during future permitting reviews for the Project. The Consultant will coordinate closely with Project Partners, and will have access to input and feedback from the PAC. Meetings may include, but are not limited to, an initial kickoff and review meeting to discuss Task 1.1 findings and gather feedback.

Existing data and studies to review and incorporate into analysis (not limited to this list):

- a) Southern Connecticut Regional Framework for Coastal Resilience Framework (SCRCRF) conceptual design, alternative design, and BOD/description, developed by Milone & MacBroom and GEI Consultants for the SCRCRF, 2017
- b) Guilford Yacht Club Boat Basin 2D Modeling report by SLR, 2021
- c) UCONN/CLEAR Shoreline Change Analysis
- d) CT DEEP/CT DOT CT SLAMM 2022 Updated data set
- e) West River Tidal Wetland Mitigation report by Milone and MacBroom, 2021
- f) Local planning documents: Hazard Mitigation Plans, Harbor Management Plan, Community Coastal Resilience Plan
- g) FEMA mapping
- h) Historic aerial photos Indigenous and post-contact land use history
- i) Ecological resources (NDDDB species records, on-the-ground habitat sampling)

Anticipated analysis and studies to be completed (not limited to this list):

- a) Historical aerial photo review and change analysis
- b) Indigenous and post-contact land use history narrative
- c) Ecological resources (NDDDB species records inquiry and determination of need for on-the-ground habitat sampling)
- d) Wetlands (delineation, Functions/Values Assessment)
- e) Topographic and bathymetric surveys as needed for modeling and design
- f) Current site conditions (property boundaries, utilities, infrastructure)
- g) Relevance of site to communities experiencing environmental injustice narrative
- h) FEMA mapping review and potential project impact on flooding
- i) Modeling (hydrologic and hydraulic modeling including wave, wind, and tidal factors; sea-level rise analysis; and sediment transport analysis, if needed for final design)



- j) Review of available chemical and grain size analysis of dredge material from Guilford Yacht Club, Guilford Marina, and other sources to assess feasibility for relocation and placement on-site for restoration
- k) Cost-benefit analysis based on the FEMA model and adjusted to value and incorporate ecosystem services benefits and marsh replacement costs, among other inputs related to nature-based resilience, as appropriate to apply for future FEMA funding
- l) Collect CT DEEP Tidal Wetlands/Structures, Dredging and Fill permit application data for nearby sites

Deliverables:

- a) Kickoff meeting
- b) Summary memo of findings: existing conditions, such as local tide range, resources, and drivers of change
- c) Cost-benefit analysis for the project, inclusive of ecosystem costs and benefits
- d) Base map(s) of existing conditions, including elevation of existing infrequently flooded/high marsh and target elevations for proposed created marsh that consider sea level rise
- e) Review meeting

Anticipated timeframe: Summer–Winter 2022

1.2 Additional Resilience Restoration Sites: In consultation with Project Partners, the Consultant will select 3 coastal resilience restoration sites in the Guilford area (focused in Guilford, inclusive of Branford and Madison), gather/synthesize existing data, and perform additional on-site/desktop studies and analyses necessary to develop Conceptual Designs for each of the sites. Task 1.2 will determine historic and current drivers of degradation at these additional sites, as well as threats to resources and opportunities for restoration and protection. The Consultant will coordinate closely with Project Partners, and will have access to input and feedback from the PAC. Meetings may include, but are not limited to, an initial kickoff meeting and review meeting to discuss Task 1.2 findings and gather feedback.

Existing data and studies (not limited to this list):

- a) Southern Connecticut Regional Framework for Coastal Resilience Framework (SCR CRF)
- b) Sea Level Affecting Marshes Model (SLAMM)
- c) CIRCA/NOAA CREST (Coastal Resilience Evaluations and Siting Tool)

Additional studies and analysis (not limited to this list) for 3 sites selected:

- a) Historical aerial photo review and change analysis
- b) Ecological resources (NDDDB species records inquiry and determination of need for on-the-ground habitat sampling)
- c) Collect available Wetland GIS data
- d) Narrative of current site conditions (property boundaries, utilities, infrastructure)
- e) Review of FEMA mapping
- f) Utilize available topographic and bathymetric surveys
- g) Utilize existing modeling (hydrology and hydraulics including wave, wind, and tidal factors; sediment transport analysis; sea-level rise)



→ **Note:** it is understood that these studies and analysis will be conducted to the level necessary for concept designs.

Deliverables:

- a) Kickoff meeting
- b) Summary memo of findings: existing conditions, resources, and drivers of change
- c) Base map(s) of existing conditions
- d) Review meeting

Anticipated timeframe: Spring–Summer 2023

TASK 2 –Pre-permitting Consultation and 60% Designs

2.1 Chittenden Park Living Shoreline: The Consultant will develop 60% Designs, Basis of Design memo, Opinion of Probable Cost, and Monitoring/Adaptive Management Plan for the Chittenden Living Shoreline based on the existing conceptual design, Task 1.1 findings, Project Partner feedback, and input from the PAC. The Consultant will use these 60% Designs as a basis for pre-permitting consultation with federal, state, and local regulators/boards/commissions (many of whom are/will be represented on the PAC). Following pre-permitting consultation, the 60% Designs will be presented in a public meeting to gather feedback and proposed changes from local residents.

Based on the existing SCRCRF conceptual design, the 60% Designs are anticipated to include 2.5 acres of restored coastal wetland habitat and dunes; a stone jetty at the mouth of the West River; three onshore sills to stabilize tombolo features; two nearshore breakwaters to protect the wetland and promote accretion of sand and ongoing tidal wetland development; placement of 32,000 cubic yards of dredged sand (from West River and/or East River channel maintenance, or similar sources); and 30,000 square feet of tidal marsh and dune plantings. **However, the 60% Designs will be guided by the findings in Task 1.1.**

Deliverables:

- a) Pre-permitting consultation with federal, state, and local regulators/boards/commissions
- b) 60% Design Plans
- c) Draft Basis of Design memo
- d) Draft Opinion of Probable Cost for construction
- e) Draft Monitoring/Adaptive Management Plan
- f) Review meeting with Project Partners and the PAC
- g) Public meeting to solicit input and gather feedback
- h) Feasibility assessment including list of key proposed project unknowns and ‘challenges’

Anticipated timeframe: Winter–Spring 2023

2.2 Additional Resilience Restoration Sites: The Consultant will develop Draft Conceptual Designs for 3 additional coastal resilience sites based on Task 1.2 findings, Project Partner feedback, and PAC input. The Consultant will use these Draft Conceptual Designs as a basis for pre-permitting consultation with federal, state, and local regulators/boards/commissions. The Draft Conceptual Designs will be presented in a public meeting to gather feedback.

Deliverables:

- a) Draft Conceptual Design Plans



- b) Draft Basis of Design (BOD) memo
- c) Pre-permitting consultation with federal, state, and local regulators/boards/commissions
- d) Opinion of Probable Cost for construction
- e) Review meeting with Project Partners
- f) Presentation meeting to the public

Anticipated timeframe: Spring–Summer 2023

TASK 3 – Final Design Development

3.1 Chittenden Park Living Shoreline: The Consultant will develop Final Designs, Final Basis of Design memo, Final Opinion of Probable Cost, and Final Monitoring/Adaptive Management Plan for the Chittenden Living Shoreline based on the feedback and input received in Task 2.2 from Project Partners, regulators (and boards and commissions), and the public. The Consultant will present Final Designs in a public meeting.

Deliverables:

- a) Final (95%) Design Plans
- b) Construction Specifications
- c) Final Basis of Design (BOD) memo
- d) Final Opinion of Probable Cost for construction
- e) Final Monitoring/Adaptive Management Plan
- f) Presentation meeting to the public

Anticipated timeframe: Summer 2023

3.2 Additional Resilience Restoration Sites: The Consultant will develop Final Conceptual Designs, Final Basis of Design memo, Final Opinion of Probable Cost, and Final Monitoring/Adaptive Management Plan for 2-3 additional sites based on the feedback and input received in Task 2.2 from Project Partners, PAC, regulators (and boards and commissions), and the public. The Consultant will present Final Conceptual Designs in a public meeting.

Deliverables:

- a) Final Conceptual Design Plans
- b) Final Basis of Design memo* (including list of key proposed project unknowns/challenges/required additional data collection required to advance future design)
- c) Final Opinion of Probable Cost for construction*
- d) Final Monitoring/Adaptive Management Plan*
- e) Presentation meeting to the public

➔ ***Note:** it is understood that these studies and analysis will be conducted to the level necessary for concept designs.

Anticipated timeframe: Spring–Summer 2023

TASK 4 – Permitting:



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- A. Chittenden Park Living Shoreline: The Consultant will secure permits for the project, including the preparation of permit applications for all necessary federal, state, and local permits which are required for construction of the Chittenden Park Living Shoreline project, coordination with regulatory agencies, response to regulatory comments, and changes to the engineering plans and specifications as needed to bring them to 100% completion.

Deliverables (anticipated, to be confirmed by the Consultant and regulatory agencies):

1. Connecticut General Permit or Individual Permit (US Army Corps of Engineers),
2. Certificate of Permission or Individual Permit (CT Department of Energy & Environmental Protection),
3. Coordination with Town of Guilford Planning and Zoning Commission Coastal Area Management Application, Guilford Parks and Recreation Commission, Shellfish Commission, and Harbor Commission

Anticipated timeframe for permit application submittal: Fall 2023

Anticipated timeframe for permit review and response to Regulator questions: 2024

Submittal Requirements:

Please provide discrete costs, a list of deliverables, and a proposed timeline and schedule for completing each of the individual tasks.

→ **Please note:** modification of tasks based on bidder input and experience is welcomed.

In addition to the technical engineering design proposal, Bidders should provide the following background information on their firm and specific experience relevant to this project:

- Bidders should briefly list current and previous design experience with living shorelines and other coastal restoration projects (maximum one page for list) and provide three examples of projects similar to the proposed project (maximum one page per project). Provide references for these three projects that include a contact name and phone number.
- Bidders should provide evidence of their authority and qualification to do business in Connecticut, or Bidder shall ensure in writing that they plan to obtain such authority and qualification prior to award of the Contract. Bidder should provide their state contractor and certified engineer license numbers, as applicable.
- Bidders should also provide a list of key personnel that will be working on the project, including a duty statement and brief resume of each key person, by name and title, with experience in pertinent fields (up to five people, one page per person).
- If subcontractors may be used, include a description of those persons or firms, their roles in the project, and their qualifications to do the anticipated work. The Bidder assumes responsibility for all work contracted or subcontracted from this Bid.

A mandatory on-site bidders meeting shall be held at 2PM on June 22, 2022, at Chittenden Park, 127 Seaside Ave, Guilford, CT 06437. Contact Alex Krofta at akrofta@savethesound.org for meeting details.

Proposals shall be submitted electronically to Save the Sound on or before July 22, 2022 by 5PM via email attachment or shared folder. Please coordinate with Alex Krofta in advance regarding the submittal.



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Proposals received after this deadline will be rejected. Bidders should also submit one hard copy of their completed submittal package, postmarked by July 22, 2022. Please submit proposals to:

Save the Sound
c/o Alex Krofta
900 Chapel Street, Suite 2202
New Haven, CT 06510
508-212-5885
akrofta@savethesound.org

Proposal Evaluation:

Proposals will be reviewed by the Project Partners, with input from the PAC, and awarded based on best-value selection. The following criteria will be used to evaluate the proposals submitted:

1. Quality of the proposal in identifying deliverables and design tasks;
2. Cost-effectiveness of the proposal in providing requisite tasks for completing the deliverables of this project;
3. Relevant experience of the engineering firm in assessing, designing, and permitting living shoreline or other coastal resilience/restoration projects;
4. Timeliness in completing the requisite project tasks;
5. Qualifications and experience of the key project engineering staff personnel; and
6. Qualifications and experience of the contractor firm and key contractor personnel.

Disclaimer:

This RFP does not commit Save the Sound to award a contract or to pay any costs incurred during the preparation of the proposal. Save the Sound reserves the right to reject any or all proposals. Save the Sound also reserves the right to selectively contract or self-perform specific tasks within the scope of work if such modification is an asset to project timeline or budget.

Estimated Schedule:

RFP release: June 10, 2022
Mandatory site visit: 2:00PM, June 22, 2022
Proposals due: 5:00PM (digitally), July 22, 2022
Proposal review process: July 25 – Aug 26, 2022
Project award on or before: August 26, 2022
Kickoff meeting: September 2, 2022