

# Request for Proposals

## Frost Fish Creek Culvert Replacement and Ecological Restoration

TO: Estuarine wetland restoration practitioners

FROM: Chatham Conservation Foundation, Inc.

DATE: December 21, 2022

Chatham Conservation Foundation, Inc. (CCF) is requesting bids for project management services for the Frost Fish Creek project as described below.

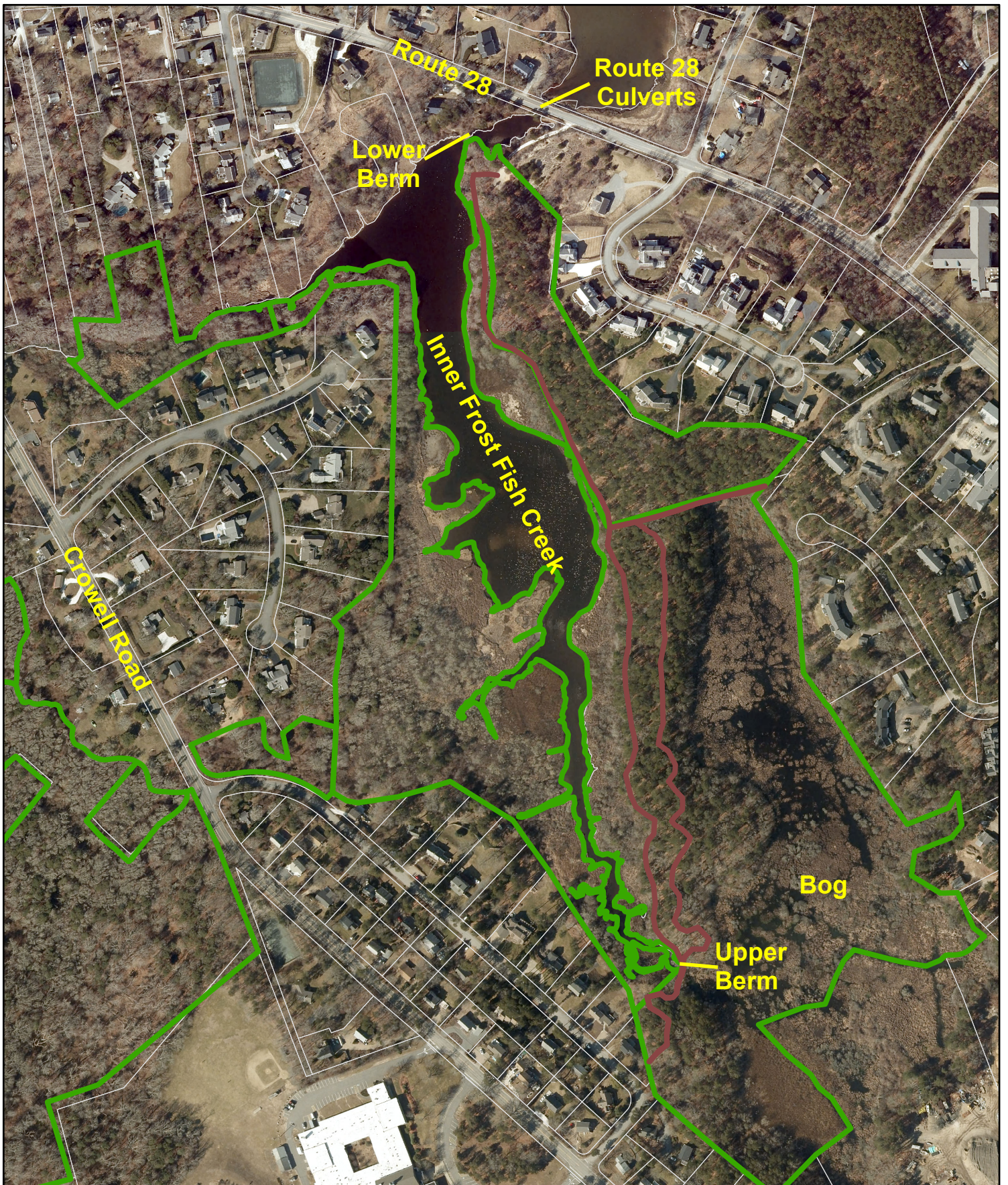
**CCF anticipates execution of a contract in February 2023 for services through Spring 2023.**

### PROJECT LOCATION AND SITE DESCRIPTION

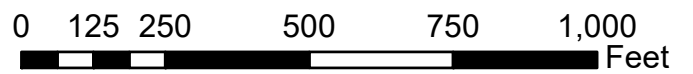
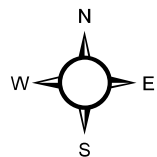
Frost Fish Creek (FFC) is a tidally influenced creek in Chatham, MA connected to Ryder Cove and is part of the Pleasant Bay Area of Critical Environmental Concern (ACEC). Two undersized (16-inch) culverts connect Frost Fish Creek to Ryder Cove under Route 28, restricting tidal flow. The portion of FFC upstream of Route 28 has two additional major restrictions to normal tidal flow: a failing earthen berm fitted with a 36-inch pipe (referred to as the lower berm) which allows for partial tidal flow, creating a large impoundment of brackish open water (referred to as inner Frost Fish Creek); and much farther upstream a second earthen berm fitted with a weir (referred to as the upper berm) which maintains a freshwater overgrown bog. The bog is fed both by groundwater and a large storm water collection structure fed by neighborhood road catchment basins. A second freshwater flow into inner Frost Fish Creek is from a large system of vegetated wetlands on both sides of Crowell Road connected to FFC by two culverts under the road. The features of the area are shown on the map below.

CCF owns most of the land directly surrounding FFC upstream of the Rt. 28 crossing, including the upper berm and half of the lower berm. CCF maintains a public trail on the eastern side of FFC. The lower berm is located on 0 Frost Fish Hill (Chatham Tax Parcel 13I-8-1B) and 561 Orleans Rd (Chatham Tax Parcel 13I-9-GC), owned by CCF and private individuals, respectively. The upper berm is located on 0 Stepping Stones Rd (Chatham Tax Parcel 13H-0-1), which is owned by CCF. The freshwater bog is located across two properties: 0 Stepping Stones Rd owned by CCF and 79 Stony Hill Rd owned by J W Dubis & Sons, Inc., an earthmoving business. Note, the boundaries of these two properties are represented poorly on the Town tax parcel map, and better represented on the map below.

Both the lower and upper berms can be accessed from CCF's trail. Parking for the trail is located on 0 Frost Fish Hill and is accessed by a right of way through 497 Orleans Rd (Route 28) (See [Google Maps](#)).



- Chatham Tax Parcels
- CCF Owned Properties
- Existing Public Trail



Map produced by Chatham Conservation Foundation, Inc in December 2022. Aerial Imagery from MassGIS.

## PROJECT PURPOSE AND BACKGROUND

As the owner and steward of the upstream Frost Fish Creek system (which includes public access and trails), CCF is interested in investigating tidal restoration opportunities for this system and understanding potential restoration opportunities for the large freshwater bog area which was formerly a cranberry farm with legacy water control features. In 2018, CCF hired the Association to Preserve Cape Cod (APCC) to conduct an assessment to inform the restoration potential of the system (see 2019 report included). APCC collected water level, temperature, salinity, and elevation data. They also collected soil samples in the freshwater former cranberry bog area. The report concluded that tidal flow to Frost Fish Creek is significantly restricted by Route 28, and upstream restrictions (lower and upper berms). To build on this study, CCF applied for and received a Community Preservation Act (CPA) grant from the Town of Chatham in 2021 to fund hydrologic and hydraulic (H&H) modeling, and water quality modeling.

After receiving the CPA funding, CCF learned that the Massachusetts Department of Transportation (MassDOT) was investigating the replacement of the undersized culverts under Route 28 and began to coordinate efforts with MassDOT to inform the work moving forward. Both MassDOT and CCF received Priority Project Designations from the Massachusetts Division of Ecological Restoration (DER) in early 2022. Since then, CCF has been meeting with DER, MassDOT, and the Town of Chatham to coordinate investigations for the potential restoration of tidal flow under Route 28 and to the upstream FFC watershed.

CCF has also been communicating with the Cape Cod Conservation District and the Natural Resources Conservation Service, as they have designated Frost Fish Creek a priority for restoration and may be able to provide funding for restoration work in the system. The goals of the tidal restoration project are to restore tidal flow, improve fish passage and fish habitat, improve water quality, and restore salt marsh habitat as well as to provide potential future salt marsh migration opportunities. CCF and partners are currently working to understand the ecological benefits of the project and understand any potential risks or concerns regarding changes to tidal hydrology and water quality.

MassDOT has contracted with Stantec to analyze culvert alternatives for the Route 28 crossing. This includes a H&H study conducted by the Woods Hole Group, Inc. (WHG), including a model with the lower and upper berm removed. To support the modeling work, WHG collected water level, elevation and bathymetry data. The draft H&H report was shared with partners in Fall 2021 and WHG is currently running additional models and working on the final report. In addition, MassDOT is working with Stantec to conduct a topographic survey and wetland delineation of RT. 28 and the lower berm (elevations will also be collected at the upper berm).

CCF is requesting a proposal for project management services to assist us in focusing on what type of studies are needed to answer our concerns and then manage the process of seeking bids from appropriate vendors who could conduct the studies.

CCF would like to sponsor studies that evaluate the effect of the Rt. 28 tidal restoration and the possible removal of one or both berms on the water quality of FFC and the downstream estuary (Ryder's Cove) and the changes to marsh vegetation and fish habitat. Of special concern to CCF are studies that will inform decisions regarding the alteration of the upper berm. At least a portion of the freshwater bog maintained by the upper berm has served for decades as a sediment basin for road runoff. The effect of opening this area to tidal flow on downstream water quality is unknown. Further, the potential of the

bog area to transition to salt marsh is unstudied. Specifically, CCF would like to investigate the following questions:

1. How will water quality within Frost Fish Creek and the downstream estuary be affected if the lower berm is removed (along with opening the crossing at Rt. 28)? In particular, what are the potential short-term and long-term impacts and/or benefits predicted to be (e.g. bacteria, nitrates, impounded organic sediments and other materials of concern)?
2. How would the upstream vegetation change upon removal of the lower berm and restoration of full tidal exchange to Frost Fish Creek? What area of the watershed is predicted to become salt marsh under restored conditions (and will that be an increase as compared to current salt marsh habitat)? What area is predicted to become mudflat?
3. How much of the bog system acts as a “rain garden” and given recent improvements to the stormwater system flowing into the bog, does it still provide a function in “treating” stormwater? If the upper berm is removed and tidal flow (plus storm surge) eventually reaches the bog, would there be water quality issues to the estuary considering the bog’s decades-long history of holding untreated storm run-off?
4. If it’s determined that water quality impacts are not a significant concern and the upper berm were to be removed, what is the marsh migration potential for this system under future sea level rise conditions?

As appropriate, studies should build on existing data. Data from the WHG Final H&H study may be used as inputs for a water quality study and to map predicted changes in vegetation/expansion of salt marsh. In 2020, the Pleasant Bay Alliance worked with the Massachusetts Estuaries Project technical team to update the Pleasant Bay System Linked Watershed-Embayment Model (ecological assessment data incorporated into a series of linked models of the watershed nitrogen loading, tidal hydrodynamics, and measured water quality) (see [report](#)). FFC was not included in the 2020 model so there may be potential to expand upon the existing model to address tidal-restoration specific water quality questions.

### **SCOPE OF SERVICES**

CCF is seeking a project manager to consult with us in developing a plan to answer the above questions. The following section describes the anticipated major tasks that will be included in the contract and Scope of Work generated from this bid request. Variations to the sequence and tasks presented below are welcomed, as long as the variations are shown to effectively meet the stated goals. For deliverables associated with draft and final versions, bidders should assume one round of CCF and partner review and feedback. Bidders should assume that all deliverables will be provided in editable and final formats including (but not limited to) raw data files, models, AutoCAD files, Word documents, PDFs, etc.

#### Task 1: Communications and Meetings

The consultant will have an introductory meeting with CCF Land Stewardship and Management Committee (LSMC) Chair and Land Stewardship Director and communicate with them on an as needed bases going forward. CCF will provide all past studies and current work compiled for the project for the consultant’s review. CCF will update the consultant on the current status of the project and tasks being undertaken by project partners.

The consultant will attend virtual meetings with project partners as requested by CCF.

- Deliverables: Project kickoff meeting
- Minimum of monthly email or phone updates on progress

Assumptions:

- No more than 12 hours will be committed to this task without CCF written confirmation.

Task 2: Review of Materials and development of a plan to investigate water quality and restoration questions outlined by CCF

The consultant will review existing studies and reports and determine further studies needed to gather data toward answering CCF's questions. Further, they will plan how the data will be interpreted to communicate answers to CCF's questions. It will be critical to coordinate proposed work for CCF with results of current MassDOT efforts (e.g., final H&H report, field assessment results). The consultant is expected to call out important decision points and MassDOT dependent data needs in the proposed plan and update as needed based on coordination with CCF and project partners.

Deliverables:

- Draft memo outlining the proposed plan for CCF and project partner review.
- Presentation of proposed plan to CCF LSMC. Final strategy memo that incorporate CCF and project partner review.

Task 3: Oversee bidding for needed studies.

The consultant will develop bid request document(s) for the work agreed upon in the adopted plan, suggest appropriate vendors, and request bids. Site description, purpose, and background descriptions may be copied and edited from this project management bid request. Once bids are received, the project manager will clarify any questions with the vendors and prepare a summary memo comparing the vendors and their offerings. A potential additional task may be to arrange for meetings with the vendors prior to making a contracting decision.

Deliverables:

- Bid request documents and list of suggested vendors
- Written evaluation of bids received and recommendation of who to contract with.
- Meeting with CCF to finalize contracting decision.

Potential Extension of Contract:

Upon mutual agreement, CCF may request the project manager be available for consultation during the study period and will compensate the project manager at an hourly rate.

**RFP RESPONSE INSTRUCTIONS**

Responses to this RFP should include the following:

- Contact Information including email and phone
- A description of the bidder's qualifications for this work and past experience on similar projects.

- Resume
- Project scope of work including the following details:
  - Proposed tasks to meet the stated RFP goals with sufficient detail for evaluation
  - Deliverables for each task
  - Project schedule by task and month
- Budget with costs broken down by task (hours per task and rate clearly described). CCF is looking for a time and materials contract with a fixed hourly rate specified and estimated hours per task.

Bidders may reach out to CCF Land Stewardship Director, Julie Baca, at [landsteward@ccfinc.org](mailto:landsteward@ccfinc.org) with any questions. Bidders should submit the response electronically to [landsteward@ccfinc.org](mailto:landsteward@ccfinc.org) **by 5pm on January 20, 2023**. Please provide a link to any large files rather than attaching to an email.

Note that CCF reserves the right to reject any and all bids, and solicit additional proposals from other vendors to ensure the best value is obtained for the services requested. The decision to request additional proposals will be made after evaluating the submitted proposals for overall value, including:

- Experience with tidal restriction and estuarine wetland restoration projects;
- Familiarity with estuarine water quality assessments and models;
- Experience with Project Management and Restoration Planning and Coordination among multiple stakeholders.
- Demonstrated understanding of, and proper approach to, the scope of work;
- Appropriate allocation of qualified staff and level of effort to scope tasks; and
- Competitive total cost to complete the scope of work.