



## TOWN OF CAPE ELIZABETH

P.O. BOX 6260  
320 OCEAN HOUSE ROAD  
CAPE ELIZABETH, MAINE 04107-0060

MICHAEL K. MCGOVERN  
Town Manager

September 10, 2013

799-5251  
AREA CODE 207  
FAX 799-7141  
E-Mail: [mmcgove1@maine.rr.com](mailto:mmcgove1@maine.rr.com)  
Website: [www.capeelizabeth.com](http://www.capeelizabeth.com)

Norm Marcotte, NPS Program Coordinator  
Maine Department of Environmental Protection  
17 State House Station  
Augusta, ME 04333

Dear Mr. Marcotte:

Please find the enclosed proposal for the *Trout Brook Conservation Project, Phase II*. Trout Brook is on Maine's 303(d) list for degraded aquatic habitat, is listed as an Urban Impaired Stream in Maine DEP's Chapter 502, and has areas with low dissolved oxygen (DO), elevated phosphorus, and elevated chloride and specific conductance. Despite these challenges, Trout Brook supports a native brook trout population and has valuable recreational opportunities. There is great potential to restore water quality in Trout Brook.

As you will see from the supporting documentation, there is outstanding local support and energy behind this project. We are excited to harness the momentum generated by other 319-funded NPS projects within the Trout Brook watershed (the *Trout Brook Watershed Management Plan* [2011-2012] and the *Trout Brook Conservation Project, Phase I* [2013-2015]) and other projects in the watershed that have been funded by municipal, private, and grant funds. These projects have generated nearly unprecedented interest and excitement among watershed stakeholders including the municipalities, conservation groups, residential groups, and the agricultural community. These projects have demonstrated that residents, businesses, and environmental organizations within the Trout Brook watershed are eager to work together to improve water quality issues within the watershed and support the Department's mission to protect Maine's natural resources.

In preparing this grant proposal, we received an outpouring of interest and match commitments from Cumberland County Soil & Water Conservation District, the Natural Resources Conservation Service, the Cape Elizabeth Conservation Commission, the City of South Portland, the South Portland Conservation Commission, two watershed landowners (the Church of Jesus Christ of Latter-day Saints and the Walnut Hill Equestrian Center), and engineering firm AMEC (See Part 6 for letters of support). We believe that the synergy among these committed organizations as well as the strong relationships each has forged in the watershed over the years have set the stage for a successful implementation project.

The pricing contained herein is valid and binding for a period of 180 days from the date of the proposal. We look forward to working with you on this project. Please feel free to contact me at (207) 799-5251 if you have any questions.

Sincerely,

Michael K. McGovern  
Cape Elizabeth Town Manager

## Part 2: Qualifications

### Town of Cape Elizabeth

The Town of Cape Elizabeth is strongly committed to environmental restoration and stewardship. The town is currently a key partner on the *Trout Brook Restoration Project, Phase I* and continues to protect and promote open space conservation. Maureen O'Meara, the Town Planner, will be the lead for the Town of Cape Elizabeth on the *Trout Brook Restoration Project, Phase II*. Maureen has over 25 years of municipal planning experience and she serves as the Town's contact for the Cape Elizabeth Conservation Commission. Maureen's primary focus for the project will be outreach and education. She will use her skills and position to raise public awareness about these exciting restoration efforts in Trout Brook. She will also provide targeted outreach to the agricultural community within the watershed and will facilitate technical assistance as needed. Maureen is committed to preserving and promoting both the agricultural community and the open spaces that give Cape Elizabeth its unique and charming character.

### Subgrantees

The *Trout Brook Restoration Project, Phase II* will include the Cumberland County Soil & Water Conservation District and AMEC Earth & Infrastructure, Inc. as subgrantees.

The **Cumberland County Soil & Water Conservation District** is a public, non-profit agency devoted to providing education and technical assistance on the wise use of soil and water resources. Experienced District staff includes an Engineer, one Project Manager, a Project Scientist, an Urban Watershed Coordinator, a Stormwater Outreach Coordinator, a Stormwater Program Manager, a Project Administrator, and a District Manager. In addition, an Education Coordinator provides educational assistance to schools, and communities throughout Cumberland County.

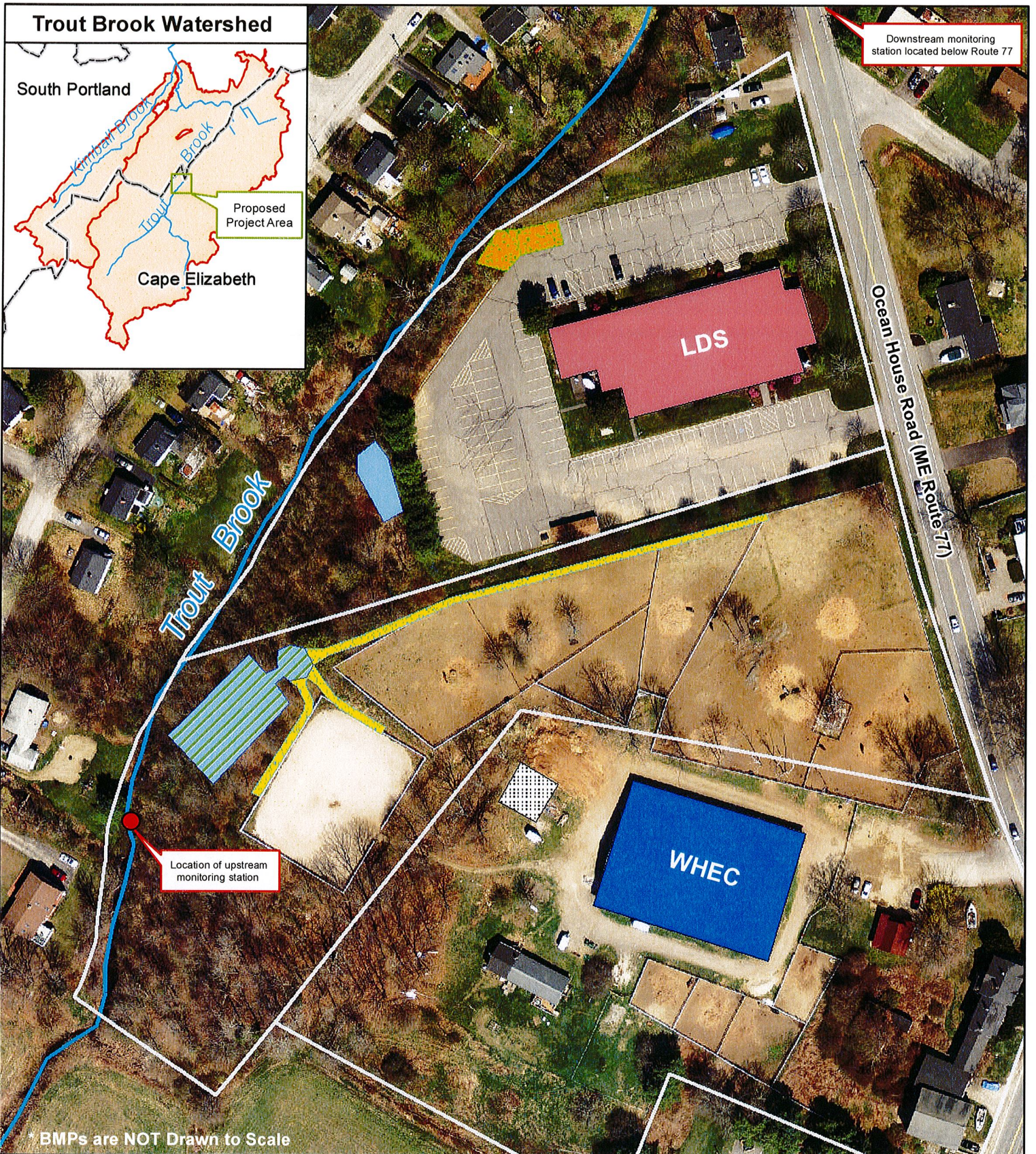
**Patrick Marass**, Urban Watershed Coordinator, is responsible for carrying out the *Trout Brook Restoration Project, Phase II* workplan and brings over four years of watershed protection experience. Patrick has successfully implemented NPS projects including *the Panther Pond Conservation Project, Phase II*, and *Crescent Lake NPS Watershed Protection Project, Phase I* (in progress). Patrick is also playing a key role coordinating the *Trout Brook Restoration Project, Phase I* under the direction of Kate McDonald (Project Scientist/Project Manager) and the implementation of pollution prevention activities within the Long Creek watershed. Patrick's strong relationships with Trout Brook watershed stakeholders and his relevant experience with implementing NPS projects will help make this Phase II project a success.

**Christopher Baldwin**, PE, CPESC will be responsible for overseeing the engineering design and construction of BMPs in the Trout Brook Restoration Project, Phase II workplan. Chris will also develop the Operation and Maintenance Plans for these BMPs and will facilitate the maintenance trainings. Chris has over 25 years of environmental and civil engineering design experience in Southern Maine. He has been the Cumberland County Soil and Water Conservation District's Engineer for over ten years. Chris has supported dozens of 319 projects with technical assistance, surveying and engineering support. He currently runs CCSWCD's Development Review Program that provides municipalities with stormwater management review, technical assistance and third party inspection of proposed development projects.

**Kate McDonald**, the Project Scientist/Project Manager will be responsible for coordinating the BMP performance monitoring in the *Trout Brook Restoration Project, Phase II*. She will also provide project management support to Patrick to assist him with implementing the Phase II workplan. Kate has 13 years of experience in project management. Since joining CCSWCD in 2011, Kate has successfully implemented NPS projects including the *Trout Brook Watershed Management Plan*, *Concord Gully Watershed Survey*, *Concord Gully Watershed Management Plan (in progress)*, and *Trout Brook Phase I Implementation (in progress)*. Kate also serves as the CCSWCD project manager for the Long Creek Watershed Management District project. In addition to her experience at CCSWCD, Kate was also a scientist and project manager for an environmental consulting firm for 11 years.

**AMEC Earth & Infrastructure, Inc.** is one of the world's leading engineering, project management and consultancy companies whose goal is deliver profitable, safe and sustainable projects and services for its customers. AMEC has been hired by the Town of Cape Elizabeth using a competitive bid process to provide engineering services under a Master Services Agreement (MSA). CCSWCD and the Town of Cape Elizabeth have worked closely with AMEC on other engineering design projects and are excited to continue this relationship.

**Partnerships:** Watershed based restoration projects cannot be accomplished by one person or entity alone, it is the relationship between partners that makes a project successful. During the proposal preparation phase, there has been considerable interest from a number of key watershed stakeholders, that all have a vested interest in restoring Trout Brook. This common interest has fostered strong partnerships that will work to ensure the project is a success. Interest and awareness of restoration efforts in Trout Brook will continue to grow as the project progresses. The following partners have committed to contributions of their time, as well as in-kind and cash match to ensure the success of the project. Attachment A provides letters of commitment from 6 project partners: Natural Resource Conservation Service, Walnut Hill Equestrian Center, Church of Jesus Christ of Latter-Day Saints, Cape Elizabeth Conservation Commission, City of South Portland, South Portland Conservation Commission, and AMEC Earth & Infrastructure, Inc. Additional interest has been expressed by teachers in the Cape Elizabeth and South Portland school systems and private citizens interested in volunteering their time to restore Trout Brook.



**Trout Brook Watershed**  
 Restoration Project, Phase II

*Proposed Project Area*

- Legend**
- Trout Brook Watershed
  - Trout Brook
  - Property Boundary
  - Town Boundary
  - Proposed BMPs**
  - Collect Arena Roof Runoff
  - Swales
  - Gravel Wetlands
  - Manure Storage Facility
  - Collect Church Roof Runoff
  - Rehabbed Detention Basin
  - Soil Filter / Bank Stabilization

0 25 50 100 Feet

Data: MEGIS, CCSWCD, ME DEP  
 Coordinates: NAD83, UTM, 19N  
 Map: CCSWCD, September 2013

Cumberland County Soil & Water Conservation District

## Part 4: Economic Impact Statement

The Town of Cape Elizabeth (the Town) employs 90 regular employees, and is committed to supporting local businesses where possible. For example, the Department of Public Works purchases materials from local hardware stores, lumber yards, and mechanical repair supplies. The Town also contracts capital improvement projects using competitive bidding (recent examples include the Shore Road Path Connector and Charles Road reconstruction) to businesses with a substantial presence in the greater Portland area.

The *Trout Brook Restoration Project Phase II* involves working with agricultural landowners within the watershed to ensure water quality. Farms in the town include organic and conventional vegetables, meat, blueberries, nursery, covered production (vegetables and herbs), and horses. Cape Elizabeth farms sell an average of \$2.1 million in products per year and contribute approximately \$835,000 to the local economy (the equivalent of 40 jobs).<sup>1</sup>

Cape Elizabeth has some of the highest property values in Maine. Multiple community preference surveys indicate that residents select Cape Elizabeth because of (1) open space and wetlands protection, and (2) schools. Town goals for environmental protection and high quality schools make collaboration with Cumberland County Soil and Water Conservation District (CCSWCD) on the *Trout Brook Restoration Project, Phase II* a beneficial partnership:

- CCSWCD currently employs ten professional employees with an average of 17 years of experience in protecting the State's natural resources.
- CCSWCD is highly efficient in using county funds to generate outside funding for conservation efforts in southern Maine. In 2013, CCSWCD leveraged nearly \$39 for every dollar of county funding to support local jobs and address environmental challenges.
- CCSWCD has a proven track record of managing successful projects such as the Long Creek Watershed Restoration. In the 2013 fiscal year CCSWCD facilitated payment of \$844,790 through Long Creek Watershed Management District to support local jobs through monitoring, engineering, construction, and professional services contracts.

By improving and protecting water quality, project partners are securing property values, tax revenue, and keeping local Maine jobs. Clean water helps to support Maine's multibillion dollar tourism industry as well as commercial fishing operations:

- Decreased water quality impacts hundreds of millions of dollars in lost revenue. Maine's tourism industry generates more than \$430 million in tax revenues per year.<sup>2</sup>
- Project partners' protection and restoration of local streams is essential to the health of Casco Bay from which about 20 million pounds<sup>3</sup> of seafood is commercially harvested annually.

### **Economic Impact of *Trout Brook Watershed Restoration Project, Phase II*:**

- **\$73,924** in federal construction funds to purchase local materials and hire local contractors to implement stormwater retrofit projects.
- **\$30,078** in federal grant dollars to support the Project Manager (7% FTE), District Engineer (10% FTE), Project Scientist (2% FTE), Outreach Coordinator (0.5% FTE), and Finance Director (0.5% FTE) positions at CCSWCD.
- **\$6,000** in federal grant dollars to support locally-sourced design engineering services.

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<sup>1</sup> Personal Communication, Penny Jordan, Cape Farm Alliance & Jordan Family Farm

<sup>2</sup> Maine Tourism Association, 2012 Newsletter. <http://www.maintourism.com/septoct2012news.htm>

<sup>3</sup> Casco Bay Background. *Casco Bay Modeling Project*. <http://www.casconorwich.org/pages/cascobay.html>

## **Part 5: Trout Brook Restoration Project, Phase II**

Grantee: Town of Cape Elizabeth

### **WATERSHED INFORMATION**

Trout Brook is located in the City of South Portland and Town of Cape Elizabeth, in the southeastern corner of Cumberland County, the State's most populous county. The City of South Portland has approximately 23,000 residents and the Town of Cape Elizabeth has approximately 9,000 residents. South Portland is 12.93 square miles and its land uses range from urban to suburban. Cape Elizabeth is 14.5 square miles and has suburban and rural land uses.

The Trout Brook watershed encompasses 0.9 square miles in South Portland and approximately 1.45 square miles in Cape Elizabeth (total area is 2.35 square miles). At its headwaters in Cape Elizabeth, it is a Class B fresh water stream. At the South Portland city line it becomes a Class C fresh water stream until it reaches the tidal waters of Mill Cove where it flows into the Fore River and ultimately Casco Bay. The Trout Brook watershed has a complex mix of land uses that includes dense residential, commercial, agricultural, institutional and forest land. In 2005, the Combined Sewer Overflow (CSO) that discharged into Trout Brook was removed. The entire watershed is classified as a "regulated area" under the NPDES Phase II Stormwater Program.

Trout Brook's surficial geology consists of the Presumpscot formation, which is characterized by silt and clay with some sand; therefore the fine sediment observed in the stream is partly natural in origin. The riparian zone in the upstream portions of the watershed consists of trees and understory plants and is fairly undisturbed, and the middle and downstream portions have altered riparian buffers from lawns and invasive plants such as Japanese Knotweed.

Trout Brook is on Maine's 303(d) list for degraded aquatic habitat potentially caused by urban nonpoint source pollution. Trout Brook is also listed as an Urban Impaired Stream in Maine DEP's Chapter 502, which means that it does not meet state and federal water quality classifications due to polluted runoff from impervious cover (IC). In August 2005, the Maine Department of Environmental Protection (MDEP) completed an IC Total Maximum Daily Load (TMDL) for Trout Brook. Water quality sampling completed during the Watershed Management Plan indicated areas with low dissolved oxygen (DO), elevated phosphorus, and elevated chloride and specific conductance.

While Trout Brook does not meet its State water quality classification, there is great potential to restore its water quality: Trout Brook supports a native brook trout population, and there are multiple parcels managed by land trusts and municipalities for recreation including the seven-acre Trout Brook Preserve in South Portland and the 70-acre Winnick Woods in Cape Elizabeth.

The South Portland Land Trust (SPLT) completed a Master Plan for the Trout Brook Preserve that will enhance the recreational opportunities provided by Trout Brook's close proximity to densely populated residential areas. The Winnick Woods Master Plan received the Maine Association of Planners 2007 Plan of the Year Award for its proposal to manage part of Winnick Woods, in conjunction with the adjacent United States Fish and Wildlife Service (USFWS) land, as a habitat for the New England Cottontail.

The City of South Portland's protected Sawyer Marsh is an eight-acre marsh that provides a rare scenic vista. Mill Creek Park is a ten-acre park at the bottom of the watershed. The City recently completed a Master Plan that identifies key restoration recommendations for Trout Brook's riparian area. In addition, the South Portland Conservation Commission (SPCC) identified Trout Brook as an area where some of the City's Wetlands Compensation Funds could potentially be used for

restoration activities. Given the extensive public interest, the City of South Portland worked with the Town of Cape Elizabeth, MDEP and Cumberland County Soil and water Conservation District (CCSWCD) to develop a watershed-based management plan that was completed in December 2012.

There is considerable momentum for restoration and public involvement in the watershed. Specifically:

- Students from Mahoney Middle School have been involved with monitoring the water quality of Trout Brook; releasing brook trout into the stream; and installing a buffer along the portion of stream that runs through the school grounds. Students from Skillin and Dyer Elementary Schools have also monitored water quality and released brook trout.
- The City of South Portland fixed a leaking sewer pipe and paved under the sand-salt storage pile located on O'Neil Street. Both issues were identified during the planning process.
- Two habitat restoration grants have been implemented : one Casco Bay Estuary Partnership grant in the Trout Brook Preserve (2012) and one Royal Bank of Canada grant in Hinkley Park (2013).
- Funds from the Natural Resource Conservation Service (NRCS) supported construction of a nutrient management facility at a small farm near the Trout Brook headwaters in 2012-2013. This project resulted in numerous inquiries from other businesses regarding grant opportunities for water quality improvements in the watershed. NRCS has offered considerable evaluation and design support to *Phase II*.
- The City of South Portland is currently implementing Phase I of the Trout Brook Restoration Project. Phase I includes restoring vegetated buffers eight sites along 800 feet of stream, installing rain gardens and conservation practices at four strategic locations in the upper and middle subwatersheds, and completing targeted outreach in priority neighborhoods by an Urban Youth Conservation Corps. In its first year, the Trout Brook Restoration Project. Phase I has generated excitement within the City of South Portland and the Town of Cape Elizabeth by building momentum, visibility and community support to enhance the communities' quality of life by improving the local aquatic environment.

It is clear that all watershed stakeholders are eager to restore Trout Brook, and there is excellent momentum in place to ensure success.

### **PROBLEM / NEED**

Through the development of the Trout Brook Watershed Management Plan, all relevant data reports and surveys were summarized, and the watershed was broken into upper, middle, lower Trout Brook, Mill Creek and Kimball Brook subwatersheds. Each subwatershed was analyzed for percent imperviousness based on catchment areas, as well as severity of bank erosion, trash dumping (yard waste and toxics), adequacy of buffer and likeliness for implementation success.

The Trout Brook Watershed Management Plan (2012) identified five action items for restoration: (1) address existing conditions; (2) prevent further decline of water quality; (3) implement a community outreach and education program; (4) conduct a monitoring program; and, (5) establish a Trout Brook Workgroup.

Action item 1 included the following tasks: (1) **Reduce nutrient loading from upper watershed** from the golf course, farms and the intensely managed lawns at the top of the watershed and the dense residential areas in the mid-lower sections of the watershed. (Targeted outreach to residents occurring during Phase I); (2) **Reduce chloride loading from middle watershed** (addressed, 2013); and, (3) **Improve stream habitat and address low baseflow** (partially addressed through

habitat grants, Phase I activities, 2012-2013, culvert replacement will be incorporated into the City of South Portland's Capital Improvement Plan).

Two of the three tasks from Action Item 1 have either been addressed or will be addressed before 2023 (the restoration period identified in the Management Plan). The nutrient reduction task includes addressing stormwater and bank erosion at two properties along Ocean House Road: the Walnut Hill Equestrian Center (WHEC) and the Church of Jesus Christ of Latter-day Saints (LDS), identified as Stormwater Catchments M and O in the management plan. CCSWCD and the Town of Cape Elizabeth completed preliminary outreach to WHEC and LDS early in Phase I, and the property owners were very receptive to addressing stormwater, erosion, and manure storage issues on the properties. When these issues are addressed nutrient inputs to the upper Trout Brook watershed will be significantly reduced, and five of the eight highest priority sites identified in the Plan will have been addressed. *Phase II* specifically addresses:

- LDS detention basin is currently not functioning and could be rehabilitated to address nutrients, and flow could be reduced by managing roof and WHEC runoff.
- The stream bank at the edge of the LDS property is eroding due to parking lot runoff, and could be addressed with a landscaped underdrained soil filter and the bank stabilization.
- The WHEC arena gutters and downspouts are currently failing. The gutters and downspouts could be replaced and rainwater captured in cisterns for later use or controlled discharge.
- The WHEC paddocks currently sheet flow to the LDS parking lot. The adjacent gravel roadway can be regraded, and stabilized ditches could be installed in the paddocks to direct flow into a treatment area (proposed gravel wetland) along the western edge of the property.
- Currently horse manure is stored uncovered on the property. A covered manure storage facility could be constructed south of the stable/arena building.

## **PURPOSE**

The primary purpose of this project is to significantly reduce medium and high impact nutrient sources in the upper watershed. Approximately 35,000 square feet (0.80 acres) of roof runoff from WHEC and LDS buildings will be directed into cisterns reducing the peak discharge to the stream and reducing water temperatures by eliminating contact time with pavement. Parking lot runoff will be directed to an underdrained filter that will cool the water and delay the peak discharge time. Each of these retrofits will have the long-term impact of stabilizing stream hydrology, reducing water temperatures, and increasing DO in the stream.

Runoff from approximately 1.9 acres of paddocks will be directed to a gravel wetland which will reduce nutrient inputs to the stream during storm events. Manure from 21 horses will be moved from an open, uncontained storage pile to an enclosed covered storage facility that will eliminate stormwater contact with the manure. Each of these retrofits will have the long-term impact of stabilizing stream hydrology, reducing nutrient inputs and increasing DO in the stream. Given the existing conditions of the Trout Brook watershed, the overall project goal is to enhance the community's quality of life by improving the local aquatic environment.

## **PROJECT DURATION**

Project Start Date: February 1, 2014

Project Completion Date: January 31, 2016

## **GENERAL PROJECT PLAN**

The *Trout Brook Restoration Project, Phase II* will be administered by the Town of Cape Elizabeth. CCSWCD will be a subgrantee and serve as the Project Coordinator with extensive partner support



from the Town of Cape Elizabeth. Project activities will be guided by the approved Watershed Management Plan, and the Trout Brook Workgroup will be invited to participate in the process. Key project partners include City of South Portland, Cape Elizabeth Conservation Commission (CECC), South Portland Conservation Commission (SPCC), NRCS, WHEC landowner and operator, LDS landowner, Cape Elizabeth Engineer (AMEC), the United States Environmental Protection Agency (EPA), and MDEP.

Through this project, the Town of Cape Elizabeth, NRCS, AMEC and CCSWCD will use the following approach to complete the design, construction, monitoring and outreach tasks in *Phase II*:

- **Data Collection:** Complete a field survey, review existing GIS and engineering data for the two properties and surrounding area, delineate subcatchments, complete HydroCAD™ analyses, and coordinate with NRCS for manure storage area design (**CCSWCD, AMEC**).
- **Engineering Design:** Complete engineering design drawings, specifications, and cost estimates for up to six project areas on two properties. The designs will include: two roof runoff collection and distribution systems, drainage swales, a gravel wetland, detention basin rehabilitation, a landscaped underdrained soil filter, and a manure storage facility. Develop Operation & Maintenance (O&M) Plans for each property (**CCSWCD, NRCS, AMEC**).
- **Construction:** Construct up to six projects on two properties during Summer/Fall 2014 (**CCSWCD, WHEC, CECC**).
- **BMP Performance Monitoring:** Install upstream and downstream continuous monitoring stations for stream flow/volume, DO, and temperature. Collect pre- and post-construction stormflow and baseflow samples for total phosphorus and total nitrogen to evaluate changes over time (**CCSWCD, Cape Elizabeth, South Portland**).
- **Education & Outreach:** Coordinate with the Trout Brook Workgroup, conduct extensive outreach and publicity campaign, reach out to additional agricultural groups to identify other sites that can leverage additional funds (e.g. NRCS), complete O&M training for landowners and public works employees for each system (**Cape Elizabeth, South Portland, CCSWCD**).
- **City/Town Council Updates** (**Cape Elizabeth, South Portland, CCSWCD**).

The goal of the *Trout Brook Restoration Project, Phase II* is to address nutrient loading from an identified agricultural source and propose additional stormwater best management practices (BMPs) in the upper watershed. In addition to including two showcase stormwater retrofit projects (a landscaped underdrained soil filter and a gravel wetland); the proposed project will also significantly reduce stormwater flow into the stream by managing runoff from approximately 35,000-square feet of roof on the two properties.

## **TASKS, SCHEDULES & ESTIMATED COSTS**

**TASK #1: Project Management** The Town of Cape Elizabeth and the MDEP will sign a contract outlining project roles, responsibilities and funding arrangements. The Town of Cape Elizabeth will complete a Letter of Agreement with CCSWCD to define roles and funding. CCSWCD will serve as project coordinator and facilitate letters of agreement with other project partners (WHEC and LDS). CCSWCD will track project progress, expenses and local match, carry out invoicing and submit semi-annual progress reports and a Final Project Report. (2/14 to 12/16)

**First year output goals:** Applicable subcontractor agreements and two progress reports submitted.

**COST:** 319 grant: \$3,660                      match: \$2,960                      total: \$6,620

**Task #2: Data Collection** CCSWCD will complete data collection (coordinating with other

project partners as necessary). Data will include existing data (GIS data, field survey, engineering reports and drawings) as well as project-specific pre-design and design information (field survey, subcatchment delineations, HydroCad, and NRCS reports and designs). (2/14 to 7/14)

**First year output goals:** Complete all data collection and summarize (to be included in design).

**COST:** 319 grant: \$5,634                      match: \$1,360                      total: \$6,994

**TASK #3: Engineering Design** Six stormwater and agricultural best management practices (BMPs) will be designed to manage stormwater runoff from the WHEC and the LDS. (2/14 to 7/14) Each is presented below in subtask. See attached forms for watershed-based plan information and the NPS site list.

**Task 3A: WHEC Stable Roof Gutters, Downspouts & Cisterns.** The current stable roof gutters and downspouts located on the WHEC stable roof on dysfunctional. Runoff from the 18,000-square foot roof quickly concentrates on the gravel access road and drains through the paddock areas picking up significant amounts of nutrients. With assistance from NRCS, CCSWCD will design a new roof gutter and downspout system. The downspouts will all be tied into storage cisterns for on-site irrigation use or slow controlled discharge.

**Task 3B: WHEC Drainage Swales and Gravel Wetland.** Currently, approximately 1.9-acres of paddock and riding area discharge concentrated runoff across the LDS parking field and/or directly into Trout Brook riparian areas. With assistance from NRCS, CCSWCD will design a network of drainage swales to collect runoff from the downhill side of the paddock areas. These swales will discharge to a new gravel wetland to be designed with assistance from AMEC. The gravel wetland will provide storage capacity for the runoff and treatment to cool and remove nutrients and other pollutants.

**Task 3C: WHEC Manure Storage Facility.** Currently, WHEC stores its horse manure in an approximately 400-square foot open area subject to rain events and runoff. The manure is provided free of charge to local businesses and local residents as compost. With the assistance of NRCS, CCSWCD will design a new manure storage facility. The approximately 600-square foot facility will be equipped with a concrete slab floor, partial side walls on three sides, and a roof structure. Compost generated from the manure will still be available to local community members but will be better protected and more easily accessed.

**Task 3D: LDS Roof Gutters, Downspouts and Cisterns.** The current LDS building gutters and downspouts on the approximately 17,000-square foot roof discharge directly to the property's paved surfaces. Runoff from the roof quickly concentrates on the paved surfaces and drains across the parking area directly to the riparian buffer of the stream. The runoff generated from the site exhibits high temperatures and the excessive flow has caused some erosion at the bank of the stream. CCSWCD will design a new roof gutter and downspout system. The downspouts will all be tied into storage cisterns for on-site irrigation use or slow controlled discharge.

**Task 3E: LDS Detention Basin Rehabilitation.** Currently, there is an existing detention basin located at the western edge of the LDS back parking field. The detention basin is tied into a catch basin that exists in the low corner of the parking field completing the stormwater management system for the site. The catch basin and detention basin appear surcharged with sediment from the excessive runoff generated on the LDS's impervious surfaces and the WHEC's northern paddocks. It is expected that completion of Task 3B will greatly reduce the amount of runoff leaving WHEC. CCSWCD will develop rehabilitation plans for the LDS drainage system and detention basin and consider opportunities to retrofit the basin's outlet control structure (e.g.

gravel bench inlet) to achieve better treatment levels.

**Task 3F: LDS Underdrained Soil Filter & Bank Stabilization.** Currently, there is bank erosion caused by significant amounts of concentrated stormwater draining from the northwestern corner of the LDS's northern parking field. It is expected that the work performed in Task 3D will reduce the amount of runoff flowing to this area. With the assistance of AMEC, CCSWCD will design a small underdrained, landscaped soil filter to collect, cool and treat the runoff from the parking field and adjacent areas. The portion of stream bank that is eroding will be stabilized.

**First year output goals:** Collect all data, complete predesign and design studies, and finalize construction packages for the six identified areas on WHEC and LDS properties.

**COST:** 319 grant: \$16,914                      match: \$4,640                      total: \$21,554

**TASK #4: Construction** Six stormwater and agricultural BMPs will be constructed to manage stormwater runoff from the WHEC and the LDS. (8/14 to 10/14) Each is presented below in subtask.

**Task 4A: WHEC Stable Roof Gutters, Downspouts & Cisterns.** Runoff from the 18,000-square foot roof will be outfitted with a new roof gutter and downspout system. The downspouts will all be tied into storage cisterns for on-site irrigation use or slow controlled discharge. This work task will be awarded through a competitive bidding process involving at least three independent contractors capable of performing the work.

**Task 4B: WHEC Drainage Swales and Gravel Wetland.** Approximately 550-linear feet of drainage swale will be constructed to collect runoff from the downhill side of the paddock areas and discharge it to a new gravel wetland. The gravel wetland will provide storage capacity for the runoff and treatment to cool and remove nutrients and other pollutants. The wetland will be located on just north of the WHEC western riding stable. The wetland will be sized to treat the first inch of runoff from the catchment area. WHEC employees will develop the drainage swale network and construction of the gravel wetland will be awarded through a competitive bidding process involving at least three independent contractors capable of performing the work.

**Task 4C: WHEC Manure Storage Facility.** A new manure storage facility will be constructed to manage the manure generated from the 21 horses stabled at the farm. An approximately 600-square foot structure equipped with a concrete slab floor, partial side walls on three sides, and a roof structure will be constructed. Compost generated from the manure will be made available free of charge to local community members. This work task will be awarded through a competitive bidding process involving at least three independent contractors capable of performing the work.

**Task 4D: LDS Roof Gutters, Downspouts and Cisterns.** A new roof gutter and downspout system will be constructed for the approximately 17,000-square foot LDS roof. The downspouts will all be tied into storage cisterns for on-site irrigation use or slow controlled discharge. This work task will be awarded through a competitive bidding process involving at least three independent contractors capable of performing the work.

**Task 4E: LDS Detention Basin Rehabilitation.** The existing detention basin and associated drainage system (e.g. catch basin and drain line) located at the western edge of the LDS back parking field will be rehabilitated. The catch basin and drain line will be flushed and cleaned by Town personnel. LDS volunteers will follow the rehabilitation plan developed by CCSWCD and remove excessive vegetation, re-develop berms where necessary, and provide improvements to the outlet control structure as recommended.

**Task 4F: LDS Underdrained Soil Filter & Bank Stabilization.** A small underdrained, landscaped soil filter to collect, cool and treat the runoff from the parking field and adjacent areas will be constructed in the western corner of the LDS northern parking field. It is anticipated that the landscaped filter will occupy the location of four to five current parking stalls. The outlet for the filter will discharge to a new riprapped drainage installed to mitigate the erosion occurring at this location. This work task will be awarded through a competitive bidding process involving at least three independent contractors capable of performing the work.

**First year output goals:** Constructed stormwater and agricultural BMPs to control and treat stormwater from the WHEC and LDS properties prior to discharge to Trout Brook.

**COST:** 319 grant: \$73,924                      match: \$47,574                      total: \$121,498

**TASK #5: BMP Performance Monitoring** The Trout Brook Watershed Management Plan identified macroinvertebrates as a priority parameter. Macroinvertebrates are a trailing indicator and will only show measurable recovery when adequate restoration has been completed. In order to identify if the retrofits have addressed enough nutrient sources in the upper watershed to positively impact DO, a small-scale performance monitoring program will be completed. Performance monitoring will include hydrology (stilling wells, stage measurements, and discharge curve development), nutrient sampling (total phosphorus and total nitrogen) during storm and baseflow periods, and seasonal continuous DO and temperature monitoring. Monitoring stations will be installed upstream and downstream of the proposed retrofits, and monitoring will begin prior to construction in order to quantify pre-construction conditions. Monitoring will continue during construction and for one field season following construction. Monitoring will be completed by municipal staff and volunteers using an updated version of the project Quality Assurance Project Plan (reviewed and accepted by DEP as part of the planning process). (2/14 to 12/15)

**First year output goals:** One technical memorandum summarizing Year 1 data collection.

**COST:** 319 grant: \$4,420                      match: \$8,071                      total: \$12,491

**TASK #6: Education & Outreach** This task will include several components to ensure success of the overall project and that the general public and interested community groups are aware of the work being performed.

**Task 6A: Press Releases:** The Cape Elizabeth Town Planner will develop press releases to raise awareness about the project and to highlight the ongoing restoration efforts in the Trout Brook watershed. Press releases will be generated as needed with at least one press release for each structural BMP constructed as part of this project.

**Task 6B: Outreach to Agricultural Groups:** Supporting and preserving the agricultural community within Cape Elizabeth is a priority for the Town. There are three farms in the Trout Brook watershed. Outreach to these farms was identified in the Watershed Based Plan as a priority and outreach was initiated in the current *Trout Brook Restoration Project, Phase I*. The Cape Elizabeth Town Planner will continue that outreach and follow up on the concerns discussed with the farms during *Phase I*. If needed, the Town Planner will work with NRCS to provide technical assistance as requested and identify possible BMPs for future implementation on the farms within the watershed.

**Task 6C: Educational Tours & Signs:** The Cape Elizabeth Town Planner, members from the Cape Elizabeth Conservation Commission, and CCSWCD staff will host at least two educational tours of the structural BMPs constructed as part of this project. These tours will be open to the

public and will be advertised in local newspapers and on the Town's website. The tours will showcase each structural BMP while explaining how they protect water quality and work toward restoring Trout Brook. The Cape Elizabeth Town Planner and Conservation Commission will develop signs for at least three of the structural BMPs constructed as part of this project. The signs will serve to educate the public and highlight the project's success.

**Task 6D: Operation & Maintenance Plans:** Operation and Maintenance (O&M) plans will be developed by CCSWCD for each of the agricultural and stormwater BMPs installed on the WHEC and LDS properties. On-site field training will also be conducted by CCSWCD personnel and made available to the property owners, municipal officials and up to four public works employees.

**First year output goals:** Copies of all key press releases, outreach materials and O&M plans for the BMPs installed.

**COST:** 319 grant: \$3,496                      match: \$9,584                      total: \$13,080

### **DELIVERABLES**

Three (3) copies of each deliverable will be provided to the DEP Agreement Administrator (AA). The DEP AA will forward a copy of all deliverables to EPA. Each deliverable will be labeled according to procedures described in the DEP document "Nonpoint Source Grant Administrative Guidelines."

1. Contract, sub-agreements, semi-annual progress reports and one final project report (Task 1)
2. Final Design Documents (Task 3)
3. Construction completion technical memorandum (Task 4)
4. Pollutants Controlled Report (PCR) and annual NPS Site Tracker Summary (Task 4)
5. Technical Memorandum summarizing water quality monitoring results (Task 5)
6. Copies of press releases, attendance lists and outreach products (Task 6)

### **INTERAGENCY COORDINATION, ROLES AND RESPONSIBILITIES:**

The **Maine Department of Environmental Protection** will administer project funding, serve as the project advisor and participate on the Steering Committee. The **US Environmental Protection Agency** will provide project funding and guidance.

The **Town of Cape Elizabeth** will serve as the project sponsor, be responsible for grant administration, subcontractors and property owner coordination, Trout Brook Workgroup participation, leading lead the education and outreach task, and assisting with monitoring. The Town has committed \$22,000 in cash match and \$9,290 in in-kind match to *Phase II*.

The **Cumberland County Soil & Water Conservation District** will be responsible for grant administration, serve as the Project Coordinator and will be responsible for the coordination and implementation of all project tasks. The District Engineer will manage the design contractor(s), review final design documents as necessary, coordinate with NRCS, and lead the BMP maintenance training. CCSWCD will provide \$2,990 in in-kind match for project manager oversight.

The **Cape Elizabeth Conservation Commission** will provide \$2,000 in cash match, participate in the Trout Brook Work Group, attend the BMP Maintenance training, and assist with volunteer planting(s) for soil filters and/or buffer restoration.

The **City of South Portland** will participate in the Work Group, BMP Maintenance training, and lead the monitoring effort. The City has committed \$3,200 in in-kind match to *Phase II*.

The **Natural Resources Conservation Service** will be an active participant in *Phase II*. They will be providing technical and design assistance to CCSWCD staff, prepare an engineering report, attend technical meetings, and serve as a technical coach. CCSWCD estimates that NRCS's participation in this project will save almost \$4,000 of contract (i.e., grant-funded) design labor.

The **South Portland Conservation Commission** will participate in the Work Group, participate in educational tours, attend BMP Maintenance training, and assist with monitoring and planting(s).

The **Walnut Hill Equestrian Center** will provide \$7,000 in in-kind match and \$10,000 in cash match, allow access to their property for gravel wetland construction, and maintain any stormwater infrastructure installed on their property under this grant.

The **Church of Jesus Christ of Latter-day Saints** will provide \$1270 in in-kind match, allow access to their property for detention basin rehabilitation and stormwater retrofits, and maintain any stormwater infrastructure installed on their property under this grant.

**AMEC Environment & Infrastructure** will perform stormwater design services under contract to the town of Cape Elizabeth and has committed \$4,000 in in-kind match to *Phase II*.

### **ENVIRONMENTAL OUTCOME:**

The environmental improvements from the *Trout Brook Restoration Project Phase II* include: (1) Address ongoing water quality degradation (increased nutrients and low DO) that is related to the WHEC in the upper watershed. (2) Address ongoing water quality degradation (increased nutrients and sediment) related to the non-functioning detention basin and bank erosion at the LDS site in the upper watershed. (3) Complete a limited invasive species control program as part of the construction projects at WHEC and LDS. (4) Maintain public and municipal interest in the Trout Brook restoration process by providing training and volunteer opportunities to residents and municipal staff.

The immediate outcome of reducing nutrient loading to Trout Brook from WHEC and LDS properties will be achieved during the project period and will be documented with design drawings and a construction completion memorandum. The long-term outcome of improved DO, reduced nutrient concentrations, and macroinvertebrate community recovery downstream of the restoration will likely occur outside of the project period. The complete recovery process is dependent on stream gradient, storm events (intensity and duration), and other factors affecting sediment transport<sup>1</sup>. Natural attenuation of the sediment and nutrient sources in the stream and floodplain will be monitored through periodic DO logging (currently undertaken by the City of South Portland) and macroinvertebrates (included as part of the Trout Brook Monitoring Plan and MDEP Biomonitoring Program).

### **PROJECT COORDINATOR:**

Patrick Marass, Cumberland County SWCD  
35 Main Street, Suite 3, Windham, ME 04062  
(207) 892-4700; [pmarass@cumberlandswcd.org](mailto:pmarass@cumberlandswcd.org)

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<sup>1</sup> The Effects of Clearcut Logging on the Stream Biology of the North Fork of Caspar Creek, Jackson Demonstration State Forest, Fort Bragg, CA. <http://www.fs.fed.us/psw/publications/4351/Bottorff.pdf>

**ESTIMATED TOTAL COST, FEDERAL AND NONFEDERAL SOURCES**

**A.**

Federal (Section 319) Funds:	\$	109,588
Nonfederal Match	\$	72,979
<b>Total:</b>	<b>\$</b>	<b>182,567</b>

<b>B. Sources of Match</b>	<b>Cost</b>
CCSWCD Professional Development	\$2,990
Town of Cape Elizabeth Planner	\$7,590
South Portland Stormwater Coordinator	\$3,200
Volunteer (Workgroup, planting, invasives removal)	\$2,359
Citizen Scientist Volunteer	\$1,560
Public Works	\$1,700
WHEC & LDS Equipment, Operator, & Materials	\$25,580
Cape Elizabeth Cash Match	\$22,000
Cape Elizabeth Cons. Commission Cash Match	\$2,000
AMEC Cash match	\$4,000
<b>Total</b>	<b>\$72,979</b>

**BUDGET INFORMATION**

**Part 1, Estimated Personnel Expenses:**

<b>Name/Title</b>	<b>Hourly Rate</b>	<b>Total Hours</b>	<b>Salary and Fringe</b>	<b>TOTAL</b>
Town Planner	\$55	138	\$7,590	<b>\$7,590</b>
Stormwater Program Coordinator	\$50	64	\$3,200	<b>\$3,200</b>
Public Works Staff	\$30	40	\$1,200	<b>\$1,200</b>
<b>Total:</b>				<b>11,990</b>

**Part 2, Budget Estimates By Cost Category:**

<b>Category</b>	<b>319 Grant</b>	<b>Non-Federal Match</b>	<b>Total Cost</b>
Salary & Fringe		\$11,990	<b>\$11,990</b>
Contractual <sup>2</sup>	\$105,214	\$28,000	<b>\$133,578</b>
Donated Services-Labor		\$20,989	<b>\$20,989</b>
Travel <sup>3</sup>	\$364	\$0	<b>\$0</b>
Other <sup>4</sup>	\$4,010	\$12,000	<b>\$16,010</b>
Indirect Costs	\$0	\$0	<b>\$0</b>
<b>Totals</b>	<b>\$109,588</b>	<b>\$72,979</b>	<b>\$182,567</b>

<sup>2</sup> Contractual – CCSWCD: Engineer (208 hours at \$91/hour = \$18,928); Project Manager (127 hours at \$50/hour = \$6,350); Scientist (32 hours at \$65/hour = \$2,080); Finance Director (4 hours at \$65/hour=\$260); Outreach Coordinator (8 hours at \$65/hour=\$520). AMEC: \$6,000. Construction: \$66,000

<sup>3</sup> Travel – 827 miles at \$0.44/mile = \$364

<sup>4</sup> Other – Stilling well supplies (\$200), HOBO Levellogger pressure transducers (3 at \$500 each = \$1500), Flow meter rental (\$560), total P and N samples (20 at \$50 each = \$1,000), educational signage (\$500), stormwater samplers (\$250), donated equipment services & materials (\$11,500), donated vac truck & crew (\$500)

**APPENDIX 2 WATERSHED-BASED PLAN INFORMATION**

**Name & Date of Watershed-based Plan (WBP): Trout Brook Watershed Management Plan, December 2012**

**Organization Leading WBP Implementation: Town of Cape Elizabeth Contact Person: Maureen O'Meara, Town Planner  
**Concise Summary of Activities Completed and Proposed Work:****

Key Action(s) in Watershed-based Plan	WBP Page #	A. List activities completed to date to implement the key action(s); and B. List proposed work to be completed under this proposal.
Work with farms to install nutrient and manure management BMPs	57	<p>A. Outreach to the farms in the watershed has occurred prior to and as part of Phase I (including WHEC).</p> <p>B. The proposed ditches (swales), gravel wetlands, collection of roof runoff, and construction of a covered horse manure waste storage facility will greatly reduce the nutrient loading from the horse farm.</p>
Install stormwater retrofits on Phase I catchments	42 & 57	<p>A. Outreach to property owners for several Phase I catchments has been completed.</p> <p>B. This proposal would install BMPs and incorporate stormwater retrofits to address nutrient loading from the LDS building and parking area (two catchments), which were identified as priority Phase I catchments.</p>
Pave under existing sand-salt pile or relocate facility	57	<p>A. Complete – pavement was laid down under the sand-salt pile in the spring of 2013.</p> <p>B. Not applicable.</p>
Implement Phase I buffer enhancement projects	57	<p>A. Outreach has been conducted as part of Phase I to install buffer plantings in several key neighborhoods. Installation is currently on schedule for the spring and summer of 2014.</p> <p>B. This proposal would enhance the buffer at the corner of the LDS parking lot where the bank is currently eroding.</p>
Restore stream habitat in Phase I channel alteration sites	57	<p>A. One of the two identified channel alteration sites was addressed through a CBEP grant in 2012.</p> <p>B. Not applicable.</p>
Address Phase I stream corridor erosion sites	57	<p>A. Phase I has included outreach to landowners with erosion sites and will include matching grants to address several sites.</p> <p>B. The proposed stabilization and soil filter in the LDS parking lot would address stream corridor erosion site #35.</p>
Urban Youth Conservation Corps	57	<p>A. Phase I includes the creation of an Urban YCC to address buffer plantings and erosion sites in Trout Brook watershed.</p> <p>B. Not applicable.</p>
Outreach & technical assistance to golf course and farms	57	<p>A. Outreach to the golf course and three farms occurred prior to and as part of Phase I. As a result, Down Home Farm (leases from Maxwell Farm) worked with NRCS to install a manure storage facility and WHEC is a partner in this Phase II proposal.</p> <p>B. <u>Phase II continues the outreach to the agricultural community within the watershed.</u></p>
Start monitoring program with local secondary schools & colleges	57	<p>A. Municipal staff and citizen scientists have started a monitoring program for Trout Brook. Local high school teachers are also planning to work with project partners to get students involved in monitoring starting in 2013 &amp; 2014.</p> <p>B. Phase II would add I monitoring site and provide flow and chemistry data to the current monitoring program.</p>
Macroinvertebrate & limited water quality sampling	57	<p>A. As mentioned in the row above, monitoring on Trout Brook has already started.</p> <p>B. Phase II would add monitoring stations upstream and downstream of the proposed structural retrofits and would include limited water quality sampling of hydrology, nutrients, dissolved oxygen, and temperature.</p>



**APPENDIX 3**

**CANDIDATE NPS SITES LIST**

**Name of Project:** Trout Brook Restoration Project, Phase II

**Date:** September, 2013

List & describe NPS sites where best management practices (BMPs) are likely to be installed under this proposal. Describe site conditions that cause polluted runoff to reach surface waters via an intermittent stream, ditch, diversion or other form of concentrated flow.

NPS Site Name & Location	Describe the NPS Site & Conditions at the Site Causing Polluted Runoff to Reach Surface Waters	BMPs Recommended	Construction Cost Estimates: Grant, Match, Total
WHEC Arena Roof – Located at the arena building on the WHEC property in Cape Elizabeth	Currently, the stormwater from the 18,000 sq. ft. roof is poorly managed infiltrated. During heavy rains, the runoff from the roof flows over the paddocks and through the current manure pile, carrying nutrient-rich stormwater to Trout Brook.	(1) Replace gutters and downspouts to collect roof runoff (2) Install cistern system to hold runoff for controlled release and /or irrigation	Grant: \$6,328 Match: \$8,600 Total: \$14,928
WHEC Drainage Swales & Gravel Wetland – Located along the WHEC paddocks and property in Cape Elizabeth	Currently, stormwater from the WHEC property flows across the paddocks and through the uncovered manure pile. During rain events, nutrient-rich stormwater flows unmanaged or treated directly into Trout Brook.	(1) Install ~550 linear feet of drainage swale to collect runoff and deliver to gravel wetland (2) Install a series of gravel wetlands to treat the first inch of runoff from the catchment area.	Grant: \$25,556 Match: \$28,900 Total: \$54,456
WHEC Manure Storage Facility – located behind the WHEC arena on the WHEC property in Cape Elizabeth	Currently, the manure pile for the 21 horses on the WHEC property is uncovered and stored at the top of a small slope. During rain events, stormwater flows from the manure pile and carries nutrient-rich stormwater to Trout Brook	(1) Construct a new manure storage facility that will be able to handle the manure from the 21 horses. It will be ~600 sq. ft. with a concrete slab floor, partial side walls, and roof structure	Grant: \$18,828 Match: \$3,500 Total: \$22,328
LDS Roof Gutters & Cisterns – Located at the LDS building in Cape Elizabeth	Currently, the roof runoff from the 17,000 sq. ft. church building is not managed. This stormwater has caused significant bank erosion in one location. The runoff also flows into a catch basin and then a non-functioning detention basin before flowing into Trout Brook virtually untreated.	(1) Install a new roof gutter and downspout system to collect roof runoff (2) Install cistern system to hold runoff for controlled release and / or irrigation	Grant: \$5,328 Match: \$0 Total: \$5,328
LDS Detention Basin Rehabilitation or Retrofit – Located at the back of the LDS property in Cape Elizabeth	There is currently a non-functioning detention basin located at the back of the LDS property. Stormwater conveyed into the basin from the drainage system (catch basin and drain line) and passes through the system into Trout Brook	(1) The catch basin and drain line will be cleaned and flushed by Town personnel. (2) The basin will be cleaned and rehabilitated to improve function and allow for stormwater treatment	Grant: \$3,392 Match: \$1,135 Total: \$4,527
LDS Underdrained Soil Filter & Bank Stabilization – Located in the parking lot of the LDS in Cape Elizabeth	One corner of the LDS parking lot is close to Trout Brook (~10 feet). Currently, stormwater from the roof and nearly half of the parking lot is concentrated along the parking lot curb and flows off this corner and down to Trout Brook untreated. This has caused erosion and bank failure at the site.	(1) An underdrained landscaped soil filter will be installed in this corner to collect, cool, and treat the stormwater runoff. (2) The outlet will discharge to a new riprapped drainage swale to stabilize the bank	Grant: \$16,192 Match: \$1,535 Total: \$17,727

## **Part 6**

### **Attachments**

- (1) Letter of Support: Cape Elizabeth Conservation Commission
- (2) Letter of Support: City of South Portland & South Portland Conservation Commission
- (3) Letter of Support: Natural Resources Conservation Service
- (4) Letter of Support: Walnut Hill Equestrian Center
- (5) Letter of Support: Church of Jesus Christ of Latter-Day Saints
- (6) Letter of Support: AMEC



# TOWN OF CAPE ELIZABETH

ASSESSING/CODES/PLANNING  
P.O. BOX 6260  
320 OCEAN HOUSE ROAD  
CAPE ELIZABETH, MAINE 04107-0060

799-1619  
AREA CODE 207  
FAX 799-5598  
[www.capeelizabeth.com](http://www.capeelizabeth.com)

September 10, 2013

Maine Department of Environmental Protection  
Bureau of Land and Water Quality  
NPS Program Coordinator  
17 State House Station  
Augusta, ME 04333

Dear Mr. Marcotte:

This letter is provided in support of the Town of Cape Elizabeth's grant application for the *Trout Brook Watershed Restoration Project, Phase II*.

The Cape Elizabeth Conservation Commission advises the Planning Board and the Town Council on conservation issues. The Conservation Commission has partnered with the City of South Portland to do a survey of Trout Brook. More recently, the Cape and Elizabeth and South Portland Conservation Commissions met jointly on May 20th and discussed their mutual support for improvements to the Trout Brook watershed.

To support this proposed project, the Cape Elizabeth Conservation Commission will:

- Provide a cash match of \$2,000 for the project.
- Provide at least thirty (30) hours of in-kind services for buffer plantings and post-construction educational tours.

Thank you for your consideration of the Town of Cape Elizabeth's application. Please contact me if we can be of any further assistance.

Sincerely,

Garvan D. Donegan, Chair  
Cape Elizabeth Conservation Commission



September 10, 2013

Maine Department of Environmental Protection  
Bureau of Land and Water Quality  
NPS Program Coordinator  
17 State House Station  
Augusta, ME 04333

Dear Mr. Marcotte:

This letter is provided in support of the Town of Cape Elizabeth's grant application for the *Trout Brook Watershed Restoration Project, Phase II*. If approved, we expect the project to result in appreciable improvements to downstream water quality and move Trout Brook that much closer to attainment of water quality standards.

The City of South Portland and the Town of Cape Elizabeth have been partnering on restoration of the Trout Brook Watershed for the past several years. Recently, City of South Portland staff and South Portland and Cape Elizabeth Conservation Commission members met to discuss their mutual support for ongoing improvements to the watershed.

The City of South Portland is currently implementing the first phase of a restoration project with DEP grant funds and has some additional capacity to provide assistance for Cape Elizabeth's proposed restoration effort. If this project is approved, South Portland's Stormwater Program Coordinator will provide support for a variety of water quality monitoring tasks along with publicity and education and outreach activities. The South Portland Conservation Commission will also provide a member to serve on the project Steering Committee.

The City of South Portland and South Portland Conservation Commission are pleased to recommend this project for funding given the substantial benefits it will provide to the overall restoration effort for the Trout Brook watershed.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick Cloutier".

Patrick Cloutier, Director  
Water Resource Protection Department

A handwritten signature in black ink, appearing to read "William Sutton".

William Sutton  
South Portland Conservation Commission



United States  
Department of  
Agriculture  
[www.me.nrcs.usda.gov](http://www.me.nrcs.usda.gov)

**Natural Resources Conservation Service**  
306 US Route 1, Suite A1  
Scarborough, ME 04074-9774  
Phone: (207) 883-0159 • Fax (207) 883-1139

September 6, 2013

Maine Department of Environmental Protection  
Bureau of Land and Water Quality  
NPS Program Coordinator  
17 State House Station  
Augusta, ME 04333

Dear Mr. Marcotte:

This letter is in strong support of the Town of Cape Elizabeth's grant application for the Trout Brook Watershed Restoration Project, Phase II.

The mission of the USDA Natural Resources Conservation Service (NRCS) is to assist farmers and landowners with the conservation of land and water resources. Ensuring productive lands in harmony with a healthy environment is our priority. To support this proposed project, the NRCS Scarborough Field Office will do the following:

- Assist Cumberland County Soil & Water Conservation District's Staff with an on-site Agricultural Waste Storage facility planning evaluation.
- Provide recommendations on conservation practices to address resource conditions and criteria according to NRCS planning procedures.
- Prepare a NRCS engineering report to address the horse manure waste storage and handling management needs including sizing the proposed structure and recommending supporting conservation practices based on the landowners input and decisions.
- NRCS staff will meet and review the report with Cumberland County Soil & Water Conservation District staff.
- We will also serve as technical coach should additional needs arise for Agricultural Practices in the Trout Brook Watershed.

Thank you for your consideration of the Town of Cape Elizabeth's application. Please contact me if we can be of any further assistance.

Sincerely,

A handwritten signature in blue ink that reads "Wayne Munroe".

Wayne Munroe  
NRCS District Conservationist

September 9, 2013

Maine Department of Environmental Protection  
Bureau of Land and Water Quality  
NPS Program Coordinator  
17 State House Station  
Augusta, ME 04333

Dear Mr. Marcotte:

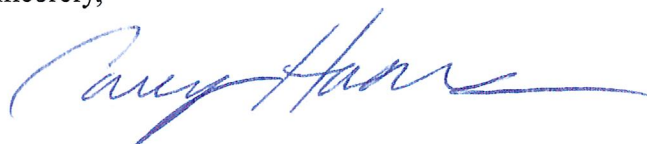
This letter is provided in support of the Town of Cape Elizabeth's grant application for the *Trout Brook Watershed Restoration Project, Phase II*.

The Walnut Hill Equestrian Center (WHEC) is a full service lesson, training, and boarding facility located at 35 Ocean House Road in Cape Elizabeth. WHEC is committed to work with the Natural Resource Conservation Service (NRCS), Town of Cape Elizabeth and the Cumberland County Soil & Water Conservation District (CCSWCD) to protect and restore the water quality of Trout Brook. To support this proposed project, WHEC will commit to the following:

- Provide \$10,000 of cash match, toward the direct purchase of materials for the proposed work on our property.
- Provide \$7,000 of in-kind match, including staff labor, heavy machinery operation, invasive plant removal, and re-planting
- Grant NRCS, Cape Elizabeth and CCSWCD access to the property for the proposed work to:
  - Collect the riding arena building's roof runoff,
  - Construct conveyance swales along the property boundary to ensure paddock runoff is diverted into the gravel wetlands,
  - Construction of gravel wetlands below the paddocks to treat runoff,
  - Invasive plant removal and native re-plantings, and
  - Construct a covered horse manure waste storage facility.
- Ensure that the proposed Best Management Practices (BMPs) are maintained according to each BMPs Operation and Maintenance Plan.
- Allow CCSWCD staff to act as our Agent, should permitting be required, to complete any portion of the proposed project.

Thank you for your consideration of the Town of Cape Elizabeth's application. Please contact me if we can be of any further assistance.

Sincerely,



Carey Haars  
Business Owner / Manager, Walnut Hill Equestrian Center

September 9, 2013

Maine Department of Environmental Protection  
Bureau of Land and Water Quality  
NPS Program Coordinator  
17 State House Station  
Augusta, ME 04333

Dear Mr. Marcotte:

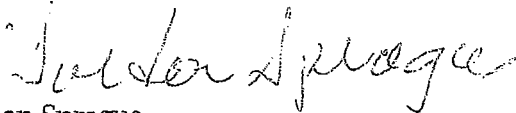
This letter is provided in support of the Town of Cape Elizabeth's grant application for the *Trout Brook Watershed Restoration Project, Phase II*.

The Church of Jesus Christ of Latter-Day Saints, located at 29 Ocean House Road in Cape Elizabeth, is committed to working with the Town of Cape Elizabeth and the Cumberland County Soil & Water Conservation District (CCSWCD) to protect and restore the water quality of Trout Brook. To support this proposed project, the Church of Jesus Christ of Latter-Day Saints will:

- Grant Cape Elizabeth and CCSWCD access to the property for the proposed work to:
  - Collect the Church building's roof runoff,
  - Rehabilitate or retrofit the existing detention basin on the property, and
  - Install the underdrained soil filter and bank stabilization.
- Ensure that the proposed Best Management Practices (BMPs) are maintained according to each BMPs Operation and Maintenance Plan.
- Allow CCSWCD staff to act as our Agent, should permitting be required, to complete any portion of the proposed project.
- Provide a total of sixteen (16) hours of in-kind services for planting the proposed vegetated underdrained soil filter.

Thank you for your consideration of the Town of Cape Elizabeth's application. Please contact me if we can be of any further assistance.

Sincerely,



Gordon Sprague  
The Church of Jesus Christ of Latter-Day Saints, Building and Grounds



September 10, 2013

Maureen O'Meara, Town Planner  
Town of Cape Elizabeth  
P.O. Box 6260  
Cape Elizabeth, Maine 04107

SUBJECT: Trout Brook Watershed Improvements – Route 77 properties

Dear Maureen:

Following our recent meeting at the Town Hall with the horse farm representative and our site visit with Chris Baldwin, the District Engineer for the Cumberland County Soil and Water Conservation District (CCSWCD), we have been discussing with Chris our support role in the subject project.

Based on our conversation with Chris, AMEC Environment & Infrastructure, Inc. (AMEC) will provide the following services; (1) Limited survey as directed in areas on both the Horse Farm and Church properties, (2) Details and standards for the gravel wetlands and bioretention filters, (3) HydroCAD software modeling of drainage systems for capacity, flood control, velocity, and peak rate parameters, and (4) Coordination and review of the design and specifications as requested to provide supporting information. We understand that Chris Baldwin will be professionally sealing the project documents, that you and Chris will be addressing the permitting needs, and that our work will be performed with the Town under our current July 15, 2010 MSA with the Town.

We also understand that the Town is preparing a 319 Grant application. In support of this initiative to address the impaired status of Trout Brook and our longstanding relationship with the Town of Cape Elizabeth, we will provide reduction in our fees to assist in accomplishing this work within the framework of the available budget. We typically would expect the workload described above to cost \$12,000, however, we will cap our fees for this project at \$8,000 and provide the remainder as in-kind match.

We look forward to collaborating with the project team on this exciting step toward improving the water quality of Trout Brook. Should there be any questions or comments regarding the content of this letter, please contact me directly.

Sincerely,  
AMEC Environment & Infrastructure, Inc.

  
Stephen D. Harding, P.E.  
Town Engineer

  
Jeffrey S. Pickett, C.G.  
Office Manager

SDH:lap

cc: Michael McGovern, Cape Elizabeth Town Manager  
S:\360 Town of Cape Elizabeth\Trout Brook CCSWCD\omeara.9\_Sept\_2013.docx

AMEC Environment and Infrastructure, Inc.  
511 Congress Street,  
Portland, ME 04101 USA  
Tel (207) 775-5401  
Fax (207) 772-4762

www.amec.com