#20190008 Goosefare Brook Watershed Restoration Project, Phase II
Town of Old Orchard Beach

I. Waterbody and Watershed Information

a. Background

Waterbody Name	Goosefare Brook
Waterbody Size (e.g., lake acres, stream miles)	8.0 miles
Watershed Area (acres or square miles)	9.2 square miles
Watershed Towns(s)	Old Orchard Beach & Saco
Comprehensive Plan Adoption (list watershed towns that have adopted plans)	Saco OOB (expired – in process of updating)

b. Waterbody and Watershed Physical Characteristics

The Goosefare Brook Watershed is approximately 5,902 acres (9.2 sq. mi.) in total size with approximately 4,135 acres in the City of Saco and 1,771 acres in the Town of Old Orchard Beach. There are four named tributaries within the watershed including Bear Brook, Branch Brook, Innis Brook and Trout Brook, as well as many other small tributaries. Goosefare Brook becomes a tidal estuary just below Old Orchard Road flowing to the Atlantic Ocean. In 2014, the Maine DEP updated the watershed boundary and conducted sub-watershed mapping in the freshwater portion of the watershed using precise on the ground and topographic analysis. The watershed includes a mix of residential, commercial, and recreational land uses. Goosefare Brook begins in a low-intensity developed area just north of Interstate 95 near Boothbay Lane. The stream flows southeast across U.S. Routes 95 and 195 where it flows through a small forested area and joins with Bear Brook at the Boston and Maine Springfield Terminal Railroad. Goosefare Brook continues through a wetland area, where it meets with Branch Brook before emptying into the Saco Bay just downstream of U.S. Route 9 between Old Orchard Beach and Ferry Beach State Park.

c. Description of Resource Uses and Value

Goosefare Brook is a significant resource in Southern Maine supporting a diverse array of recreational, water-based activities for the City of Saco and OOB. As one of the most popular beach destinations for both tourists and residents, it is especially important to restore Goosefare Brook so that it can support and sustain both recreational and natural ecosystem functions. Goosefare Brook has sustained areas of natural beauty that provide motivation and inspiration for stream restoration efforts throughout the watershed. This includes the Saco Heath at the headwaters of the stream, several near-pristine tributaries, and the Rachel Carson Wildlife Refuge, which conserves a large segment of the tidal reach of Goosefare Brook. These unique areas offer rich habitats for sustaining a large diversity of terrestrial and aquatic flora and fauna.

II. NPS Pollution Problem / Need

a. Water Quality Listing Status

Is water quality listed as impaired?	Yes

If impaired, what is the listed cause(s) and/or impaired use?	Aquatic Life Use Bacteria Toxic Metals
Name and date of any DEP TMDL report(s) for the waterbody.	Goosefare Brook TMDL Report, 2003 (Toxics) ME Statewide Bacteria TMDL, 2009 (Bear Brook only) ME Impervious Cover TMDL, 2012 ME Statewide Bacteria TMDL Addendum, 2014

b. Water Quality Overview

Goosefare Brook has been assessed by DEP as not meeting Class B water quality standards for aquatic life use, bacteria, and toxic metals. Goosefare Brook is listed under *Category 4-A: Rivers and Streams with Impaired Use Other than Mercury, TMDL Completed* in the MEDEP 2016 303(d) list of impaired waters. The listed cause of impairment for the freshwater portion of Goosefare Brook above I-95 (AU ME0106000106_612R) is Escherichia coli (E. coli). The listed causes for impairment of the freshwater portion of Goosefare Brook below I-95 (AU ME0106000106_612R01) include: E. coli, Benthic-Macroinvertebrate Bioassessments, Cadmium, Chromium, Copper, Iron, Lead, Nickel, and Zinc. The Bear Brook tributary (AU ME0106000106_616R) is also listed in this category with E. coli bacteria being the cause of the impairment status.

Aquatic Life – Macroinvertebrate surveys have been conducted by MEDEP at eight sites in Goosefare Brook, across 31 years. The site sampled for the longest period of time, S-48, was sampled in nine different years from 1984 to 2015. This site met Class A standards in 1984, 1986, and 1994 before dropping to Class C abruptly in 1995. However, it reached Class B in 1998 and A again in 2000. Most recently, it has only met Class C in both 2005 and 2010, with a significant decrease in both abundance and diversity. The newest sites, S-1041 (on Bear Brook) and S-1065, have only been monitored in 2014 (S-1041) and 2015 (S-1041 and S-1065). Site S-337 located downstream of S-48 and below the I-95 turnpike met attainment in 1998 and 2005; however, it was non-attaining in 2000. Site S-271 is the last site to have a history including attainment, meeting Class A in 2005. All other monitoring years at Site S-271 have not met attainment. The remaining 5 downstream sites have not met attainment in any of the years sampled. Total abundance decreases downstream until a high abundance is seen at the furthest downstream site (S-272) above the golf course. At this site, total abundance is greater than 400 in both 1995 and 2014, indicating that the lower diversity is responsible for only Class C attainment.

Bacteria – Since 2009, Maine Healthy Beaches (MHB) and volunteers have monitored *Enterococcus* bacteria levels in Goosefare Brook and its tributaries. Numerous exceedances of the recreational water contact safety standards have been documented, which has triggered numerous swimming advisories. Early monitoring efforts by MHB focused primarily on the mouth of Goosefare Brook, but since 2010 monitoring efforts expanded upstream to help identify pollution sources. Significant efforts have been made by the Town of OOB, the OOB Conservation Commission, the Ocean Park Conservation Society, and MHB to monitor and identify sources of bacteria in the Goosefare Brook estuary and beaches. However, bacteria counts continue to be elevated to levels that lead to the posting of swimming advisories. The Ocean Park area within Old Orchard Beach is closed for shellfish harvesting due to the sewer outfall offshore. Since 2012, DEP has focused primarily on *E. coli* in freshwater areas, and MHB and Old Orchard Beach have focused on *Enterococci* in the brackish areas.

Toxics – Heavy metals, petroleum, PAHs, PCBs, and chlorinated solvents have been identified as contaminants of concern for the upper portions of Goosefare Brook. The focus for these land use sources centers around two facilities: Saco Steel and the General Dynamics Armament and Technical Products Operation in Saco (previously known as Saco Defense Inc.). Considerable site cleanup was performed at the Saco Steel site, and a stormwater detention pond, which receives runoff from the property, is located adjacent to and drains into Goosefare Brook. Metals identified as present in Goosefare Brook sediments are Fe, Ni, Cu, Cd, Cr, Zn and Pb. PCBs have also been documented in soils and detention pond.

Dissolved Oxygen – Maine DEP deployed continuous data loggers at several stations for two, four weeks periods in the summers of 2013, 2014 and 2015. The data were analyzed to look for places where DO dropped below the Class B standard of 7 mg/L or 75% saturation for freshwater stations and below the Class SB standards of 85% saturation for tidal stations. For both freshwater and tidal stations, data were screened for diurnal swings, and most stations were above or near DO standards. However, 3 stations consistently fell below the acceptable levels during summer baseflow periods. The station on Bear Brook (SGSBR01) showed the lowest DO levels with daily lows in 2013 between 4.5 and 5.5 mg/L. Goosefare Brook at Old Orchard Road (S-272), just below the Bear Brook station, and Goosefare Brook at the Ross Road station (SGS15) also frequently fell below the Class B standard in 2013. Monitoring in 2014 revealed DO below the standard consistently for Bear Brook and occasionally at the Old Orchard Road station.

Chloride – In 2015, MEDEP measured both SpC and chloride from water samples taken at two stations along Goosefare Brook to identify if SpC and chloride adhered to the chloride-conductivity relationship. DEP staff measured a SpC of 860 µs/cm in Goosefare Brook (S-271) and laboratory analysis found the associated water sample to have a chloride level of 240 mg/L. Furthermore, a SpC of 256 µs/cm (SGSBRUA07) was correlated with 54 mg/L measured chloride which follows the established curve and indicates that SpC values over 800 µs/cm are approaching toxic levels. Continuous data loggers deployed by the MEDEP collected data on SpC at several sites in 2014 and 2015. The SpC values showed wide variation in the watershed. Only one station, Goosefare Brook at Bruno Circle (SGS45), corresponded to natural background levels (< 100 µs/cm). Monitoring stations in five subwatersheds showed only slightly elevated SpC (150-350 µs/cm). These locations were located downstream from areas with fewer roads and development.

c. Summary of Past Watershed Assessment and Most Important Nonpoint Sources

As mentioned above, extensive water quality monitoring and assessments of Goosefare Brook's 16 subwatersheds was conducted before and during the WBMP planning project. Five subwatersheds were found to have very good water quality and low impervious cover. The remaining subwatersheds were impacted by one or more of the following five stressors:

- **Bacteria** - Bacteria levels were elevated in five subwatersheds, particularly the New Salt Road Tributary and Bear Brook. Monitoring and tracking studies indicate that human wastewater associated with sewer and septic systems are the likely sources of bacteria to the stream with animal sources as a secondary issue.
- **Chloride** - Chloride levels are approaching or above levels toxic to aquatic life in seven subwatersheds. Winter road salt application and associated groundwater contamination area is the source of this problem.
- **Habitat** - A Stream Corridor Assessment, Geomorphic Reconnaissance Survey and Fish Barrier Study identified 72 stream habitat problems (including streambank erosion, inadequate

buffers, waste dumping sites, fish barriers and stream channel alterations) in the watershed. Based on these surveys, degraded stream habitat was deemed a stressor in five subwatersheds. 40 projects were rated high priority for implementation.

- **Toxics** - Three subwatersheds were identified with likely toxic impacts due to the high IC and land uses associated with high pollutant loading. A 2015 stormwater retrofit survey identified 58 projects that would reduce toxic loading to the stream. 28 of these projects were rated high priority for implementation.
- **Nutrients** - Six subwatersheds showed water quality impacts associated with excess nutrients. The likely sources are septic/sewer waste, stormwater runoff, and fertilizer application. Stormwater retrofitting and reductions in bacteria loading and fertilizer use were identified as solutions.

In May 2018, OOB DPW and Planning Department staff, along with YCSWCD Project Manager and a Wright-Pierce Engineer, surveyed new and existing stormwater retrofit and erosion sites in the Goosefare Brook Watershed. The result of this survey is the proposed Candidate NPS Site List.

d. Description of Watershed Activities to Address NPS Sources

Since the inception of bacteria monitoring, data have been shared with Saco and Old Orchard Beach over the course of the bacteria studies mentioned above. Both municipalities have conducted property surveys to identify malfunctioning septic systems as well as investigations of sewer and stormwater infrastructure. This has led to removal of numerous grey and black water discharges throughout the watershed as well as upgrades and expansion of sewer and stormwater infrastructure. Despite these efforts, bacteria levels continue to be elevated in both fresh and brackish areas.

2014: OOB conducted dye testing on 68 homes with no malfunctions detected; replaced over 2,500 ft. of sewer lines; and repaired 2 sets of leaching pipes at dead end roads along the beach. Saco televised and cleaned sewer lines; completed a comprehensive flow analysis within Bear Brook watershed sanitary sewer system, replaced manholes and sewer laterals, and separated a drain line from the sanitary system.

2015: City of Saco completed a pipe bursting project to replace clay pipe with PVC along 2000 feet of Bear Brook. Fixed broken sewer lateral pipe that was discharging to the stream. Problem was identified as part of the SCA Survey. OOB performed a sewer smoke test to track potential sources of contamination into Goosefare Brook.

2014 – 2016: Goosefare Brook WBMP Development Project (#2013RT25), funded in part by USEPA under Section 604B of the Clean Water Act. As mentioned previously, extensive water quality monitoring and assessments of Goosefare Brook's 16 subwatersheds were conducted during the WBMP planning project.

2016: *Goosefare Brook Watershed-Based Management Plan (May 2016)* completed. The plan included the nine minimum elements considered by EPA to be critical for achieving improvements in water quality and required under the Nonpoint Source Program and Grants Guidelines for States and Territories (April 2013).

2017 – 2018: Goosefare Brook Watershed Restoration Project, Phase I (#2017RT06), funded in part by USEPA under Section 319 of the Clean Water Act. This project is currently addressing 5 stormwater retrofit sites, 3 erosion sites, and 4 buffer sites within the Goosefare Brook Watershed. Outreach objectives include storm drain stenciling and annual stream cleanups. In addition to the 12 NPS abatement projects, The City of Saco is piloting a program to offer matching funds to

private property owners within the watershed undergoing new development or redevelopment to help address and treat stormwater runoff. Potential sites are discovered via the City's Site Plan Review process. Currently, The Margaret Burns School in Saco is coordinating grant funds to assist with the installation of a gravel wetland on the school property.

III. Purpose

The overall purpose of the Goosefare Brook Watershed Restoration Project, Phase II, is to restore Goosefare Brook so that it meets Class B water quality standards, prevent future water quality impacts to the brook and downstream waters, and build community awareness and support for the restoration and protection of Goosefare Brook. The specific purpose of this project phase is to install five stormwater retrofits, three erosion sites, and two stream buffer restoration sites that will work towards restoring Goosefare Brook, reducing impacts from known stressors, and engaging the public through outreach initiatives.

IV. Project Duration

Project Start Date	January 1, 2019
Project Completion Date	December 31, 2020

V. General Project Plan

The Goosefare Brook Watershed Restoration Project, Phase II, will be managed by the Town of OOB with assistance from a qualified sub-grantee, YCSWCD, and will be guided by the Goosefare Brook Restoration Committee. Local partners include the City of Saco, OOB Conservation Commission, Ocean Park Conservation Society, MHB, and the Loranger Memorial School. These partners, along with the Town, will provide local match funds through in-kind services, volunteer contributions, equipment use, and labor. The Town of OOB intends to purchase engineering and construction services using appropriate competitive procurement procedures that conform to applicable federal requirements. Through this project, the Town of OOB will design, coordinate and install Best Management Practices (BMPs) at 5 priority stormwater retrofits, 3 erosion sites and 2 buffer sites within the watershed. Outreach activities will include the installation of educational signage at retrofit sites, the installation of stream crossing signage at key road crossings, press releases and news articles, website updates, and a buffer workshop with students from the Loranger Memorial School and Jameson School in OOB. All press releases, outreach materials, project signs, and plans will acknowledge that the project is funded in part by the United States Environmental Protection Agency under Section 319 of the Clean Water Act. Project staff will consult with DEP on EPA's public awareness terms and conditions for Section 319 grants before the project commences. In addition, Project staff will consult with DEP and EPA before project signs are designed. Refer to the Grant Agreement, Rider A. Section III. F. Acknowledgement.

Watershed stakeholders anticipate at least 2 more phases of the Goosefare Brook Watershed Implementation Project. The City of Saco was the grantee of the phase I grant project. During phase I, OOB addressed one (1) high- priority stormwater retrofit project and was involved in all outreach and education initiatives as well as serving on the project steering committee. For the phase II project, OOB will be the project grantee addressing 10 sites and coordinating the outreach and education tasks outlined below. The City of Saco will contribute by continuing to implement the Private Property Stormwater Retrofit Matching Grant Program, participate on the project

Steering Committee and be involved in outreach and education initiatives (i.e. annual stream cleanup days). It is anticipated that Saco and OOB will continue their partnership and alternate the role of grantee in future grant phases with a phase III grant by the City of Saco, followed by a phase IV grant project in the Town of OOB.

The Town of OOB will:
1. Not use 319 project funds to conduct work required by existing permits, consent decrees or enforcement orders;
2. Exercise best professional judgment selecting NPS sites and designing / installing BMPs;
3. Use BMPs described Maine BMP guidance manuals, or BMPs otherwise acceptable to DEP;
4. Ensure required permits are obtained prior to construction.

The project will be conducted within OOB's and Saco's Urbanized Area designation. The project activities are not permit requirements under OOB or Saco Municipal Separate Storm Sewer System (MS4) General MEPDES permit effective July 1, 2013.

VI. Tasks, Schedules and Estimated Costs

Task 1 – Project Management

OOB will administer the project according to the grant agreement with DEP. Sub-agreements with YCSWCD and the City of Saco will be provided for DEP review. The YCSWCD Project Manager will act as Project Coordinator to track progress, expenses, local match, and oversee the completion and submittal of semi-annual progress reports, deliverables and the final project report. The City of Saco will coordinate all aspects of Task 5 and will also participate in Steering Committee meetings and outreach/education initiatives as outlined under Tasks 2 & 3. Contracting for engineering and construction services paid for with project funds will be arranged and carried out using procurement procedures as described under Section 4 of DEP's *Nonpoint Source Grant Administrative Guidelines* (https://www.maine.gov/dep/water/grants/319.html). YCSWCD will continue use of the NPS Site Tracker spreadsheet to efficiently accumulate and record information about NPS sites observed during this project to enable continued activity in future years to maintain existing BMPs and address new NPS sites.

Start and Completion Dates:	January 2019 – December 2020	
Grant Cost: $7,200	Match Cost: $1,880	**Total Cost: $9,080**
Grant Budget Category Breakdown: $7,200 (YCSWCD sub-grant)		
Match Budget Category Breakdown: $1,880 (salary/fringe)		

Task 2 – Goosefare Brook Restoration Committee

The Goosefare Brook Restoration Committee will continue to guide the implementation of the watershed plan. The committee will meet 5 times throughout the course of the project and will consist of representatives from key watershed stakeholder groups including: YCSWCD, Town of OOB, City of Saco, OOB Conservation Commission, Ocean Park Conservation Society, MHB, Loranger Middle School, ME DEP, and interested watershed residents and landowners. YCSWCD will be responsible for meeting coordination, facilitation and summarization while project partners

and citizen volunteers will be responsible for meeting participation and input. YCSWCD will also be responsible for facilitating communications with members that occur outside of scheduled meetings and provide the meeting agenda and minutes to members.

Start and Completion Dates:	February 2019 – October 2020	
Grant Cost: $3,660	Match Cost: $5,778	**Total Cost: $9,438**
Grant Budget Category Breakdown: $3,300 (YCSWCD sub-grant), $250 (supplies), $110 (travel)		
Match Budget Category Breakdown: $1,500 (salary/fringe), $1,350 (Saco in-kind), $2,928 (volunteer in-kind)		

Task 3 – Outreach and Education

This project includes an education and outreach component that aims to engage and educate the local community, students, partner organizations and watershed stakeholders. As part of the Goosefare Brook Watershed Restoration Project, phase II, the following activities will be conducted:

- At least four (4) press releases will be written and distributed to local news outlets prior to outreach / education events throughout the course of the project.
- Annual Goosefare Brook Cleanup Day (1 per year) will be organized in both OOB & Saco.
- A planting workshop at the parking area behind Loranger Memorial School and the Jameson School will be coordinated by YCSWCD with assistance from the Restoration Committee members.
- An art contest with Loranger Memorial School students will be organized by project staff. The winning artwork will appear on the stream crossing signs to be installed at key road crossings on Goosefare Brook within the Town of OOB.
- Stormwater retrofit signage will be designed and installed to inform and educate the public about the installation at the particular site, the grant project, Goosefare Brook, and NPS pollution. See EPA funding acknowledgment language in General Project Plan section above.
- The town of OOB and City of Saco will promote project activities on the town and city website.

Start and Completion Dates:	May 2019 – September 2020	
Grant Cost: $10,866	Match Cost: $10,325	**Total Cost: $21,191**
Grant Budget Category Breakdown: $9,600 (YCSWCD sub-grant), $1,200 (supplies & materials), $66 (travel)		
Match Budget Category Breakdown: $3,210 (salary/fringe), $1,320 (Saco in-kind), $50 (donated supplies), $5,745 (volunteer in-kind)		

Task 4 – BMP Installations at NPS Sites

The Town of OOB will coordinate engineering services and oversee the construction of the proposed stormwater retrofit and erosion sites. YCSWCD will assist in overall management of BMP installation, assist with permitting, and provide site design plans for sites that do not require engineering. YCSWCD will also complete and submit all required DEP reports. The project will address 5 priority stormwater retrofits, 3 erosion sites, and 2 buffer sites. YCSWCD will submit

final design, specifications, and construction plans for NPS abatement projects involving $5,000 or more in grant funds to DEP for review and approval before construction commences. A detailed description of the 10 Candidate NPS Abatement Projects can be found in the Candidate Site List (Section XII) in this work plan. Prior to final site selection, a review of OOB NPS sites in the WMP and those in the Candidate Site List will be conducted to ensure projects selected for construction are most likely to help improve the brook.

MDEP guidelines "Using Project Funds for Construction of BMPs at Road-related Sites" will be used to evaluate road-related NPS sites and determine if NPS project funds can be used to help a landowner pay for construction of road-related BMPs. Contracting for services (or goods) paid for with project funds will be arranged and carried out using procurement procedures as described under Section 4 of DEP's Nonpoint Source Grant Administrative Guidelines.

Start and Completion Dates:	May 2019 – October 2020	
Grant Cost: $76,459	Match Cost: $49,946	**Total Cost: $126,405**
Grant Budget Category Breakdown: $69,585 (construction), $6,720 (YCSWCD sub-grant), $154 (travel)		
Match Budget Category Breakdown: $45,714 (OOB cash and in-kind match for construction), $676 (Donated services - labor), $2,880 (DPW Director in-kind labor general project management)		

Task 5 – Private Property Stormwater Retrofit Matching Grants at NPS Sites

The City of Saco's Site Plan Ordinance requires stormwater quantity and quality control measures be provided for all new and redevelopment projects that result in 1 acre or more of disturbed area and\or 10,000 square feet of new or redeveloped impervious surface. These development thresholds are stricter than the State Stormwater Law; however, smaller projects that do not exceed these thresholds are not required to provide formal stormwater controls. The Private Property Stormwater Retrofit Matching Grants will be a voluntary program with the explicit goal of providing financial assistance to at least two private property owners to implement stormwater best management practices on existing untreated impervious surfaces within the Goosefare Brook watershed that are not otherwise required by ordinance. This program is carried forward from phase I and will continue to be administered by the City's Planning and Engineering Departments as part of the City's Site Plan Review process.

Matching grants would be targeted towards priority retrofit sites identified in the WBMP or other properties with high pollutant loading (e.g., high vehicle traffic). The goal of the program will be to provide matching grants to qualifying private development projects at a cost not to exceed $14,000 per acre of existing impervious area treated. The grant funding allocation will be tiered in general accordance with the DEP's designation for Redevelopment Land Uses contained in Chapter 500. Landowners must then provide at least 40% match through cash, materials or labor contributions and agree to maintain the projects as recommended. The landowners will be required to provide annual inspection and maintenance reports of the BMPs to the City of Saco. Candidate site selection is subject to change, pending satisfactory completion of landowner agreements, engineering design and permit approval. A NPS Site Report will be submitted for each matching grant site.

Start and Completion Dates:	May 2019 – October 2020	
Grant Cost: $12,000	Match Cost: $11,600	**Total Cost: $23,600**
Grant Budget Category Breakdown: $12,000 (Construction)		
Match Budget Category Breakdown: $8,000 (Construction landowner match), $3,600 (Donated services - labor)		

Task 6 – Ordinance Planning & Development

During the phase I grant, it was proposed that The Town of Old Orchard Beach Planning Department, with support from the Planning Board and Town Council, develop a Fill Ordinance with the purpose of regulating earth filling operations within the Goosefare Brook Watershed. The ordinance would apply to both approved construction projects and other activities that did not require a building permit. The Fill Ordinance was drafted by Town staff and reviewed by the Planning Board and Town Council but did not garner the support needed to be voted through. The ordinance changes presented in this workplan were originally proposed to replace the failed Fill Ordinance task during phase I. However, the majority of this work will occur within phase II as described below:

The OOB Planning Department, with support from the Planning Board and Town Council, will develop, and propose for adoption, ordinance amendments to *Chapter 71: Post-Construction Stormwater Management*. The amendments will expand the ordinance to apply to projects that create 20,000 square feet or more of impervious area in both tidal and non-tidal portions of the Goosefare Brook Watershed.

Currently, the Town has a Post-Construction Stormwater Management Ordinance which seeks to reduce the impact of post-construction discharge of stormwater on receiving waters and to address soil erosion and nonpoint source pollution through the use of best management practices. The criteria for a project to meet this ordinance is "*one acre or more of disturbed area* (anywhere in Town)*…or 20,000 square feet of more of impervious area in the watershed of an urban impaired stream as listed in Chapter 502, Appendix B in the Maine Department of Environmental Protection Rules…*" The impaired watershed as defined under these rules currently only covers freshwater portions. However, the Town will work to include the tidally influenced portion of the stream and its watershed. Only using DEPs delineation of the impaired portions of Goosefare Brook leaves out a large portion of Town where development and redevelopment occurs. The proposed amendment will further reduce impacts to the Brook from all watershed development and redevelopment within the Town of OOB.

Start and Completion Dates:	January 2019 – October 2020	
Grant Cost: $0	Match Cost: $3,290	**Total Cost: $3,290**
Grant Budget Category Breakdown: $0		
Match Budget Category Breakdown: $3,290 (salary/fringe)		

Task 7 – Pollutant Load Reductions and Reporting

YCSWCD, with assistance from OOB DPW staff, will estimate NPS pollutant load reductions and resources protected under this project. During design or installation of conservation practices at NPS sites, appropriate field measurements will be recorded to prepare estimates of pollutant load reductions. Estimates will be prepared for all NPS sites, unless there is not an applicable estimation method. Methods to be used are the EPA Region 5 Load Estimation Model http://it.tetratech-

ffx.com/steplweb/ and/or the U. S. Forest Service WEPP Road Model at http://forest.moscowfsl.wsu.edu/fswepp/ Results will be provided using DEP's "Pollutants Controlled Report" (PCR), which will be submitted to the MDEP, by December 31st of each project year.

Start and Completion Dates:	June 2019 – November 2020	
Grant Cost: $960	Match Cost: $600	**Total Cost: $1,560**
Grant Budget Category Breakdown: $960 (YCSWCD sub-grant)		
Match Budget Category Breakdown: $600 (salary/fringe)		

VII. Deliverables

Two 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 Grant Administrative Guidelines (www.maine.gov/dep/water/grants/319-documents/2016GrantAdminGuidelinesFinal2.docx).

1. Sub-contracts with YCSWCD and City of Saco (Task 1)
2. Semi-annual progress reports, Final Project Report, and updated NPS Site Tracker (Task 1)
3. Newspaper articles, press releases, and stream crossing and retrofit signage templates (Task 3)
4. NPS Site Report for each NPS Site (Task 4 & 5)
5. Copy of updated ordinance and amendments (Task 6)
6. Pollutants Controlled Reports each year until project completion (Task 7)

VIII. Interagency Coordination, Roles and Responsibility

- **Town of Old Orchard Beach** will guide the project, track town financials and match (Task 1); serve on the Goosefare Brook Restoration Committee (Task 2); oversee NPS Abatement Project implementation and provide labor and equipment for select sites (Task 4); organize and participate in annual stream cleanup days (Task 3); provide project updates at City Council and Planning Board meetings (Task 3); advertise project activities on the town website and provide meeting space. The Town has committed to provide $57,765 of cash and in-kind match.
- **City of Saco** will continue to implement the Private Property Stormwater Retrofit Matching Grant Program as part of the City's Site Plan Review process (Task 5); serve on the Goosefare Brook Restoration Committee (Task 2); and participate in annual stream cleanup days (Task 3). The City of Saco has committed to provide $10,670 of in-kind match.
- **York County SWCD** will serve as the project coordinator and be responsible for the coordination and implementation of all project activities.
- **Old Orchard Beach Conservation Commission** will serve on the Goosefare Brook Restoration Committee (Task 2); and assist and support in outreach and educational tasks (Task 3).
- **Ocean Park Conservation Society** will participate on the Goosefare Brook Restoration Committee (Task 2), and support and assist with outreach and educational tasks.
- **Loranger Middle School** staff and students will assist and attend a buffer planting workshop and participate in the stream crossing signage art contest (Task 3).

- The **Maine Department of Environmental Protection** will administer project funding, serve as the project advisor, participate on the Restoration Committee, and provide review and comment on all deliverables.
- **Maine Healthy Beaches (MHB)** will serve as technical expert on the restoration committee.
- The **US Environmental Protection Agency** will provide project funding through Section 319 of the Clean Water Act and provide project guidance.

IX. Environmental Outcome

The long-term goal is to restore Goosefare Brook's aquatic habitat and bacteria levels so that it meets Class B water quality standards. The work completed through the Goosefare Brook Watershed Restoration Project-Phase II will help restore stream habitat and water quality through installation of 5 priority stormwater retrofits, 3 erosion sites and 2 buffer sites identified in the WMP. The long-term outcome of improved stream habitat, water quality and macroinvertebrate community recovery downstream of the restoration sites will likely occur outside of the project period.

X. Project Coordinator

Name	Megan McLaughlin, Associate Planner
Organization	Town of Old Orchard Beach
Mailing Address	1 Portland Avenue, Old Orchard Beach, Maine 04064
Telephone Number	(207) 937-5636
Email Address	mmclaughlin@oobmaine.com
Federal DUNS #	077465714

XI. Budget Information

Federal Funds Section 319	**$111,145**
Non-Federal Match:	**$83,419**
Proposed Total Cost:	**$ 194,564**

Part 1. Estimated Personnel Expenses: (Grantee staff only)

Position Name & Title	Hourly Rate	Number of Hours	Salary & Fringe	Total Grantee Personnel Expenses
Megan McLaughlin, Associate Planner	$40	139	$5,560	$5,560
Joseph Cooper, Director of Public Works	$60	104	$6240	$6,240
Diana Asanza, Finance Director	$40	12	$480	$480
Public Works Crew Members (not including labor and equipment as part of construction match)	$30	33	$990	$990
Totals				**$13,270**

Part 2. Budget Estimates by Cost Category

Cost Category	Federal Funds Section 319	Non-Federal Match	Total Cost
Salary & Fringe (from Part 1)	$0	$13,270	$13,270
Subgrant (YCSWCD) (1)	$27,780	$0	$27,780
Construction	$81,585(2)	$54,390(3)	$135,975
Travel (mileage total) (4)	$330	$0	$330
Supplies (5)	$1,450	$50	$1,500
Donated Services – Labor(6)	$0	$15,709	$15,709
Indirect Costs			
Totals	**$111,145**	**$83,419**	**194,564**

Part 2 Notes:

1 – YCSWCD Project Manager, 463 hours @ $60/hr.
2 – Construction grant funds include $50,480 for construction and materials, $19,105 for engineering services, and $12,000 redevelopment matching grant via City of Saco.
3 – Construction match includes $46,390 cash and in-kind match from OOB, and $8,000 landowner match as part of the private property redevelopment matching grant program in Saco.
4 – YCSWCD Project Manager Travel, 750 miles @ $0.44/mile.
5 – Includes $250 for printing and supplies for Restoration Committee meetings, $550 for stream crossing signs, $400 for stormwater retrofit signs (3 total), and $250 for planting workshop materials and supplies. Match includes $50 for annual stream cleanup day supplies and

equipment.
6 – Includes $3,600 for Saco City Engineer time implementing Task 5 - 60 hours @ $60/hr.

$4,278 from Steering Committee members:
-OOB ConCom, OPCS, & Residents – 6 people, 90 hours @ $22.53/hr.
-Saco City Engineer – 15 hours @ $60/hr.
-Project Engineer – 15 hours @ $90/hr.

$4,564 coordinating and facilitating the annual stream cleanup (2 total):
-OOB ConCom – 2 people, 24 hours @ $22.53/hr.
-Volunteers – 20 people, 120 hours @ $22.53/hr.
-Saco City Engineer – 16 hours @ $60/hr.
-Saco DPW staff – 2 people, 12 hours @ $30/hr.

$969 from planting workshop volunteers:
-Volunteers, Attendees, Teacher and Staff – 20 people, 43 hours @22.53/hr.

$1,532 for coordination of the stream signage art contest and student participation (school staff, students, and OOB ConCom members) – 68 hours @ 22.53/hr.

$676 from volunteers at two buffer plantings – 10 people, 30 hours @ 22.53/hr.

$90 from the OOB Planning board members under Task 6. – 4 hours @ 22.53/hr.

Part 3. Sources of Non-federal Match and Estimated Amounts

Sources of Non-federal Match	**Amount**
Town of OOB in-kind	$13,270
Town of OOB Construction Match	$46,390
Landowner match	$8,000
Volunteers	$15,709
Donated Materials	$50
Total	**$83,419**

CANDIDATE NPS SITES LIST

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
SWR-OPA Library (Ocean Park Association Library – Seaside Ave & Randall Ave.)	Stormwater flows SW across Seaside Ave. to a catch basin on Randall Ave. which outfalls directly to Goosefare Brook. This portion of Seaside Ave. provides parking on both sides of the road for beach goers, residents, and Ocean Park tourists. This is also a highly visible site and provides an outreach & education opportunity.	Install a grassed soil filter along the SE lawn of the Ocean Park Association Library. This project requires the installation of curb cut outs to allow stormwater to enter the grassed soil filter from the adjacent parking lot. The soil filter assumes a 12" ponding depth with an outlet structure which is tied into a catch basin on Randall Avenue.	Grant: $18,972 Match: $12,648 Total: $31,620
SWR-LMS1 & E-LMS1 (SWR & erosion site at Loranger Memorial School)	Stormwater runoff from the tennis courts at Loranger Memorial School causing severe ditch and gully erosion on adjacent slopes to the south and west. This area drains to a catch basin with a direct outfall to a tributary of Goosefare Brook.	Install an underdrain system around the S and W perimeters of the tennis court. Underdrain system includes a 6" perforated pipe enveloped by crushed stone. Regrade slope. Loam, seed, and stabilize with erosion control matting.	Grant: $20,754 Match: $13,836 Total: $34,590
SWR-LMS2 (Loranger Memorial School Parking Lot)	Runoff from the school parking lot and student drop-off/pick-up areas flows to a catch basin at the N end of the parking lot and outfalls to Goosefare Brook tributary.	Install a 30' x 5' bioretention basin along W edge of parking. The soil filter assumes a 12" ponding depth with an outlet structure tied into a catch basin on the N end of the parking lot.	Grant: $10,008 Match: $6,672 Total: $16,680
Erosion Site E-JS1 (Jameson School parking lot)	Concentrated stormwater flows from the parking lot behind Jameson School is causing gully erosion at the pavement edge and sedimentation of the Goosefare Brook tributary directly adjacent to this site.	Install a 30' long by 5' wide rip-rap level spreader with plantings along the north edge of the parking lot.	Grant: $2,790 Match: $1,860 Total: $4,650

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
Erosion Site E-JS2 (Ditch on east side of Jameson School)	Moderate to severe ditch erosion is documented in a grassed ditch line next to Jameson School. This ditch ends at a culvert with an outlet to the adjacent Goosefare Brook tributary.	Reshape existing ditch line along Eastern side of Jameson School to address flooding issues in front of the school that result in ditch erosion.	Grant: $1,980 Match: $1,320 Total: $3,300
SWR-Temple Bus Stop (Temple Ave @ Old Salt Road)	The bus stop sits on an island between Temple Ave and Old Salt Road. All adjacent catch basins outfall to the Old Salt Road Tributary of Goosefare Brook. Current grade and road elevations make this spot ideal to redirect runoff from catch basins into a biotreatment system.	Installation of a bioretention basin along Temple Avenue. The bioretention basin is assumed to be 50' in length by 4' in width. The soil filter assumes a 12" ponding depth with an outlet structure which is tied into a catch basin along Temple Avenue.	Grant: $11,844 Match: $7,896 Total: $19,740
SWR 51 (Saco Ave. Carwash)	The Town recently installed a new catch basin on the N end of the carwash property which now collects wash water from the facility and stormwater runoff from the surrounding paved areas.	Install a catch basin insert to treat water draining to this catch basin.	Grant: $2,220 Match: $1,480 Total: $3,700
Buffer Site B8 (Ocean Park)	This high-priority buffer site is located in Ocean Park, noted as "severe" in the Goosefare Brook WBP, and proposed for phase II WBP implementation.	Increase riparian buffer by establishing mowing restriction and encourage naturalization with plantings.	Grant: $500 Match: $338 Total: $838
Buffer Site B9 (Ocean Park)	This high-priority buffer site is located in Ocean Park, noted as "severe" in the Goosefare Brook WBP, and proposed for phase II WBP implementation.	Increase riparian buffer by establishing mowing restriction and encourage naturalization with plantings.	Grant: $500 Match: $338 Total: $838