



MEGAN J. MOIR, CPESC, CPSWQ
STORMWATER PLANNING ENGINEER

PHONE: 834-9094
FAX 802 863-0466
MMOIR@CI.BURLINGTON.VT.US

Date: June 16, 2011

To: Board of Finance

From: Megan Moir, Burlington Stormwater Program

Subject: Communication regarding acceptance of grant funding related to stormwater improvements at Oakledge Park/Blanchard Beach (No Action Needed)

Memo

Background:

Stormwater from Oakledge Park and city streets (Flynn Ave) currently discharges through a highly degraded urban wetland area without appreciable treatment to the southern portion of Blanchard Beach, a popular City swimming beach (see attachment 1).

The City of Burlington Stormwater applied for and was awarded grant funding from the New England Interstate Water Pollution Control Commission (NEIWPCC), through the Lake Champlain Basin Program (LCBP) in the amount of \$25,000 and from the Vermont Department of Environmental Conservation (VTDEC) in the amount of \$45,000 to supplement City funds (minimum of \$20,500 in in-kind and cash) to pursue a water quality improvement project for this outfall involving:

- an assessment of sources of stormwater and pollutants in the drainage area and proposed solutions
- the development and implementation of a restoration plan for a highly degraded urban wetland area to provide treatment and retention of stormwater
- the design and implementation of a stormwater treatment area(s) to pre-treat stormwater runoff prior to entering a restored wetland area
- educational signage to inform the public about urban stormwater issues and solutions, including a description of the project (with partner acknowledgements)

Please see the attached work plan (attachment 2) for additional details regarding this project. Please note the workplan has recently been revised and the grant agreements are pending revisions to reflect a schedule change in this project from a completion date of December 2011 to September 2012 made to accommodate the City's current stormwater related workload.

Schedule and Funding:

The study/design phase and associated expenditures of this project are scheduled to occur during FY 12 (funds have been appropriated in the draft FY 12 budget in the line items referred herein).

FY2012 Blanchard Beach Study and Water Quality Improvement Project Design	Expenses/ Reimbursements
Consultant Expenses (Stormwater Professional Services - 64990)	\$ 33,500.00
LCBP Grant Reimbursement (Grants – 48009)	\$ (18,000.00)
VTDEC Grant Reimbursement (Grants – 48009)	\$ (10,000.00)
Anticipated Engineering Staff time costs (Stormwater to Engineering - 72086)	\$ 4,200.00
Overall Cost to Stormwater Fund	\$ 9,700.00

The implementation phase and associated expenditures are planned to occur in the first part of FY2013, with the project scheduled for completion by September 30, 2012. The total cost of implementation is anticipated to total between \$52,000 and \$75,000 depending on the final design. A cost estimate will be

June 16, 2011

prepared as part of the work in FY12 and will be used to appropriate the correct amount of funds in the Stormwater FY13 budget. If possible, we will utilize City labor to construct as much of the water quality improvement as possible. However, it is possible that we may have to bid portions or the entire project out to external bid depending on the final design of the project and workload of the Street Department.

FY2013 Water Quality Improvements @ Blanchard Beach Implementation	Expenses/ Reimbursements
Construction Expenses (either external contract or using City ROW Employees)	\$52,000 to \$75,000
LCBP Grant Reimbursement	\$ (7,000.00)
VTDEC Grant Reimbursement	\$ (35,000.00)
Anticipated Staff time costs (Stormwater to Engineering - 72086)	\$ 5,800.00
Overall Cost to Stormwater Fund	\$15,800 to \$38,800

Our total match obligation is \$20,500, and our anticipated City expenditures over the grant period will meet that obligation (\$25,500 to \$48,500)

Current Action Needed:

No action is currently needed as the grant funding and expenditures have been appropriated in the Draft FY 12. Director Steven Goodkind will sign the grant agreements with NEIWPC and with VTDEC pending review of the agreements by the City Attorney's office and approval of the FY 12 Stormwater Budget.

Next Steps and Need for Future Board of Finance & City Council Approval:

A design consultant or consultants will be selected (either using the Engineering departments pending pre-qualified consultant list or via a separate Request For Proposal) and given that the contract will be less than \$50,000 it is not anticipated that we would return to the BOF for contract execution; rather it would be executed by Director Goodkind, unless the BOF requires otherwise.

If the project implementation is to occur using an external contractor, selection will occur via a Bid process; execution of a contract with an external contractor would also proceed with Director Goodkind's signature in accordance with the City's Procurement Policy, unless it exceeds the \$50,000 benchmark requiring BOF approval

If you have any questions or concerns, please contact Megan Moir at mmoir@ci.burlington.vt.us or 863-9094

Proposed location for Water Quality Improvement Project

Legend

Type	Symbol
Wetland Restoration	
Stormwater Treatment	
Discharge Point	



***Water Quality Improvements for the Blanchard Beach Outfall to Lake Champlain
(Revised 6/14/2011)***

Point of Contact:

Megan Moir, Stormwater Administrator
City of Burlington, Department of Public Works
645 Pine Street
Burlington, VT 05401
802-540-1748 (ph)
802-734-4595 (cell)
802-863-0466 (fax)
mmoir@ci.burlington.vt.us

Authorized Representative

Steve Goodkind, Director of Public Works
City of Burlington, Department of Public Works
645 Pine Street
Burlington, VT 05401
802-863-9094 (ph)
802-863-0466 (fax)
sgoodkind@ci.burlington.vt.us

Project Location

Burlington, VT
Burlington Bay Sub-watershed
Outfall location: Lat:44°27'23.16"N, Long: 73°13'29.95"W

Project Summary: A highly visible water quality improvement project for the Blanchard Beach outfall in Burlington, Vermont involving:

- 1) an assessment of sources of stormwater and pollutants in the drainage area and proposed solutions
- 2) the development and implementation of a restoration plan for a highly degraded urban wetland area to provide treatment and retention of stormwater
- 3) the design and implementation of a stormwater treatment area(s) to pre-treat stormwater runoff prior to entering a restored wetland area
- 4) educational signage to inform the public about urban stormwater issues and solutions, including a description of the project (with partner acknowledgements)

Project Background/Introduction:

This project will result in the implementation of a water quality improvement project that will capture sediment, phosphorus and other pollutants from 3+ acres of untreated impervious surface that drains to the “Oakledge” outfall that discharges to the south end of the City of Burlington’s public Blanchard Beach.

While some portion of the drainage area to this outfall does receive treatment in older stormwater systems, a significant portion of the drainage area (3+ acres, consisting of Flynn Avenue and the access road and parking lots, both paved and unpaved, for Oakledge Park) does not receive any treatment. This water currently drains directly into degraded channel which drains through a channel that has formed in a highly degraded Class II wetland draining via a large diameter culvert directly onto the beach and then into Lake Champlain. Judging by the typical volumes of runoff and the visible turbidity during storm events, it is an obvious contributor to sediment, phosphorus and bacteria loading to this popular Lake Champlain public beach.

The project will first involve an **assessment of the major sources** of stormwater runoff and associated pollutants *throughout the contributing drainage area*. Though the ultimate solution is currently expected to focus on the development of a stormwater treatment area (immediately upstream of the wetland to be restored) and the restoration of the wetland (see attached map), the evaluation will, at a minimum, highlight upstream sources and propose solutions that can be implemented in concert with this project (budget dependent) or at a later date. For example, the unpaved parking lot at Oakledge appears to be a major contributor of sediment to the outfall. The assessment will evaluate that contribution and present possible solutions (paving the parking lot, improving sediment storage in the channel that receives the runoff etc.)

As mentioned above, the **design phase** will likely focus on the implementation of various improvements on the parcel of land owned by the City which is conveniently located just prior to the outfall onto the beach. This design will mostly likely involve an enhanced sedimentation area/forebay just downstream of the culvert under Flynn Avenue, but upstream of the currently degraded Class II wetland and the restoration of a majority of the area downstream as a more highly functioning wetland area that will provide some additional treatment and attenuation of flows (see attached map). This proposal has been conceptually vetted with the State Wetland office (Julie Foley), with whom we will continue to work throughout the project. If funds allow, we would like to capture designs for any other high priority retrofits in the contributing drainage area or to the outfall location downstream of the water quality treatment/wetland area.

The **implementation phase** will construct the proposed stormwater treatment system and complete

the wetland restoration as well as install an educational sign informing the public regarding urban stormwater runoff and educating them about solutions they can pursue on their own as well as the implemented project. If funds remain or become available, we will pursue implementation of other high priority retrofits in the contributing drainage area or of the outfall location downstream of the water quality treatment/wetland area.

This project is consistent with several of the Opportunities For Action. In general, it an excellent example of a pollutant (phosphorus) reduction project in an urban watershed (4.2) implemented with the generous financial resources (3.5) and that will result in the enhancement and restoration of a littoral wetland (4.3 and 6.4). Additionally, its high visibility and associated educational signage at a public beach, park and bikepath will serve to build awareness among residents recreating in or near Lake Champlain (3.2).

Project Outline: Project tasks are outlined below

Table 1: Task & Deliverable Identification/Schedule

<u>Task #</u>	<u>Objective</u>	<u>Task</u>	<u>Deliverable</u>	<u>Timeline</u>
1	Design Contractor(s) Procurement	Develop RFP; Release RFP (July 13); Selection of stormwater/wetland contractor (by August 15); obtain City internal authorization to engage in contract (by August 30)	Selection of design contractor(s)	July 1 – August 30, 2011
2	Feasibility Assessment and Concept Development	QAPP development (if necessary) for Task 2.1 and development of sub-watershed map; Watershed Retrofit Opportunities Identification (including decentralized as well as end of pipe retrofit opportunities)	Approved QAPP for GIS work; Sub-watershed map; narrative identifying feasibility and cost of opportunities; identification of permitting needs	By October 15, 2011
3	Preliminary Design	Draft Design for Stormwater Treatment Enhancement and Wetland Restoration on City of Burlington property; coordinate with State Wetlands office; identification of local, state and federal permits	Draft Plans; conceptual sign off from State Wetlands office; draft local, state and federal permit applications prepared	By December 30, 2011
4	Final Design	Final Design for Stormwater Treatment Enhancement on City of Burlington property, including local, state, federal permitting, bid documents, report narrative, calculations and maintenance plan	Final bid documents; applicable permit applications submitted; design narrative and calculations; maintenance plan	By February 15, 2012

5	<i>Implementation Contractor Selection*</i>	Request for bid released (March 15); Contractor(s) selected (April 12); City internal authorization to sign contract (by April 30)	Selection of implementation contractor(s)	By April 30, 2012
6	Implementation	Construction of stormwater retrofit(s); implementation of wetland restoration plan; educational signage	Enhanced treatment of 3+ acres of impervious surface; restored wetland; educational signage	By September 7, 2012
7	Final Report	Compilation of various deliverables and project narrative documenting project outcomes; photos	Final Report Package	By September 28, 2012

** The City may opt to utilize City labor for all or a portion of the implementation process. The remaining items will be put out to bid. This will be discussed and approved by the LCBP prior to a final decision being made.*

Task 1: Development of RFP by City Staff. RFP will be designed with the option of selecting two different consultants for the watershed retrofit opportunities identification/stormwater design and the wetlands restoration plan. [Funds other than LCBP: In-kind \$ from City]

Task 2: Watershed Mapping and Stormwater Sources and Solutions Assessment Study: Stormwater infrastructure and drainage area mapping needs to be updated for the area. Additionally, though the ultimate solution is currently expected to focus on the development of a stormwater treatment area (immediately upstream of the wetland to be restored) and wetland restoration plan, the evaluation will, at a minimum, document upstream sources and propose solutions that can be implemented in concert with this project or at a later date. For example, the unpaved parking lot at Oakledge appears to be a major contributor of sediment to the outfall. The assessment will evaluate that contribution and present possible solutions (paving the parking lot, improving sediment storage in the channel that receives the runoff etc.) Additionally, the contractor will be asked to identify the benefit of requesting easements from private property owners (i.e. the tank farm to the east of Blanchard Beach) to expand the stormwater treatment area capacity.

- Task 2.1: Drainage area delineation, conveyance infrastructure mapping, land use identification: GIS mapping to support a delineation of the contributing drainage area and mapping of conveyances to the outfall of interest and a mapping of impervious surfaces (paved and unpaved) to be completed by the contractor, with assistance by City Staff (M. Moir and S. Roy). A QAPP for this work will be developed by the contractor with assistance by City Staff.[LCBP funds and In-kind services and \$ from City]
- Task 2.2: Stormwater runoff and pollutant source assessment: Assessment and evaluation of the various sources of stormwater runoff and pollutants, identification of opportunities and solutions and preliminary prioritization of solutions to be completed by the contractor with assistance by City Staff (M. Moir and S. Roy).[Funds other than LCBP: In-kind services and \$ from City]

Task 3: Draft/Preliminary design of stormwater treatment area and wetland restoration plan and

draft implementation documents, to be completed by contractors with assistance from City Staff (M. Moir and S. Roy). This task will produce draft plans for review by City Staff, the Burlington Conservation Boards and Parks Commission, the State Wetland office and our grant partners. Additionally, we will be seeking preliminary approval the from State Wetlands office as well as the draft applications for any applicable local, state and federal permits. [Funds other than LCBP: In-kind \$ from City; CCC funds for wetland restoration component]

Task 4: Completion of the final design and final construction/implementation documents and all applicable permit applications for the stormwater treatment area and wetland restoration, to be completed by contractors with assistance from City Staff (M. Moir and S. Roy). This task will produce bid documents to be used for the selection of the implementation contractor(s), as well as the basis of design to include a design narrative, highlighting the estimated removal benefits of the system, all calculations and an O&M plan. [Funds other than LCBP: In-kind \$ from City; CCC funds for wetland restoration component]

Task 5: Management of bid process for the selection of the implementation contractor(s), as applicable, by City Staff (M.Moir and S.Roy). Prior to this task, the City will assess which elements of the design can be cost effectively completed using City labor and equipment. The remaining task will be put out to bid, and the bid process will be designed with the option of selecting two different contractors for the watershed retrofit opportunities identification/stormwater design and the wetlands restoration plan. [Funds other than LCBP: In-kind from City]

Task 6: Implementation of the final design for the stormwater treatment area and the wetland restoration plan by City labor forces and/or procured contractors, as well as installation of educational signage to be designed by City Staff. [Funds other than LCBP: In-kind and \$ from City; CCC funds for wetland restoration component]

Task 7: Development of a final report package documenting the outcome of the project to be completed by City Staff. Package will include a narrative, photos, and all final design calculations and documents, including construction mark-ups for any significant design alterations in the field.

Table 2: Budget Table

Expense	LCBP Grant	CCC funding*	Minimum Contribution of City In-kind or funds	Totals
DIRECT Costs:				
Personnel				
Project Coordination			\$3,000**	\$3,000
City Plangineering Staff			\$4,000**	\$4,000
Travel				
<i>(Add specific lines as needed)</i>				
Supplies/Materials				
Contracts				
<i>Task 2.1 Watershed Mapping</i>	\$5,000			\$5,000
<i>Task 2.2: Stormwater</i>			\$3,500	\$3,500

<i>Source and Solution Assessment</i>				
<i>Task 3: Preliminary Engineering</i>	\$9,000	\$7,000		\$16,000
<i>Task 4: Final Design</i>	\$4,000	\$3,000		\$7,000
<i>Task 6: Implementation</i>	\$7,000	\$35,000	\$10,000***	\$52,000
Equipment				
<i>(Add specific lines as needed)</i>				
Other (please specify)				
INDIRECT Costs:				
Totals	\$25,000	\$45,000	\$20,500	\$90,500

*CCC funding to be used on the wetland restoration components of the project

**City of Burlington DPW Staff @ \$61-86/hour depending on individual

***City of Burlington contribution (whether to hire contractor or in form of Force Account Laborers)