Release Date: December 3, 2015

**Lake Champlain Basin Program Announcement**

**Request for Proposals**

*Assessment of Tile Drainage System Impacts to Lake Champlain and Phosphorus Loads in Tile Drainage Water in the Jewett Brook Watershed of St. Albans Bay*

The Lake Champlain Basin Program (LCBP) is pleased to announce a Request for Proposals (RFP) for services to research water quality impacts of tile drainage systems in the Jewett Brook watershed of St. Albans Bay, VT. This project will contain three components: 1) to conduct an analysis of published literature describing the impact of tile drainage systems on phosphorus loading from both surface and subsurface loss pathways in the Lake Champlain Basin and analogue areas, 2) to conduct field-based research to monitor select tile outlets for phosphorus concentrations in the Jewett Brook Watershed, and 3) to generate an estimate of nutrient loading from these tile systems. Up to **$200,000** is available for this project. The successful applicant will provide three distinct, stand-alone deliverables from this project associated with tile drainage systems and their effects on water quality in Lake Champlain. Deliverable 1 will be a summary report based on peer-reviewed, published literature and other quality resources describing the effects of agricultural tile drainage on phosphorus transport to surface waters, and relating these impacts to Lake Champlain to inform future research needs and management actions. Deliverable 2 will be a GIS layer of tile drainage systems in the Jewett Brook Watershed of St. Albans Bay based on best available information. The contractor will sample at least 12 representative tile outlets for total phosphorus (TP) and total dissolved phosphorus (TDP) for a period of least one year. A summary analysis and report will provide data from this study, including inferences on the effects of tile drainage systems on soil and water quality parameters. Deliverable 3 will be a report describing nutrient loading to Jewett Brook from tile drainage systems in this sub-watershed of St. Albans Bay. This work will build off Deliverable 2 of this RFP.

This work is applicable to Chapter 4 of the LCBP’s long-term management plan - *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin.* This project is supported by funds awarded to the New England Interstate Water Pollution Control Commission (NEIWPCC) by the US Environmental Protection Agency (US EPA) and the Great Lakes Fishery Commission (GLFC) in support of the Lake Champlain Basin Program.

This Request for Proposals is available from the Lake Champlain Basin Program website. Look for the link on our website at [www.lcbp.org/grants](http://www.lcbp.org/grants). To receive a copy of the RFP via U.S. Postal Service, contact the Lake Champlain Basin Program office at (802) 372-3213 or toll free at (800) 468-LCBP in New York and Vermont.

To facilitate the review process, applicants must submit proposals in electronic format ONLY. Please see the RFP and the attached proposal format information for complete details.

**DEADLINE NOTICE:**

Electronic versions (no facsimiles *or* hardcopies will be accepted) of proposals must be RECEIVED by the Lake Champlain Basin Program office by 4:30pm EST on:

**January 22, 2016**

LATE OR INCOMPLETE PROPOSALS WILL NOT BE CONSIDERED.

The successful applicant will be notified by late February, 2016. LCBP anticipates granting one (1) award from this RFP.

**Lake Champlain Basin Program Announcement**

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*Assessment of Tile Drainage System Impacts to Lake Champlain and Phosphorus Loads in Tile Drainage Water in the Jewett Brook Watershed of St. Albans Bay*

**0. Overview**

Congress designated Lake Champlain as a resource of national significance with the Lake Champlain Special Designation Act of 1990. The Special Designation Act also established the Lake Champlain Basin Program (LCBP) and authorized it to receive direct support from U.S. EPA under the Clean Water Act. The LCBP works in partnership with government agencies from New York, Vermont, and Québec, private organizations, local communities, and individuals to coordinate and fund efforts that benefit the Lake Champlain Basin’s water quality, fisheries, wetlands, wildlife, recreation, and cultural resources. These efforts are guided by the comprehensive management plan *Opportunities for Action: An Evolving Plan for the Future of the Lake Champlain Basin*.

Since 1992, the New England Interstate Water Pollution Control Commission (NEIWPCC) has served as the primary program administrator of LCBP at the request of the LCBP’s Steering Committee, and administers the program’s personnel and finances. NEIWPCC is a congressionally authorized not-for-profit interstate organization whose membership includes all six New England states and New York State and whose mission is to help its member states to realize their individual and collective clean water program goals.

1. **Background**

Recent research from the Midwestern U.S. has shown that tile drainage can contribute up to 76% of the dissolved phosphorus from agricultural fields and on a watershed basis can contribute 50% of the dissolved phosphorus load. The extent of tile drainage in Vermont watersheds, including the specific location of tile systems and outlets is largely unknown. There also are few data in Vermont that provide a quantitative assessment of the concentrations of phosphorus occurring in tile drainage water. In this study, a portion of the St. Albans Bay drainage area will serve as a model watershed to study the impacts of tile drainage systems toward nutrient loading reduction strategies for the Bay. This RFP solicits a project that will conduct a review of published tile or subsurface drain research and relate this information to potential impacts on Lake Champlain, and to develop a GIS layer of tile drainage systems in the Jewett Brook watershed, a tributary to St. Albans Bay, monitor a subset of those systems for nutrient loading at the tile outlets, and provide those data with an analysis of these loading effects on soil and water quality parameters to Jewett Brook. Applicants are encouraged to explore options for laboratory services.

1. **Project Tasks and Deliverables**

The Lake Champlain Basin Program seeks proposals for services to conduct a review of published research examining nutrient loading impacts of tile drainage systems that can be related to conditions commonly found in the Lake Champlain watershed, and to examine tile drainage systems in the Jewett Brook watershed, and to estimate nutrient loadings to Jewett Brook from these tile systems. At least 12 representative tile outlets will be periodically sampled for total phosphorus (TP) and total dissolved phosphorus (TDP) for a period of least one year. A summary report will provide data on the extent and type of tile in the watershed and data on phosphorus concentrations measured during the study. An analysis also will be conducted to determine if tile drainage water concentrations can be related to other factors including, but not limited to, soil type, cropping system, type of drainage system and field soil test P levels. Outcomes of this project will inform resource managers as well as on-farm management decisions.

Anticipated tasks will include the following elements:

1. Deliverable 1 (up to $20,000 available, due by May 30, 2016) – Literature review of published research examining tile drainage systems: Deliverables from this project will include the following, generated from reviews of the published literature and expert knowledge within the Champlain region:
   1. Overall impact of tile drains on P-loading (including surface and sub-surface flows combined and in-stream impacts)
   2. Best Management Practices (BMPs) associated with tile systems to reduce nutrient loading
   3. Research how tile systems change cropping patterns
   4. Assess the quantity and types of tile systems occurring in the Lake Champlain Basin
   5. Identify outstanding research needs with regard to nutrient loading
2. Deliverable 2 (up to $100,000 available, due by May 30, 2018) - Assessment of Tile Drainage Systems in the Jewett Brook Watershed
   1. A GIS-layer of the selected tile drainage systems in the Jewett Brook watershed that will be used for Task 2 (below), generated from a variety of source information, which will include at minimum field locations, drainage system types, tile depth, and tile outlet locations.
   2. Monitoring of a minimum of 12 representative tile outlets for a 12-month period for, at minimum, total phosphorus (TP) and total dissolved phosphorus (TDP).
   3. A summary report of the data generated in this Task including information on the extent and type of tile systems in the Jewett Brook watershed and nutrient concentrations and loads measured during the study.
   4. An analysis examining tile drainage system associations with other factors including, but not limited to, soil type, cropping system, type of drainage system and field soil test P levels.
3. Deliverable 3 (up to $80,000 available, due by July 1, 2019) - Phosphorus Load Estimation of Tile Drainage Systems in the Jewett Brook watershed.  
     
   For this RFP, a Secondary Data Quality Assurance Project Plan (QAPP) is available in draft form for Deliverable 1. Deliverable 1 should be complete no later than May 30, 2016. A primary data QAPP will need to be developed for Deliverables 2 and 3 (see Section III.2 below for QAPP information).
4. **Summary of Other Requirements for the Selected Proposal**

The selected applicant will be required to complete the following additional tasks:

1. Following initial notification of the award, a workplan must be approved by the LCBP before a contract agreement can be executed and the work begun. The workplan will detail the logistical elements of the project, including deliverables and project timeline. Information about the LCBP grant process, workplan development guidelines, and reporting requirements can be found on the LCBP website at: <http://www.lcbp.org/about-us/grants-rfps/grant-toolkit/>. The successful applicant will enter into a contract with NEIWPCC in order to complete the work and will be compensated based on the completion of workplan deliverables.
2. Once the grant agreement has been executed, the contractor must develop a Quality Assurance Project Plan (QAPP) to be approved by the LCBP and the US EPA before the beginning of any data collection or secondary data analyses. More information about LCBP Quality Assurance Plans can be found at: <http://www.lcbp.org/about-us/grants-rfps/grant-toolkit/qapp/>. A draft Secondary Data QAPP is available for Deliverable 1, and should be approved within 2 weeks of contract execution. The project timeline should be scheduled with an expected QAPP approval date for Deliverables 2 and 3 no sooner than May 15, 2016 (or 6 weeks following contract execution). No primary or secondary data may be collected or analyzed with LCBP funding prior to QAPP approval.
3. The successful applicant will prepare brief quarterly reports documenting progress on each objective and task in the project (see attached Proposal Format Requirements). A final report fully documenting the project’s results will be required at project completion.
4. When approved, the final report will be edited for content and style in consultation with the successful respondent and may be published as part of the Lake Champlain Basin Program’s Technical Report Series, located here: <http://www.lcbp.org/media-center/publications-library/technical-reports/>. Some content of this report may also be used for future LCBP public outreach materials.
5. The successful applicant will complete the project according to the following schedule\*:

|  |  |
| --- | --- |
| Proposals Due to LCBP | 4:30 PM EST, January 22, 2016 |
| Applicants Notified of Funding Decisions | Late February, 2016 |
| Detailed Project Workplan Due | Mid March, 2016 |
| Project Start Date | April 1, 2016 |
| Project Deliverables and Final Report Due | July 1, 2019 |

\*Schedule is subject to change.

1. All materials and work products, regardless of physical form or characteristics, produced as a result of this project shall be made available to LCBP, NEIWPCC, EPA and the GLFC in a suitable file format. LCBP, NEIWPCC, EPA and the GLFC shall have an unrestricted right to use any materials, software, maps, studies, reports, and other products or data generated using assistance funds or specified to be delivered. The contractor shall not obtain, attempt to obtain, or file for a patent, copyright, trademark or any other interest in any such materials, or work products without the expressed, written consent of LCBP and NEIWPCC, and subject to any other approvals required by state or federal law. Reports and other deliverables will credit LCBP, NEIWPCC, EPA, and the GLFC as funding partners for any work completed under the project contract.
2. GIS data produced under this project must adhere to the requirements of EPA’s National Geospatial Data Policy (see <http://www.epa.gov/geospatial/docs/National_Geospatial_Data_Policy.pdf>). Specifically, the selected contractor must provide documentation for all produced data, including source information for each digital data layer and specific information about the data layer itself. GIS data produced under this project will be submitted to NEIWPCC as a deliverable.
3. If this project is funded through a U.S. EPA Assistance Agreement with NEIWPCC, NEIWPCC cannot use these funds to support a survey without completion of an Information Collection Request (ICR) describing the survey. The ICR must be submitted to the U.S. EPA Office of Management and Budget (OMB) for review and approval. This is an extensive process that can take several months to complete. A survey is defined as the collection of identical information from ten or more non-Federal respondents within a 12-month period. OMB approval must be received before any survey activities supported by NEIWPCC funds can begin.
4. NEIWPCC requires its contractors to maintain workers compensation and liability insurance. More details will be provided to the successful applicant at the time of contracting.
5. **Eligibility**

Eligible organizations include colleges, universities, nonprofit organizations, for-profit companies, and non-federal government agencies. The selected contractor will be responsible for the completion of all project tasks, though subcontracted work may be permitted by the LCBP Project Officer upon written request. Individuals and representatives from organizations that participated in the development or review of this RFP and its contents are ineligible to apply.

1. **Proposal Evaluation and Selection Criteria**

Proposals received in response to this RFP will undergo an external peer review, and will be judged according to the following criteria:

* + 1. Demonstrated technical knowledge of existing tile drainage systems in the Lake Champlain region.
    2. Technical merit and applicability of the proposed product toward the priority objectives identified in this RFP.
    3. Efficacy of proposed sample design and monitoring strategy.
    4. Demonstrated ability to accomplish the deliverables outlined in Section II.
    5. Potential for the project to enhance the knowledge of tile drainage system effects on water quality and soil health within the Lake Champlain Basin.
    6. Clarity, conciseness and adherence to the proposal guidelines.
    7. Demonstrated ability to create documents and user-friendly products that are accessible to and can be used by local partners working to address nutrient loading effects of tile drainage systems in the Lake Champlain Basin.
    8. Appropriateness of budget and budget justification, describing how the funds awarded will be used to produce the set of deliverables described in Section II.

1. **Available Funds and Match Requirements**

A total of $200,000 may be made available for this project. Proposals with budgets that exceed this amount will not be considered. Applicants may budget costs that are associated with the project as direct expenses, including personnel costs, travel, project supplies, meeting expenses, and subcontracts (subcontracts only with prior permission from LCBP). Some allocation of project funds for indirect costs also is acceptable. However, **for projects in response to this RFP, the indirect budget must not exceed 21% of the direct project budget.** No in-kind or cash match is required, though match may be considered favorably during budget review. LCBP anticipates granting one (1) award from this RFP.

**VII. Notification of Award**

Award notification to applicants is expected in late February, 2016. The award recipient may be asked to submit a revised workplan, timeline, and budget at this time. Project work cannot begin until a contract is signed by both parties. LCPB and NEIWPCC will not pay for expenses incurred prior to the contract start date. Payment for costs incurred will be on a reimbursement basis per the contract payment schedule and contingent upon completion of quarterly progress reports and project deliverables.

1. **Period of Performance**

Work is expected to begin on or shortly after **April 1, 2016** and is to be completed no later than **July 1, 2019** (see specific deliverable deadlines in Section II above).

1. **Schedule and Requirements for Proposal Submission**
2. Please follow the format outlined in the attached Technical Proposal Format Requirements.
3. Hardcopies of the proposal will NOT be accepted on or before the submission deadline. Editable electronic copies ONLY will be accepted and must be received via email in Microsoft Word or Word-compatible format by 4:30pm EST on **January 22, 2016** to [ehowe@lcbp.org](mailto:ehowe@lcbp.org)**.**
4. **Contact Information**

Direct all proposals and other inquiries to:

*Eric Howe*

*NEIWPCC Environmental Analyst*

*Lake Champlain Basin Program Technical Coordinator*

54 West Shore Rd., Grand Isle, VT  05458

p: 802-372-3213; f: 802-372-3233

[ehowe@lcbp.org](mailto:ehowe@lcbp.org) ; [www.neiwpcc.org](http://www.neiwpcc.org) ; [www.lcbp.org](http://www.lcbp.org)

**Technical Proposal Format Requirements**

Proposals should adhere to the following format and should not exceed a 10 page maximum length (font size 12), NOT including budget information, references cited and investigator resumes.

**TITLE:** - Concise and descriptive.

**POINT OF CONTACT:** Name, position, organization, address, telephone, fax and email of the person who will be the point of contact.

**AUTHORIZED REPRESENTATIVE:** Name, position, organization address, telephone, fax and email of the person who is authorized to sign the contract.

**ABSTRACT:** Brief description of proposed work.

**INTRODUCTION:** Overview of what the project is and what it will accomplish in relation to the RFP.

**OBJECTIVES AND TASKS:** List the project's objectives and describe in detail the tasks that will be performed relative to each objective, including methods and approaches.

**DELIVERABLES:** Detailed description of the planned products from each task of the project. Quarterly progress reports and a final report are required deliverables.

**SCHEDULE:** Timeline showing anticipated dates for completion of the major tasks and deliverables. Quarterly progress reports are due on the last day of December, March, June, and September. Work is to be completed within the specified performance period in the RFP.

**DETAILED BUDGET JUSTIFICATION:** Cost breakdown by major budget categories (i.e. personnel, equipment), linking costs to specific tasks/deliverables wherever possible, as seen in the example budget below. Breakdown should show costs to be covered by the LCBP award and other sources (if applicable), as well as any match amounts and totals. (1 page, not included in the 10 page maximum total for the proposal). See example provided below. Task-based budget templates are available on the LCBP website: <http://www.lcbp.org/about-us/grants-rfps/grant-toolkit/>

**EXAMPLE** Budget Spreadsheet

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Budget Spreadsheet for LCBP Grants: Line Item by Task/Deliverable\*** | | | | | | |
|  | Task 1 | Task 2 | Task 3 | LCBP Grant Total | Proposed Match (if any) | Project Total (Grant + Match) |
| **Personnel** | $1,000 |  | $1,000 | $1,000 | $1,000 | $2,000 |
| **Fringe (x% of Personnel)** | $300 |  | $600 | $900 |  | $900 |
| **Travel** | $300 |  | $250 | $300 | $250 | $550 |
| **Supplies** |  | $1,250 |  | $1,000 | $250 | $1,250 |
| **Professional Services** |  | $10,000 |  | $10,000 |  | $10,000 |
| **Total Direct** | $1,600 | $11,250 | $1,850 | $13,200 | $1,500 | $14,700 |
| **Indirect (y% of direct)** | $240 | $1,688 | $278 | $2,205 | $0 | $2,205 |
| **TOTAL BUDGET** | $1,840 | $12,938 | $2,128 | $15,405 | $1,500 | $16,905 |

**\*The budget numbers in this table are used only for the purpose of example.**

**TECHNICAL REFERENCES CITED:** List all references used for the proposal (not included in the 10 page maximum total for the proposal).

**CURRICULUM VITAE/RESUME OF PRINCIPAL INVESTIGATORS:** Include up to 3-5 references for prior work pertinent to the proposed project. Please limit to one page per investigator; not included in the 10 page maximum total for the proposal.