



DuPage River Salt Creek Workgroup

DUPAGE RIVER SALT CREEK WORKGROUP

REQUEST FOR PROPOSAL:

WATER QUALITY MODELING

SALT CREEK AND DUPAGE RIVER WATERSHEDS

DUE DATE/TIME: OCTOBER 11, 2019/5:00 PM CT

Date Published	September 17, 2019
Deadline Date for Inquiries	September 20, 2019
Deadline Date for Proposal Submittals	October 11, 2019
Anticipated Date for Consultant Selection	October 25, 2019
Anticipated Date for Award of Contract	October 31, 2019

REQUEST FOR PROPOSALS:
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I. Introduction and Background

The DuPage River Salt Creek Workgroup (DRSCW) formed on April 28, 2004 to investigate total maximum daily load (TMDL) requirements for the East Branch of the DuPage River, West Branch of the DuPage River and Salt Creek. The organization is dedicated to identifying, designing and having implemented data driven decisions that optimize the investment of public dollars in surface water quality management.

The Lower DuPage River Watershed Coalition (LDRWC) was formed in 2012 after the completion of a watershed-based plan for the Lower DuPage River. The LDRWC provides local coordination to address water resource concerns based on science. Our analyses of habitat, biological and chemical data identifies stressors to aquatic life, and guides the Coalition's ecologically and economically sound approach to restore stream health.

The DRSCW and LDRWC member Publically-Owned Treatment Works (POTWs) negotiated a Special Condition (SC) to their NPDES permits that includes the development of a Nutrient Implementation Plan (NIP) for the DuPage River and Salt Creek watersheds by December 31, 2023. The SC language states that the NIP should identify phosphorus input reductions by point source discharges, non-point source discharges and other measures necessary to remove dissolved oxygen (DO) and offensive condition impairments and meet the applicable DO criteria in 35 IL Adm. Code 302.206 and the narrative offensive aquatic algae criteria in 35 IL Adm. Code 302.203. The NIP must also include a schedule for implementation of the phosphorus input reductions and other measures. The DRSCW and LDRWC are working jointly to complete the NIP.

The DRSCW SC also include a requirement to update QUAL2K models developed for Salt Creek and the East Branch DuPage River in 2004/2010.

This project will include the update and recalibration of the DRSCW's existing QUAL2K models of Salt Creek and East Branch DuPage River to QUAL2W. Also included is the development and calibration of QUAL2W models for the West Branch DuPage River and Lower DuPage River. Additional tasks will include modeling baseline conditions and future scenarios for the four (4) study watersheds as described in this RFP.

It is the DRSCW/LDRWC's intent to award the work to a Consultant based on an evaluation of the submitted proposals. Once the DRSCW/LDRWC have signed an agreement with the selected firm, the DRSCW/LDRWC requires the final report within twelve (12) months.

Questions pertaining to the selection process or the scope of work should be directed to Deanna Doohaluk via email at ddoohaluk@theconservationfoundation.org. Consultants must submit all questions no later than 5:00PM CT on September 20, 2019. The DRSCW will consider any oral communications unofficial and non-binding. The DRSCW will answer all questions in writing and email the response to the list utilized by the DRSCW for distribution by September 25, 2019. If you received this RFP from someone other than the DRSCW, please email Deanna Doohaluk at the email provided below to be added to the distribution list.

The Proposals must be submitted by **5:00PM CT on October 11, 2019** to Deanna Doohaluk via email at ddoohaluk@theconservationfoundation.org (file size limit is 8 MB).

PROPOSAL PACKAGES RECEIVED AFTER THE SPECIFIED TIME MAY NOT BE ACCEPTED.

II. Schedule

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III. Scope of Services

This scope of services is provided as a guide and will be used as a basis to evaluate proposals submitted to the DRSCW. Consultants may wish to clarify, separate, or subcontract work items to meet their firm's particular qualifications or expertise. If a sub consultant is to be utilized for a specific task, the sub consultant must be identified in the proposal.

For each of the four (4) study watersheds (Salt Creek, East Branch DuPage River, West Branch DuPage River, and Lower DuPage River), the scope of services will include:

Task 1 – Review of Existing Data and Identification of Data Needs

The following data and information is publicly available for Consultants to utilize for the preparation of their Proposal and for use during the project, if applicable:

DRSCW/LDRWC DATA

- Bioassessment and Water Quality Studies of the East and West Branches of the DuPage River and Salt Creek watersheds: <http://drscw.org/wp/bioassessment/>
- Bioassessment and Water Quality Studies of the Lower DuPage River watersheds: http://www.dupagerivers.org/documents/2012BiologicalandWaterQualityStudyoftheLowerDuPageRiverFINALREPORT_000.pdf

- Stream Dissolved Oxygen Improvement Feasibility Study for East Branch DuPage River and Salt Creek watersheds: <http://drscw.org/wp/dissolved-oxygen/>
- Project Identification and Prioritization Project Plan and White Paper: <http://drscw.org/wp/project-identification-and-prioritization-system/>
- East and West Branches of the DuPage River and Salt Creek Special Condition Report (2016, 2017, and 2018): <https://drscw.org/activities/project-identification-and-prioritization-system/>

IEPA TMDL REPORTS - <https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/reports.aspx#dupeas>

- TMDLs for the East Branch DuPage River for Dissolved Oxygen (DO), chlorides, and TDS/conductivity (approved 9/2004)
- TMDLs for the West Branch DuPage River for chlorides (approved 9/2004)
- TMDLs for the DuPage River for chloride, dissolved oxygen, fecal coliform and silver (pending approval)
- TMDLs for the West Branch of the DuPage River for dissolved oxygen, fecal coliform and silver (pending approval)
- TMDLs for the East Branch DuPage River for pH and fecal coliform (pending approval)
- TMDL for Springbrook Creek for dissolved oxygen and fecal coliform (pending approval)
- TMDL for Salt Creek for pH and fecal coliform (pending approval)
- TMDL for Addison Creek for fecal coliform (pending approval)
- TMDL for Churchill Lagoon for phosphorus (pending approval)

The following data is also available upon request from the DRSCW/LDRWC for use by the Consultants during the preparation of their Proposal and for use during the project.

- NPDES Permit (and Special Condition) of typical POTW in the study area
- Map and Table of POTW locations in study area
- Watershed map showing P, algae and DO 303 (d) impaired segments
- Watershed map of bioassessment monitoring sites and continuous DO monitoring sites
- Watershed map showing Sediment Oxygen Demand monitoring sites
- Qual2K Models calibration and validation runs for the East Branch DuPage River and Salt Creek

As part of this task, the Consultant will review all existing data and identify any potential data gaps and/or additional data needs. The Consultant should also identify and assemble additional publicly available data that can be utilized for the development of the DRSCW/LDRWC models. A memorandum will be prepared documenting the findings of this task and will include a prioritization and cost estimate (by task) of all identified data needs.

Task 2A- Model re-calibration/re-validation for Salt Creek and East Branch DuPage River

The existing QUAL2K models for Salt Creek and East Branch will be updated and recalibrated in QUAL2W using the following new data to be provided by the DRSCW:

- Water quality data: All water quality data collected by the DRSCW since 2009. This data is being incorporated into the Power BI database and will publicly available. This information includes all chemical, biological and physical habitat data collect as part of the DRSCW Bioassessment program and IEPA. Additionally, the Power BI database includes land use information for the watersheds.
- DMR data from the project area wastewater treatment plants.
- Continuous dissolved oxygen (DO) data – Continuous DO data collected by the DRSCW and its partners since 2009.
- Any additional data identified and/or collected as a result of Task 1.

The recalibrations shall include adjustment of model parameters, as technically appropriate; to calibrate the updated models within industry accepted levels for a dynamic-state model of this type.

Task 2B – Model development, calibration, and validation for West Branch DuPage River and Lower DuPage River

QUAL2W models will be developed, calibrated and validated for the West Branch DuPage River and Lower DuPage River using data provided by the DRSCW/LDRWC and data identified under Task 1 including:

- Water quality data: All water quality data collected by the DRSCW/LDRWC since 2009. This data is being incorporated into the Power BI database and will publicly available. This information includes all chemical, biological and physical habitat data collect as part of the DRSCW Bioassessment program and IEPA. Additionally, the Power BI database includes land use information and DMR data from the wastewater treatment plants.
- Continuous dissolved oxygen (DO) data – Continuous DO data collected by DRSCW, the LDRWC and partners since 2009.

The calibration shall include adjustment of model parameters, as technically appropriate; to calibrate the models within industry accepted levels for a dynamic-state model of this type.

Task 3 – Sensitivity analysis (conducted concurrently with Task 2)

The Consultant will perform uncertainty and sensitivity analysis on the four QUAL2W models. The Consultant will identify sensitive parameters to model calibration and evaluate their impact on whole model calibration.

A report documenting the findings of the uncertainty and sensitivity analysis will be required at the end of this task. Depending on the findings of the uncertainty and sensitivity analysis, the DRSCW/LDRWC may determine that additional data collection is needed prior to the completion of Task 1.

Task 4 – Model scenarios

Using the calibrated models, the summer critical baseline simulated in the original TMDLs for Salt Creek and East Branch DuPage River will be re-simulated. In addition, individual summer month baselines will be created for all four (4) study watersheds: Salt Creek, East Branch DuPage River, West Branch DuPage River and Lower DuPage River.

Revised scenarios will also be modeled using the QUAL2W models. It is expected that at least five (5) additional scenarios per study watershed will be selected by the DRSCW/LDRWC after the initial scenarios described above are run and presented to the DRSCW/LDRWC. The additional scenarios will most likely simulate a combination of load reductions, instream improvement projects and dam modifications. The Consultant and the DRSCW/LDRWC will work together to identify additional scenarios to model with the objective of achieving water quality goals.

Simulations will be presented in graphical form. All graphs need to have river mile shown on the x-axis with the location of each tributary, major POTW and each dam indicated using symbols. At a minimum, graphs should include average total phosphorus, maximum, mean and minimum DO, average phytoplankton, and average benthic algae (where available). Graphs of other parameters should be provided if the Consultant finds any additional information of interest when reviewing the recalibration and simulation results. Multiple scenarios should be provided on the same graph, as space allows, so that the DRSCW/LDRWC can clearly see the impact of specific modifications.

A report will be required at the end of this task. A draft report will be provided to the DRSCW/LDRWC that summarizes all work completed under Task 1-4. After the review and approval by the DRSCW/LDRWC, the Consultant will submit three (3) hardcopies and an electronic copy of the final report.

Task 5 – Project Coordination and Meetings

Project coordination from the DRSCW/LDRWC will be conducted through the Project Committee. The Project Committee will meet on an as needed basis during the duration of this project. It is expected that five (5) Project Committee meeting will be held during the project duration. The Consultant shall be available via phone conferencing at each Project Committee where this project is discussed to report on the progress of their work and ensure Project Committee input in any required decisions.

Additionally, the Consultant will attend (in person) one DRSCW and LDRWC General Membership meetings (two total) to update the DRSCW/LDRWC on their progress at the completion of project.

If the Consultant feels that additional in-person or phone conferencing meetings will be necessary during the project, the timeframe and purpose of each meeting should be identified in the Proposal.

IV. Coordination with the DRSCW/LDRWC

The selected Firm(s) will collaborate with DRSCW and LDRWC staff at all phases of the project development. The DRSCW and LDRWC staff is not to be viewed as a “client” but as an active and participating team member. The consultant should integrate DRSCW and LDRWC staff into the project team and assign work tasks as appropriate. Stephen McCracken will serve as the primary DRSCW staff member on the project. Additionally, Deanna Doohaluk is available as needed. DRSCW and LDRWC staff time on the project is not billed against the project budget.

V. Submittal Format

1. **Cover Letter** - Provide an introductory letter signed by an authorized representative of the firm; please address this letter to Deanna Doohaluk.
2. **Table of Contents**
3. **General Firm Qualifications** – Provide a statement that portrays the firm's qualifications as related to the local office and experience in relation to the described work. The response should include the following:
 - a. Firm Information (size, location, history, resources, etc.).
 - b. Summary of the consultant’s general qualifications and specific disciplines represented that are applicable to the proposed work.
 - c. Experience with and knowledge of Water Quality Modeling, specifically using QUAL2W.
 - d. Listing of any litigation in which the firm is or was a party within last five (5) years.
 - e. Identify percentage of time currently available of key project personnel for the next 12 months to carry out the scope and extent of the work required.

4. **Project Experience** –Provide details for up to five (5) recent major successfully completed projects similar in nature to this project. The project description should include details on the project scope of work, staff members assigned to the work, project budget, and any project partners. Each project should also include reference contact information (name, phone number, email). Experience on similar watershed studies and other relatable projects within the last five years is expected. The examples must be projects in which your firm was a primary consultant.
5. **Staff Qualifications** – Provide brief descriptions of all staff to be assigned to the project. Note area of expertise/title, as well as years of experience (total) and with the firm. Also, include a summary of experience applicable to the proposed work. It is expected that the staff identified in the proposal will be the ones assigned to the work if the Consultant is selected. One to two (1-2) page resumes of key staff may also be included and will not count towards the total number of pages identified in Section VI.
6. **Project Understanding and Approach** – Define all tasks and activities necessary to meet the objectives listed in the anticipated Scope of Work (Section III). At a minimum, this section should include:
 - a. Description of your understanding of the project;
 - b. Description of all tasks and activities, the methodology that will be employed to accomplish them, which team members will work on each task, and the level of effort expected from each team member;
 - c. Description of the products that would result from each task and activity;
 - d. Identification of any anticipated obstacles;
 - e. Description of any clarification or enhancements to the Scope of Work;
 - f. Description of how you will collaborate with DRSCW staff and how they will be assimilated into the project team and workload; and
 - g. Project schedule that identifies key tasks and milestone dates with projected duration.
7. **Cost Proposal** – Provide a time and materials, not-to-exceed fee to perform all the work identified within scope identified herein that is broken down by task and study watershed. For example, a cost proposal for one watershed may look similar to:

Task	Key Staff Hours	Support Staff Hours	Total Hours	Fee
<i>Salt Creek Watershed</i>				
Task 1				
Task 2				
Task 3				
Task 4				
Task 5				
Total				

The not-to-exceed fee needs to include an additional five (5) scenarios as mentioned in Task 4 of the Scope of Work. Provide a unit price for each additional scenario. This unit price is to be used in the event that the DRSCW/LDRWC decides to model more scenarios beyond the first five (5) additional scenarios.

Conditional fees or fees, which take exception to items within the scope of work, will not be accepted. Should the proposer have recommended changes to the scope of work that would impact the fee, proposer should provide that information under Project Scope. As noted in the scope, work may be suspended after completion of Task 3 depending on the results of the work at that point.

The cost proposal will not be utilized in the proposal evaluation. The cost proposal is being requested at this time so that a contract can be quickly awarded following consultant selection. Please submit the cost proposal in a separate, signed and sealed envelope. The cost proposal should be mailed to:

Deanna Doohaluk
 TCF/DRSCW
 10S404 Knoch Knolls Road
 Naperville, Illinois 60565

VI. Submittal Requirements

The proposal shall include a one (1)-page cover letter, a one (1) page table of contents and a maximum of ten (10) pages to address the Proposal criteria specified in Section VI, for a maximum of twelve (12) pages excluding Attachments (Resumes, Cost Proposal, etc.). Adherence to the maximum page criteria is critical; each page side (maximum 8 ½" x 11") with

information will be counted. Pages that have photos, charts and graphs will be counted towards the maximum number of pages.

The proposal must be submitted by **5:00PM CT on October 11, 2019** to Deanna Doohaluk via email at ddoohaluk@theconservationfoundation.org (file size limit is 8 MB). The name of the firm must be included in the email subject line and attached file name. Please do not forget to mail a hardcopy of the cost proposal as described in Section VI.

Failure to comply with the above listed criteria may be grounds for disqualification.

VII. Evaluation Criteria and Selection Process

The Consultant will be selected through a qualification-based selection (QBS) process. Applicants are encouraged to organize their submissions in such a way as to follow the general evaluation criteria listed below. Information obtained from the SOQ, this proposal, the interview, and from any other relevant source may be used in the evaluation and selection process.

The following scorecard will be used as part of the QBS process:

<u>Criteria</u>	<u>Points</u>
Cover Letter	0 points
Firm Experience	10 points
Project Experience	15 points
Staff Experience	25 points
Project Understanding and Approach	50 points

The DRSCW/LDRWC will evaluate each proposal according to the above criteria. Additional information may be requested to aid the DRSCW in its evaluation.

If the DRSCW/LDRWC determines that interviews for this project are necessary, interviews will be held in DuPage County, Illinois during the week of October 21-25, 2019. A video/phone option will be made available for firms located outside of Northeastern Illinois. Specifics on regarding the interviews will be forwarded via email.

The highest ranked firm will then be invited to negotiate a contract for the services identified at a fair and reasonable fee. The DRSCW/LDRWC reserves the right to negotiate all elements of the submittals, proposals, terms and conditions, and/or Scope as part of the contract negotiation process prior to any formal authorization of the Contract by the DRSCW/LDRWC.

Following consultant selection, the successful Consultant shall prepare a proposal, scope, and budget for review by the DRSCW/LDRWC. Once the DRSCW/LDRWC and Consultant have reached an agreement on the scope and budget, a final Contract will be prepared by the DRSCW/LDRWC. The foregoing should not be interpreted to prohibit either party from proposing additional or revised contract terms and conditions during the negotiations of the final Contract. If the Consultant is unwilling to execute the DRSCW/LDRWC's Contract within fifteen (15) business days of delivery of the final Agreement, the DRSCW/LDRWC may elect to negotiate a contract with the second or third highest ranked firm until a contract is executed and approved or the DRSCW/LDRWC, in its sole discretion, may decide to terminate the selection process. The DRSCW/LDRWC shall not be bound, or in any way obligated, until both parties have executed an Agreement. No party may incur any chargeable costs prior to the execution of the final Contract.

VIII. Consideration of Submittals

The firm submitting a proposal is responsible for all expenses incurred in the preparation of their proposal and the DRSCW/LDRWC shall not be liable for any costs in preparation thereof.

DRSCW/LDRWC reserves the right to extend the due date for the qualification, to accept or reject any or all proposals received as a result of this request, to negotiate with any qualified consultant, or to cancel the RFQ in part or in its entirety.

The DRSCW/LDRWC reserves the right to reject any and all proposals or to negotiate separately in any manner that is in the best interest of the DRSCW. All proposals that are rejected will be notified by digital communication.

The DRSCW/LDRWC reserves the right to request clarification of information contained in the proposal and to request additional information from any proposing firm.

The DRSCW/LDRWC reserves the right to investigate the references and past performance of any proposer with respect to its successful performance of similar services, compliance with contractual obligations, and other factors as may be relevant to the ranking of the proposer.

All proposal packages received by DRSCW/LDRWC will become DRSCW/LDRWC's property for use as deemed appropriate.

No report, information, or data given to, or prepared by, the contracted firm shall be made available to any individual or organization without the prior express written approval of the DRSCW/LDRWC.