



Request for Proposals

Design and Management of Alum Dosing in Spring Lake

Background

The Prior Lake – Spring Lake Watershed District (District) is a 42 square mile local government unit in Scott County, MN dedicated to the management of water resources, including the promotion of surface water quality. One of the bodies of water in the District with significant water quality concerns is Spring Lake, which is on the Minnesota 303(d) list of impaired waters for nutrients/eutrophication. In 2011 a TMDL study was approved by the EPA that determined internal loading to be approximately 5,160 lb/year, or 49% of the total phosphorus loading to Spring Lake.

Given the significant role that internal loading plays in creating the hypereutrophic conditions in Spring Lake, the District believes that addressing lake sediment releases of phosphorus is a critical component to meeting the load reduction targets set by the MPCA. Through the TMDL study and implementation plan and the 2010 Comprehensive Water Resources Management Plan, the District has determined that alum dosing may be a key component in reducing internal loading in Spring Lake, particularly when enhanced by activities such as rough fish management. The District therefore wishes to retain the services of a consultant to manage the design and execution of alum dosing in Spring Lake.

The District has already completed the following documents which pertain to the potential for alum dosing in Spring Lake:

- 2011 Spring/Upper Prior Nutrient TMDL Implementation Plan (currently draft)
- Czeck, Ben, 2010; *Pre and Post Settlement Nutrient and Heavy Metal Levels in Lake Sediments, Spring Lake, MN*
- 2001 Sediment Core results from Barr Engineering

A high quality proposal will include reference to these documents, as well as additional background and research material as required.



Project Elements

The District will retain a consultant to perform the following services on or before July 31, 2012:

- Create a document to determine the appropriateness of alum application in Spring Lake. This document will include the following:
 - Background on alum dosing, including the physical and chemical processes involved.
 - Anticipated benefits of alum treatment, including efficacy, duration, speed of the response in Spring Lake, and positive effects on the recreational and aquatic habitat uses of Spring Lake.
 - Anticipated costs of alum treatment, including monetary cost, any detrimental effects on the recreational and aquatic habitat uses of Spring Lake, and the likelihood of and potential causes of failure (including external loading, rough fish, impact of sulfates, and other potential causes).
 - A recommendation to proceed or not, based upon the benefits and costs specific to Spring Lake and considering reasonable alternative approaches to reducing internal phosphorus loading. An estimated cost per annual pound of phosphorus loading reduced will be required.
 - The monitoring required to detect success or failure of the treatment, including both in-lake and system-wide monitoring.
- Create a document to guide the alum application process in Spring Lake, if the consultant recommends proceeding. This document will include the following:
 - Alum dosing rate, and all calculations used to derive the rate. If any additional data gathering (such as sediment cores) will be required, the proposal should explicitly state what is needed for a firm recommendation.
 - Recommended alum dosing procedure and locations.
 - Permit requirements and estimated timelines, including MPCA, DNR, and any other applicable entities.
 - The data necessary to ensure a fair and competitive bidding process for selection of a contractor to apply alum, including:
 - Total alum quantity to be applied;
 - Total acreage to be treated; and



- Estimates for the quantity and price of any and all bid items.
 - Any and all calculations used to derive bid quantities.
- Oversee (with support from the District Engineer and District staff) the application of alum to Spring Lake (this work item may extend past the July 31 deadline).

Proposal Evaluation

The District will evaluate submitted proposals according to the following criteria:

- **Completeness** of the submitted proposal.
- **Experience** managing or participating in alum dosing projects, particularly the project lead.
- **Cost** of the submitted proposal.
- **References** that the consultant may choose to submit.

All proposals must be received on or before March 6, 2012. Proposals must be submitted to:

Prior Lake - Spring Lake Watershed District
Attn: Mike Kinney
14070 Commerce Ave NE, Suite 300
Prior Lake, MN 55372

Proposals must be printed on 11 x 8 ½ standard paper, with a cover sheet. An electronic version of the proposal in PDF format must accompany the submittal.