Name of Organization: Minnesota Pollution Control Agency

Type of Organization: State

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Project Title: Feasibility Study of Remediation Options - Slip C

Project Category: Contaminated Sediments

Rank by Organization (if applicable): 3

Total Funding Requested ($): 125,000 **Project Duration:** 2 Years

Abstract:

The MPCA proposes to conduct a focused feasibility study (FFS) for sediment remediation options regarding contaminated sediments discovered in an area of the St. Louis River Area of Concern (SLR AOC) referred to as the Slip C site (the Site), located in Duluth Harbor, Minnesota. Development and selection of a remedial action (RA) is of interest to the MPCA because of the Site's location in the SLR AOC and because of it's possible contribution as a source of nutrients and toxic chemicals to Lake Superior. Analysis of sediment samples collected from the Site have been found to be contaminated with polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), DDT Metabolites, toxaphene, mercury, cadmium, copper, lead, and zinc. This FFS will incorporate data collected from previous sediment investigations and provide a detailed evaluation of the feasibility and effectiveness of implementing response actions. The FFS will consist of developing and screening a list of RA alternatives, preparing and conducting any necessary treatibility or bench/pilot studies, conducting a detailed analysis of the alternatives, and presenting a recommendation for the selection of one or more of the options to implement as a RA at the Site. Additionally, a component of the FFS will be to design and implement an investigation that will evaluate ground water / surface water interactions. The purpose of such an investigation is to ascertain any short and long term implications these ground water / surface water interactions may have on the various RA alternatives. This investigation should incorporate the results of any previous studies that may be relevant to the site and coordinate with ongoing and/or proposed Duluth Harbor studies by other governmental, academic and/or private institutions.

Geographic Areas Affected by the Project

States:

- [ ] Illinois
- [ ] Indiana
- [ ] Michigan
- [x] Minnesota
- [ ] New York
- [ ] Pennsylvania
- [ ] Wisconsin
- [ ] Ohio

Lakes:

- [x] Superior
- [ ] Huron
- [ ] Michigan
- [ ] Erie
- [ ] Ontario
- [ ] All Lakes

Geographic Initiatives:

- [ ] Greater Chicago
- [ ] NE Ohio
- [ ] NW Indiana
- [ ] SE Michigan
- [ ] Lake St. Clair

Primary Affected Area of Concern: St. Louis River, MN

Other Affected Areas of Concern:

For Habitat Projects Only:

Primary Affected Biodiversity Investment Area:

Other Affected Biodiversity Investment Areas:

Problem Statement:

The sediments located at Slip C have been found to be contaminated with PAHs, PCBs, toxaphene, mercury, cadmium, copper, lead, and zinc (Crane 1999). Suspected sources of Site sediment contamination are both historical - wastewater effluent discharges (prior to 1978) by the adjacent hardboard manufacturing plant, combustion of fossil fuels, transport of airborne contamination from a nearby (demolished) coal gasification plant, etc., and current, such as discharge of contaminated ground water to the slip or runoff from contaminated fill material located on adjacent filled in portions of the slip, stormwater discharge, etc., (Crane 1999).

The presence of contamination at the Site contributes to an impaired use of the SLR AOC including fish advisories, habitat impairments, and restrictions on navigational dredging. Additionally, contaminated sediments at the Site may represent a significant non-point source of nutrients and toxic chemicals to the SLR AOC, including the Duluth Harbor, and Lake Superior due to the Site's close proximity to the Duluth entry to Lake Superior. As part of advancing Phase II of the Remedial Action Plan Sediment Strategy process developed for the SLR AOC, an FFS outlining remediation options for the contaminated sediments at the Site needs to be conducted. In addition, contaminant loading, reaction and transport relative to ground water discharge are unknown. Therefore, integral to the evaluation and selection of a RA at the Site, ground water / surface water interactions must be evaluated. An outline of specific tasks, including research and investigative activities, should be provided.

Proposed Work Outcome:

The MPCA proposes to conduct a focused feasibility study of sediment remediation options / response actions for the Site. The objective of this study will be to propose a remediation option or combination of options that will result in the remediation of contaminated sediments at the Site such that there will be no impaired uses of this part of the SLR AOC, as well as contribution to the goal of unimpaired uses of the entire SLR AOC.

The components of the study shall include:

1. Review and analysis of relevant data/ information previously gathered with respect to the site.

2. Coordinate with proposed or ongoing studies in the Duluth Harbor to obtain relevant and useful information.

3. Development of a list of all remediation option alternatives;

4. Screening of each remediation option alternative by conducting a detailed analysis of each option including comparison of existing chemical data for the Site with sediment quality guidelines that have been developed for the SLR AOC in order to develop Site-specific contaminant clean-up goals in conjunction with other Site specific information including sediment chemistry, sediment toxicity, and benthological and bioaccumulative data, consideration of present and future land and water uses of the Site area, as well as others, and the long-term effectiveness of the remedy, the implementability of the remedy, the short-term risks associated with implementation of a particular remedy, the total costs, and the community acceptance of the selected remedy;

5. Preparation and conducting any necessary treatibility or bench/pilot studies to support the selection of a remediation option;

6. Preparation of an outline of tasks necessary to assess the interaction of ground water discharge to surface water at the Site and it's role in the selection of a remediation option;

7. Preparation of a detailed report summarizing the remediation options alternatives and a recommendation for selection of one or more of the options to implement as a response action; and

8. Design and implementation of a ground water / surface water investigation which will assist in remedy selection as well as allow short and long term impacts and trends to be assessed.

Project Milestones:	**Dates:**
Project Start	10/2000
Selection of Remediation Options	11/2000
Assessment of Remediation Options	05/2001
Presentation of Selected Remedys	06/2001
Draft Report	08/2001
Final Report	09/2002
Project End	10/2002
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☐ Project Addresses Environmental Justice

If So, Description of How:

☒ Project Addresses Education/Outreach

If So, Description of How:

The results of this project will be used to educate the Sediment Contamination Work Group of the St. Louis River Citizen's Action Committee and the Harbor Technical Advisory Committee, as well as, any member of the general public who has an interest in Lake Superior issues.

Project Budget:

	Federal Share Requested ($)	Applicant's Share ($)
Personnel:	0	4,268
Fringe:	0	896
Travel:	1,000	450
Equipment:	0	0
Supplies:	0	0
Contracts:	122,636	0
Construction:	0	0
Other:	0	914
Total Direct Costs:	123,636	6,528
Indirect Costs:	1,364	72
Total:	125,000	6,600
Projected Income:	0	0

Funding by Other Organizations (Names, Amounts, Description of Commitments):

Five percent of the entire project costs will be provided in cash or by in-kind support from the MPCA, totaling $6,600.

Description of Collaboration/Community Based Support: