SECTION 1 – PURPOSE AND NEED FOR ACTION

PURPOSE OF PROPOSED ACTION

The purpose of this project is to demonstrate promising technologies (biological/engineering) for sediment remediation to establish a basis for future environmental improvements along the Grand Calumet River system in Lake County, Indiana (Plate A). This project involves aquatic and riparian habitat restoration and the dredging of the sanitary discharge channel leading from the East Chicago Sanitary District (ECSD) to the Grand Calumet River (west bank). This site exhibits many of the conditions of the Grand Calumet River including contaminated sediment and similar overbank conditions.

The proposed demonstration project includes dredging of approximately 3,000 cubic yards of contaminated sediments, installation of a sediment barrier to demonstrate the feasibility of isolating contaminated sediment in a channel, installation of a new natural streambed that will demonstrate the feasibility of in-stream capping, and re-sloping and replanting the banks to demonstrate stabilization and recontamination avoidance. After completion of construction activities, the project will undergo a three-year monitoring period to evaluate the effectiveness of project features to restore water quality and aquatic habitat and resist recontamination.

The following goals, objectives and potential measures were identified:

Goal	Objective	Potential Measures
Remove contaminated sediments and prevent re-contamination	To remove contaminated sediments from aquatic ecosystems and properly dispose of and prevent re-contamination	Dredge contaminated sediments Dispose at appropriate landfill Treat waste water from the process Sediment Barrier
Restore in-stream habitat	To provide required flows, substrates and vegetation for fishes, mussels and benthic invertebrates	Place clean substrata Create riffle-pool sequence Create sand/gravel bar w/ vegetation Introduce riverine species
Restore riparian habitat	To provide habitat for reptiles, amphibians and birds	Plant with native plant species
Gain knowledge for restoration of entire Grand Calumet River system	To determine effects of surrounding contaminated sediments on restored habitats and substrata	Monitor the conditions and ecological quality of the restored channel

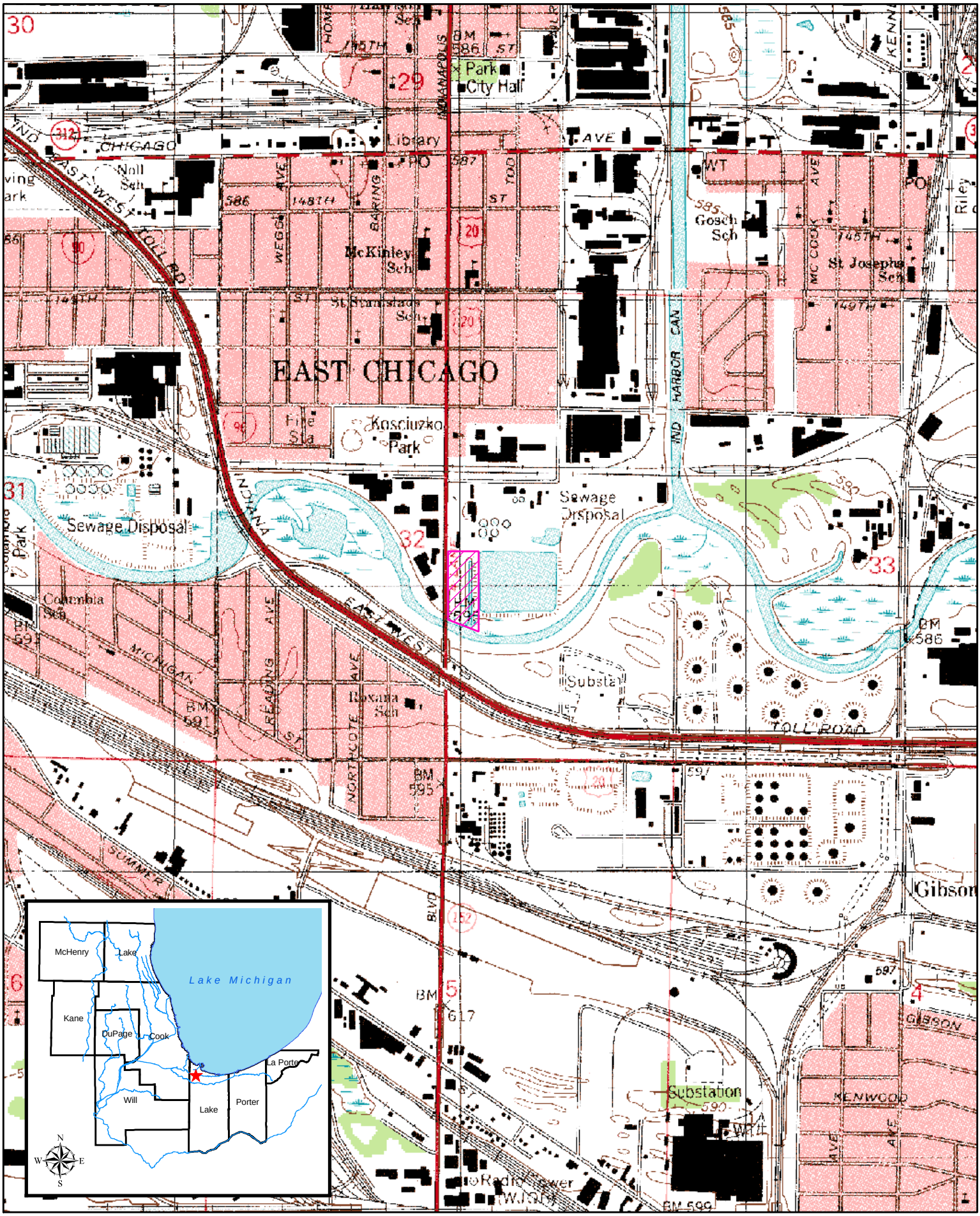
This project will provide additional knowledge and experience on integrating technologies for sediment removal, benthic habitat restoration, and recontamination prevention would be of significant value to future planning and design of sediment remediation project for the Grand Calumet River system.

This project would perform dredging and an aquatic habitat restoration within and along the discharge channel leading from the East Chicago Sanitary District to the Grand Calumet River. The Grand Calumet River has suffered major adverse impacts over the past 100 years, especially to its substrate, hydrology and river morphology. The Calumet region was historically a biologically diverse area with unique flora and fauna. The need for a stretch of sustainable habitat and substrate is imperative to regain diversity within the Grand Calumet River system; and this is with the hope that in the next 10 to 20 years, the Grand Calumet River may be restored as well. This project will serve as a model for projected potential restorations on the Grand Calumet River.

US Army Corps of Engineers
Chicago District

East Chicago

Plate A



NEED FOR ACTION

The Grand Calumet River watershed in northwestern Indiana is an area of federal interest because of the severe contamination and degradation of unique habitats. The Grand Calumet River and Indiana Harbor Canal was identified as an Area of Concern (AOC) in 1978, one of 43 on the Great Lakes. AOCs are regions within the Great Lakes of severe biological impairment that fail to support a selection of beneficial use categories. In a 1997 report "Sediment Cleanup and Restoration Alternatives Project Report," the U. S. Army Corps of Engineers (Corps) evaluated the current conditions along the Grand Calumet River. Although there have not been intensive remediation projects along the river, the Grand Calumet River has shown signs of biological improvement in recent years. Improvement is likely due to the improved water quality in the area through the control of industrial discharges and wastewater treatment plants. Water quality in the river was documented in a Corps 2001 report "Total Maximum Daily Load (TMDL) Study for Grand Calumet River watershed in Lake County, Indiana." Additional biological improvement along the Grand Calumet River will require the remediation of contaminated sediments and the improvement of habitat within the river channel and respective riparian zone.

There is currently strong public support for habitat improvement along the river, in connection to a planned recreational path along the West Branch of the Grand Calumet River. The pre-settlement substrata of the Grand Calumet River system have degraded from a sand/gravel matrix with organic detritus to a thick, anoxic mass of oils, organic compounds and heavy metals. The presence of this deleterious material has prevented the Grand Calumet River system from recovering in terms of ecological function and biodiversity. The lack of in-stream habitat is a limiting factor as well. Stream channelization and unnaturally high flow rates stemming from industrial discharge have nearly removed all in-stream habitat diversity such as velocity and depth variation, aquatic macrophytes, woody debris and gravel.

The opportunity arises in the East Chicago Sanitary District discharge channel. The discharged water is of sufficient quality, clarity and flow that it has attracted stream fishes, although most are non-native and tolerant species. This discharge channel remediation project would provide valuable information for the restoration of the entire Grand Calumet River system; providing critical information as to whether the contaminated sediments could be successfully remedied and that restored habitat would persist.

AUTHORITY

The East Chicago Sediment Remediation Demonstration Project is being conducted as a component of the Grand Calumet River and Indiana Harbor Ship Canal and Nearshore Lake Michigan Remedial Action Plan (RAP) and is a cooperative effort between the US Army Corps of Engineers, Chicago District (USACE) and the East Chicago Sanitary District. The Corps has been providing support to the Grand Calumet River Remedial Action Plan (RAP) in each of the past seven years under the authority of Great Lakes Remedial Action Plans and Sediment Remediation (Section 401 of the Water Resources Development Act (WRDA) of 1990 as amended by Section 515 WRDA 1996, Section 505 WRDA 1999, and Section 344 WRDA 2000. This Act authorizes the Secretary of the Army to provide technical, planning and engineering assistance to states and local governments in the development and implementation of Remedial Action Plans for Areas of Concern (AOC) in the Great Lakes identified under the Great Lakes Water Quality Agreement of 1978 and requires the non-Federal interests to contribute at least thirty-five percent (35%) of the costs of such assistance. Each year the Corps executes a Memorandum of Agreement (MOA) that documents and certifies the cost sharing with the non-federal sponsor.

Section 401(b) of WRDA 1990 and Section 515, WRDA 1996 amended, authorize the Corps of Engineers, in consultation with the US Environmental Protection Agency (EPA) to "conduct pilot- and full-scale projects of promising technologies to remediate contaminated sediment" at sites within the

Great Lakes. FY03 will be the first year CG funds will be requested under the authority. HQ will have to provide implementation guidance before an agreement can be finalized with the non-federal sponsor for use of CG funds under the RAP authority.

LOCAL SPONSOR

The local sponsor is the East Chicago Sanitary District.

COMPLIANCE WITH ENVIRONMENTAL STATUTES

The proposed project is in full compliance with all appropriate statutes, executive orders, and memoranda including the National Environmental Policy Act, the Historic and Archaeological Preservation Act, the Clean Air Act, Sections 401 and 404 of the Clean Water Act, the Corps of Engineer's Operational and Maintenance regulations (33 CFR 209, 335-338), Natural Historic Preservation Act of 1966; the Endangered Species Act of 1973; the Fish and Wildlife Coordination Act; Executive Order 12898 (environmental justice); Executive Order 11990 (protection of wetlands); Executive Order 11988 (floodplain management); and the Rivers and Harbors Act of 1899.