



**US Army Corps  
of Engineers**

# DREDGE MATERIAL PLACEMENT

## **Indiana Harbor & Canal Dredging and Disposal Project**

April 2004

The U.S. Army Corps of Engineers (USACE), Chicago District, would like to update community members on the dredge material placement research for the Indiana Harbor and Canal confined disposal facility (CDF). The CDF is located at the former Energy Cooperative, Inc. (ECI) Site in East Chicago, Indiana. This Q&A fact sheet provides details about Hydraulic Unloading with Recirculation (Slurry) technology, USACE's current investigation, and how the community can give USACE feedback on the project.

### **How would the dredge material get out of the harbor?**

A mechanical (clamshell) dredge would remove the sediment from the bottom of the harbor and place it into hopper or material barges for transport to the offloading facility. At the offloading facility the dredge material would be removed from the barge and placed in the CDF. USACE originally evaluated mechanical unloading with the dredge material being removed from the barges using a clamshell and being transported to the CDF by trucks. USACE has recently begun evaluating potential advantages of hydraulic unloading using recirculation to minimize water use. Hydraulic unloading is potentially cheaper, cleaner, and safer than mechanical unloading.

### **What is recirculation and how would it be used?**

Recirculation would involve reusing the water available within the CDF for slurring (adding water to) the dredge material in the barges. The water from the CDF could be used as many times as necessary during a dredging season to unload all of the barges that come to the site, thus minimizing the amount of water retained in the CDF. After the dredging is completed each year, the water remaining in the CDF would be treated before being released. The water used would mainly be rainwater and snow melt that accumulates in the CDF between dredging seasons.

### **How would it work?**

Barge loads of dredge material would be brought to the unloader, which utilizes water jets on the end of a pump inlet to slurry (20-30% solids) the material so that the pump can remove it from the barge and transport it through a piping system into the CDF. The barge would be repositioned as necessary so that

the pump inlet could reach the entire barge to remove all the dredge material. Normally, the slurry water would come from the waterway, but with a recirculation system, the water would be pumped out of the CDF to the unloader and through the water jets on the slurry pump inlet.

### **What do Hydraulic Unloaders look like?**

USACE has been looking at various types of Hydraulic Unloaders that are commercially available. Below are pictures illustrating two typical types of Hydraulic Unloaders. The first is a pump attachment that typically is connected to the end of an excavator arm, and the second is a boat configuration that is a self-contained piece of equipment.





## Information Repository

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All project documentation is available to you at your local information repository:

East Chicago Public Library – Main Branch

2401 East Columbus Drive

East Chicago, IN 46312

Phone: 219-397-2463

### **Where can a Hydraulic Unloader Operate?**

Hydraulic Unloaders are usually positioned close to the disposal facility and in a place where barges can be temporarily docked. These systems can work from land if a dock is readily available, but are most suited for water applications. They provide greater flexibility by being able to be placed further from the site than a mechanical unloading operation. A Hydraulic Unloader could even be operated from the East side of the Indianapolis Boulevard Bridge.

### **What is USACE doing next?**

Currently, USACE has ERDC-WES working on a study that will help us evaluate all factors in placing the dredge material into the CDF. This includes assessing the potential advantages of hydraulic placement with recirculation, and comparing it to mechanical placement. USACE will keep the public updated on our progress at future meetings. USACE is also working on a proposed facility layout for the ECI site to help determine how all components of the facility will work together.

### **How do I let USACE know what I think of the project?**

Please call or send your questions to Lynne Whelan at the phone number or address listed below.

## Point of Contact

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