

APPENDIX B

PRELIMINARY ASSESSMENT



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199
July 24, 2002

1 April '03

PRELIMINARY ASSESSMENT OF LORAIN HARBOR, OH

1. PROJECT NAME AND DESCRIPTION

Lorain Harbor, Lorain County, Ohio (PWI 010060), is located on the south shore of Lake Erie at the mouth of the Black River. The port is 28 miles west of Cleveland, Ohio and 72 miles east of Toledo, Ohio (Figure 1). The harbor consists of an outer harbor and an inner harbor (Figure 2). Authorized and maintained channel dimensions are presented in Table 1.

The outer harbor is formed by a system of converging breakwaters in Lake Erie and covers an area of about 60 acres. The breakwaters have a total length of 8,500 feet. The entrance channel to the Black River is protected by two parallel piers, the outer ends of which are located about 1,800 feet from the outer harbor entrance. The west pier is 1,004 feet long and the east pier is 880 feet long.

The entrance channel to the outer harbor is via a lake approach channel, 800 feet wide narrowing to 525 feet wide between the east and west piers. Authorized channel depths in this area are 29 feet below Low Water Datum LWD (LWD for Lake Erie is 569.2 feet above mean sea level at Rimouski, PQ, Canada, IGLD 85) in soft material and 30 feet below LWD in hard material. Authorized channel depths in the outer harbor are 28 feet below LWD, starting from the ends of the east and west breakwaters and continuing to a point 2,200 feet above the west pier light. Also located in the outer harbor is an approach channel leading to the municipal pier. This channel is authorized at 16 feet below LWD. All other channel portions of the outer harbor have authorized channel depths of 25 feet below LWD in soft material and 26 feet below LWD in hard material.

The Inner Harbor, the channeled portion of the Black River, extends upstream a distance of three miles. The width of the channel varies from 200 to 500 feet. Three turning basins are provided along the Black River.



Figure 1

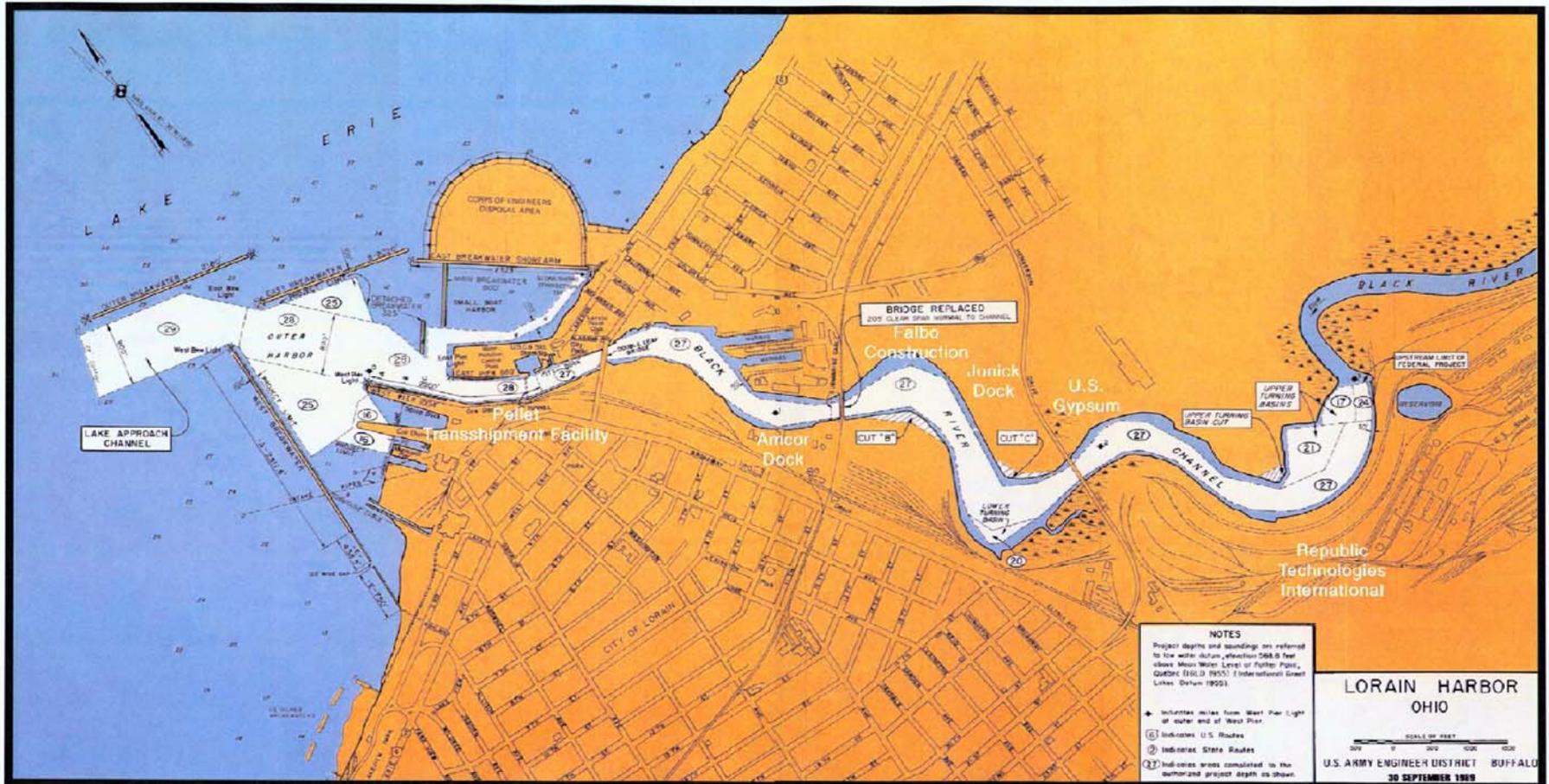


Figure 2

Authorized channel depths in the Black River, from a point located 2,200 feet upstream of the west pier light to a point 500 feet below the upstream limit of the Federal navigation channel, are 27 feet below LWD in soft and 28 feet below LWD in hard material. The remaining 500-foot portion of the Federal channel has authorized channel depths of 24 feet below LWD in soft material and 25 feet below LWD in hard material. The lower turning basin is 650 feet wide and has an authorized depth of 20 feet below LWD. It is located in the bend of the Black River immediately upstream of the former Baltimore and Ohio Railroad coal dock. The upper turning basin is approximately 690 feet wide with an authorized depth of 17 feet below LWD located at the head of commercial navigation. Immediately downstream of this location, is an enlarged portion of the turning basin with an authorized depth of 21 feet below LWD.

Lorain Harbor is dredged approximately every other year. The average dredging volume since 1979 is approximately 95,000 cubic yards per dredging event. The next dredging of the harbor will be in 2003.

**TABLE 1
AUTHORIZED AND MAINTAINED CHANNEL DIMENSIONS (LWD)**

CWIS NUMBER	REACH OR SEGMENT	NOMINAL CHANNEL DEPTH		NOMINAL CHANNEL WIDTH		MAX. SAILING DRAFT	PROJECT SPONSOR
		(as auth.)	(as maint.)	(as auth.)	(as maint.)		
10060	Lake Approach	30' (hard) 29' (soft)	29'	800'	800'	29'	N
	Outer Harbor	28'	28'	800'	800'	29'	N
	East & West portion of outer o harbor	25' (soft) 26' (hard)	25/26'	Varies	Varies	25'	N
	Municipal Pier Approach channel	16'	16'	Varies	Varies	--	N
	River Channel	27' (soft) 28' (hard)	27/28'	200-500'	200-500'	29'	N
	Upper Turning Basins	17' & 21'	17' & 21'	690'	690'	--	N
	Downstream Turning Basin	20'	20'	650'	650'	--	N
PROJECT SPONSOR REACH(S)							
NAME: N/A							
ADDRESS:							
CITY:				STATE:		ZIP:	
POINT OF CONTACT:				PHONE #			

2. AUTHORITY

The existing Federal navigation project was authorized by the River and Harbor Acts of 3 March 1899, 2 March 1907, 25 June 1910, 8 August 1917, 3 July 1930, 30 August 1935, 2 March 1945, 14 July 1960, and 17 November 1986. The Confined Disposal Facility was authorized by Section 123 of the Rivers & Harbors Act of 1970 under Public Law [PL] 91-611 and completed in 1977.

The current project improvements at Lorain Harbor were completed in 1978 and the harbor is 78 percent complete. The remaining work was authorized by the 1960 Rivers and Harbors Act, and was modified by the 1965 Rivers and Harbors Act. All remaining work is classified as deferred and consists of widening remaining portions at Cuts B and C, and widening the upper turning basin.

3. ECONOMIC ASSESSMENT

Information on the original justification of the commercial navigation project is not available.

Waterborne traffic at Lorain Harbor consists primarily of receipt and shipment of bulk commodities. In 2000, total tonnage at Lorain Harbor was 14,180,000 tons (Table 2). Receipts accounted for 61% (8,630,000 tons) and shipments accounted for 39% (5,550,000 tons) of all traffic.

Iron ore has been the dominant commodity moving through Lorain Harbor. In 2000 iron ore movements accounted for 94% (13,336,000 tons) of all traffic at Lorain Harbor. The only other significant commodity was stone (limestone and gypsum) which accounted for most (3.7%) of the remaining waterborne bulk traffic through the harbor.

The waterborne traffic pattern at Lorain Harbor has been comparatively stable for more than a decade. However, waterborne traffic at the harbor in the future will be greatly reduced due to the forthcoming move of the pellet transshipment facility from the outer harbor at Lorain Harbor to the outer harbor of Cleveland Harbor. Looking forward into time, it is the remaining "base load" traffic at the harbor which will determine the economic viability of Lorain Harbor as a Federally maintained harbor.

In February of 2002, the Buffalo District completed a dredging evaluation of the Lorain Harbor as part of its on-going program that assesses the economic viability of harbor maintenance for its commercial harbors. As part of that evaluation a "base load" of future traffic that utilizes the harbor was projected. This "base load" of future traffic volume assumes the continuance of stone receipts and the continued operation of the integrated steel mill, but at a reduced plant output capacity and subsequent reduced demand for iron ore. The evaluation was based on the harbor receiving 1,850,000 tons of traffic annually. This figure was arrived at through discussions with the individual commercial dock owners. The steel mill, located at the upper limit of the federal commercial navigation channel, would receive 1,300,000 tons of iron ore. Limestone and gypsum accounted for the remaining 550,000 tons of receipts, which would be used by various companies located along the river.

**TABLE 2
COMPARISON OF LORAIN HARBOR AND GREAT LAKES WATERBORNE COMMERCE DATA
1990 & 2000**

CARGO TONNAGE (NET TONS)						
Year	Lorain Harbor	% Change	Great Lakes	% Change		
1990 ¹	13,967,000	1.52%	167,140,000	12.17%		
2000 ²	14,180,000		187,490,000			
MAJOR COMMODITIES						
Commodity	Year	Lorain Harbor	% Change	Great Lakes	% Change	
Iron Ore	1990 ¹	13,444,000	-0.008%	66,806,000	3.19%	
Iron Ore	2000 ²	13,336,000		68,941,000		
Limestone	1990 ¹	42,000	735.72%	24,457,000	24.51%	
Limestone	2000 ²	351,000		30,451,000		
Gypsum, Crude, & Plasters	1990 ¹	168,000	25.60%	1,047,000	0.86%	
Gypsum, Crude, & Plasters	2000 ²	211,000		1,056,000		
Slag	1990 ¹	111,000	-23.42	1,246,000	34.99%	
Slag	2000 ²	85,000		1,682,000		
Sand, Gravel, & Crushed Rock	1990 ¹	134,000	-12.69%	3,808,000	73.7%	
Sand, Gravel & Crushed Rock	2000 ²	117,000		6,615,000		
1. Waterborne Commerce Of the United States, Calendar Year 1990, Part 3-Waterways and Harbors Great Lakes, Department of the Army, Corps of Engineers. 2. Waterborne Commerce Of the United States, Calendar Year 2000, Part 3-Waterways and Harbors Great Lakes, Department of the Army, Corps of Engineers.						

The above mentioned economic evaluation of dredging at Lorain Harbor concluded that dredging of the harbor every second year with removal of 150,000 cubic yards of material per dredging event, over a 20 year evaluation period, was economically justified with three different traffic scenarios: 1) receipt only of stone; 2) receipt only of iron ore (at the reduced level of 1.3 million tons per year) and 3) receipt of stone and iron ore. Table 3 presents the results for dredging to maintain a 28-foot channel depth.

TABLE 3
AVERAGE ANNUAL EQUIVALENT (AAE) BENEFITS, DREDGING COSTS, NET BENEFITS and B/C,
28 foot Channel (1)

Benefit Categories	AAE Benefits	AAE Costs	AAE Net Benefits	B/C
Stone	\$772,000	-	\$334,000	1.8
Iron Ore	\$2,219,000	-	\$1,781,000	5.1
Stone & Iron Ore	\$2,990,000	-	\$2,553,000	6.8

(1) Source: Economic Evaluation of Dredging Lorain Harbor, OH, U.S. Army Corps of Engineers, Buffalo District, February 2002, page 26.

Note: AAE Benefits are additive. AAE Net Benefits must be computed by subtracting AAE Costs from AAE Benefits for each benefit category. There is only one set of dredging costs and that value is applicable to all combinations of benefit categories.

Harbor Description, Dock Locations

Lorain Harbor is very well protected by an outer breakwater and east and west breakwaters. Vessels enter the harbor via the lake approach channel (800 feet in width) which leads to the outer harbor area. The main channel in the outer harbor leads directly to the Black River.

Several marinas are also in the general harbor area. An area has been developed just east of the entrance to the commercial harbor for a recreational boat marina. The Lorain Small Boat Harbor, which is east of the entrance to the commercial harbor, was completed in 1987. It is protected by an 800-foot rubblemound breakwater attached to the east breakwater shore arm and a 325 foot long detached breakwater. The breakwater has a concrete walkway with handrail for ease of access.

Just west of Lorain Harbor is Lakeview Park, a 43-acre recreational facility. The park is located approximately 2,000 feet west of the west breakwater. The park provides approximately 1,200 feet of shoreline for recreational swimming. It has parking for 330 automobiles. The park has picnic areas and playground areas as well as tennis courts, baseball diamonds, a bathhouse and a concession building.

As of the summer of 2002, there are seven operating commercial docks in operation in Lorain Harbor. Six of them are exclusively bulk commodity docks; one predominantly handles bulk commodities but it also handles some general cargo traffic. Of the seven, only one - the iron ore pellet transshipment facility - is located in the outer harbor. The pellet transshipment facility has been sold and it is scheduled to move to the outer harbor of Cleveland Harbor in 2003. All six of the remaining commercial docks are located along the Black River Channel.

The dock situated on the lowermost portion of the Black River Channel is the Amcor (American Metal Chemical Corp.) Dock. It is located on the west bank of the river at the foot of East 9th street. It receives potash and it has covered storage to store 28,000 tons of potash.

Situated upstream of the railroad bridge, on the east side of the river is the Falbo Dock which receives cement, stone and gravel to supply a cement ready-mix operation.

Situated upstream of the Falbo Dock, also on the east side of the river, is the Jonick dock. It is a bulk commodity dock receiving stone and potash with covered storage for 40,000 tons of potash.

U. S. Gypsum receives gypsum (rock) at its dock situated on the east bank, upstream of the Henderson Drive/21st St. Bridge. The dock has storage for 125,000 tons of gypsum which is processed at National Gypsum's wallboard manufacturing plant in Lorain.

Two RTI docks are located on the opposite (west) bank of the river. These two docks primarily receive iron ore used to produce hot metal in the RTI steel mill. The two docks also receive limestone, which is the flux charge in a blast furnace.

According to the Director of the Lorain Port Authority, the above are the only operating commodity docks in Lorain Harbor.

Bulk Traffic at Lorain Harbor

Table 2 presented a snapshot of bulk waterborne traffic at Lorain Harbor in 1990 and 2000. The data are presented in the format specified for DMMP reports. However, the data are misleading as the volume of commercial traffic at Lorain Harbor is decreasing. The future of Lorain Harbor is uncertain but what is certain is that it will no longer be one of the top three commercial harbors on Lake Erie.

The catalyst that will bring drastic change in the volume of waterborne traffic at Lorain Harbor has been the demise of LTV Steel in late 2001. The successor to LTV Steel is the International Steel Group (ISG) which has purchased the two integrated steel mills formerly operated by LTV Steel - the mill in East Chicago (Indiana Harbor), Indiana and the Cleveland Works mill in Cleveland, OH. ISG has initiated steel production at both the Cleveland and Indiana Harbor mills. The former is of great significance to Lorain Harbor whereas the latter is not. ISG has purchased the pellet transshipment facility at Lorain Harbor and will move the pellet transshipment terminal to the outer harbor of Cleveland; the move is projected to occur in 2003. Thus all the iron ore received at (and shipped from) the pellet terminal has ceased as of 2002.

The only iron ore traffic that remains at Lorain Harbor after 2002 is iron ore destined for consumption in the RTI (soon to be renamed) integrated steel mill located on the upper reaches of the Black River.

2001 was an extremely difficult year for the US integrated steel industry. A number of mills have closed and others have downsized. While RTI Steel has maintained production, and is projected to continue in production into the near-term future, it has downsized. Whereas the RTI mill had historically operated two blast furnaces, it now only operates one. RTI has no plans to reactivate the second blast furnace; the second furnace has been permanently closed. With one operating blast furnace, the RTI mill is projected to receive 1.3 million tons of iron ore per year, as long as it continues to operate. This will be the only iron ore received at the harbor in the future.

The only other bulk commodity of significance in Lorain Harbor is stone - limestone and gypsum. In 1999, 590,000 tons of stone were received at the harbor; in 2002, 519,000 tons were received. As long as the RTI steel mill remains in production, stone receipts at the harbor (and all stone traffic at the harbor are receipts), should remain at the level of 500,000 to 600,000 tons per year. Should the RTI mill cease operation, this figure would likely drop by 100,000 to 200,000 tons of limestone per year because RTI uses limestone in its steel making operations.

No other commodity has been consistently prominent at Lorain Harbor. Sand and gravel are received and will continue to be received at the harbor, but both are transported in scows that draft less than 17 feet. In all probability the harbor does not need to be dredged for this traffic.

Assuming continued operation of the RTI integrated steel mill, bulk waterborne traffic at the harbor should continue at a level of about 2.0 million tons per year. However, should the steel mill cease operation it is estimated that the current traffic volume will be reduced by approximately 75%.

The Future of the RTI Steel Mill in Lorain Harbor

There are numerous factors that are ultimately going to determine the future of the RTI steel mill at Lorain Harbor. The most significant of which will likely be the age of the facility, foreign and domestic competition, and legislative tariffs. The RTI steel mill is a small mill that is more than 100 years old that produces steel bars from the raw iron ore. Steel bars are then purchased by other industries and processed into steel components. This product is susceptible to competition from more modern domestic electric-arc mini steel mills and to imports of steel from foreign producers who are able to deliver their products to US markets at a lower price.

The 30% tariff imposed by President Bush in Spring 2002 has bought the US integrated steel industry up to three years of time in which to reorganize and become more competitive. "Reorganization" essentially means combining the larger, more efficient US integrated mills into a smaller number of larger and more efficient producers. The remaining smaller integrated mills will find it increasingly difficult to survive unless another round of tariff protection is legislated.

Another round of tariff protection is not likely to be implemented given the complaints, both domestic and foreign, raised against the current protective tariff. Even if another protective tariff were implemented, it would not protect the older, less efficient smaller integrated mills like the RTI mill, from the aggressive competition of the electric arc based US mini steel mills.

The tariff on steel imposed by the President in 2002 has a three-year life but the tariff is not 30% for the entire three years. It is 30% for year one, 24% for year two, and 18% for year three, after which it expires. RTI will most likely continue to operate into 2005; how long it will operate thereafter is unknown. However, in conducting the Reevaluation of the Poe (Michigan) Lock Project, the Buffalo District conducted an analysis of the 15 integrated steel

mills, which have historically received iron ore via waterborne shipment across the Great Lakes, of which the RTI mill was one. In that analysis the author projected the RTI mill will cease operation by the end of the current decade (end of 2009).

Whatever is done to resolve the problem of how to manage contaminated sediments dredged from Federal channels in Lorain Harbor, it must consider the possibility that there will be no steel mill operating in Lorain Harbor beyond the near-term future.

Commercial Boat Traffic

Historical data on boat traffic at Lorain Harbor are no longer valid given the closure of the pellet transshipment facility as that facility accounted for most of the waterborne traffic at the harbor and for this reason, no tabular data on boat data are contained in this report. However, a general outline of boat traffic can be discussed given the District's familiarity with bulk traffic movement on the Great Lakes and the character of the US Great Lakes flagged fleet. All bulk commodity traffic is moved in self-unloading vessels.

Without the presence of the pellet terminal, but with the continued operation of the RTI steel mill in the harbor, waterborne traffic at Lorain Harbor should continue at about 1.8 to 2.0 million tons per year. This will consist of about 1.3 million tons of iron ore and 0.6 million tons of stone.

With a channel depth of 27 ft. in the Black River, the composition of boats delivering iron ore to the RTI ore dock will be dominated by Class 7 boats. The iron ore comes essentially from ports located on Lake Superior. There may be a few trips by larger Class 8 boats and some trips by smaller Class 5 boats but Class 7 will be the model boat size for transportation of iron ore. Carrying iron ore, a Class 7 boat loaded to 27.0 feet (and Lake Erie is usually at least 1.0 above LWD) could pass up river to the RTI dock at this draft with a cargo of about 30,000 tons. It would take 43 trips by a Class 7 boat to deliver 1.3 million tons of iron ore.

Limestone is characteristically moved both in Class 5 and Class 7 boats with a preponderance of Class 5 boats carrying stone from Lake Huron and Lake Erie stone originating docks. This fleet might well average 20,000 to 22,000 tons of stone per trip and the drafts would be no greater than that of boats transporting iron ore - a maximum of 27.0 ft. The stone traffic would thus generate about 25 deliveries per year.

Taken together, the combined delivery of iron ore and stone would generate about 70 boat visits per year and all could be accommodated by existing maintenance depths at the harbor.

Should the RTI steel mill at Lorain cease operations, all delivery of iron ore would cease and the delivery of stone would be reduced by about 25%. In this case, commencing in the year the steel mill would close, boat traffic at Lorain would decrease drastically, to a level of about 20 boat visits per year.

Maintenance Dredging at Lorain Harbor

The need to dredge the Black River depends upon two factors: 1) continued operation of the RTI steel mill, 2) and or the continued receipt of stone. If the steel mill should cease production of hot metal, no more iron ore will be received at Lorain Harbor. Though this would eliminate the need for maintenance dredging to the RTI ore docks, it would not entirely remove the need to dredge the Black River channel as currently there are four remaining bulk and general cargo docks operating along the banks of the Black River downstream of the RTI ore docks.

The Operation and Maintenance report completed in February 2002 designed to determine if dredging of Lorain Harbor is economically justified, indicates that dredging of the Outer Harbor and of the Black River Channel should be economically justified even with cessation of production of hot metal by the RTI steel mill. Thus it is likely that maintenance dredging at Lorain Harbor will have to be continued. Should the receipt of iron ore at the harbor cease, it will no longer be necessary to dredge the full spatial extent of the Black River Channel. This in turn would reduce the amount of dredged material that would be removed from the river channel and also, the amount of material that must be disposed in the Confined Disposal Facility (CDF).

At this time it cannot be determined whether future dredging to a depth of 28 feet below LWD will be necessary if the RTI steel mill closes. It is possible that maintenance of a lesser depth may be economically more efficient. Maintaining a lesser depth would likely eliminate one or more planned dredging events and it also is likely to somewhat reduce the volume of material dredged at each future dredging event, or to increase the interval between dredging events, as a river's shoaling rate tends to decrease as the depth of channels maintained decrease.

4. MAINTENANCE DREDGING: HISTORICAL AND PROJECTED FUTURE

The need for maintenance dredging arises from the buildup of shoal material in the navigation channels, which leads to the restriction of the flow of commercial navigation. On average, 146,300 cubic yards of material were removed per dredging event during the 1992-2002 period (Table 4).

TABLE 4 DREDGING HISTORY							
Primary Dredging Method	Recent Dredging History (cu. yds. per year) (1)						Disposal Site
	1992	1995	1996	1998	2000	Average	
Cutter head	172,756	179,539	152,425	165,000	62,000	146,344	CDF

(1) Source: Buffalo District, Navigation Support Section.

Table 5 presents the costs for dredging Lorain Harbor in the recent past. Costs have averaged \$736,000 per dredging event for the five dredging events in the 1992-2000 interval.

TABLE 5 CHANNEL MAINTENANCE COST HISTORY									
Reach or Segment	Construction/ Acquisition		Dredging Cost ¹						
	Year	Cost		1992	1995	1996	1998	2000	Average ²
Entire Harbor			Dredging	\$578,300	\$1,060,300	\$902,800	\$779,000	\$361,085	\$736,300

1. All dredging costs are in current dollars as of the year expended.
2. Average reflects costs per dredging event.

Table 6 presents the future dredging schedule with the volume of material. Approximately, 50,000 cubic yards is to be removed in 2003 and 150,000 cubic yards is to be removed in 2005, 2007, 2009 and 2011. This projection of dredging volumes presumes continuation of present conditions - with continued production of hot metal at the RTI steel mill and continued reception of 1.3 million tons of iron ore per year at the RTI ore docks.

TABLE 6 ANTICIPATED DREDGING (1)												
Reach or Segment	Programmed Dredging (CY-000's) (consistent with 10-year O & M maintenance plan)											Disposal Sites to be Used
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average	
Entire Harbor	50	0	150	0	150	0	150	0	150	0	130	Lorain CDF

(1) Projections assume continued receipt of 1.3 million tons of iron ore per year at RTI ore docks.

Table 7 presents future dredging costs. Dredging is projected to remove on average 130,000 cubic yards per dredging event with dredging every other year for a 10 year interval: 2003-2012. This projection of dredging costs presumes continuation of present conditions - with continued production of hot metal at the RTI steel mill and continued reception of 1.3 million tons of iron ore per year at the RTI ore docks. The average total cost per dredging event, including the economic evaluation costs, is projected to be \$745,000.

**TABLE 7
CHANNEL MAINTENANCE COST PROJECTIONS (2)**

Programmed Dredging Cost (\$000's per year, consistent with 10-year project O&M maintenance schedule)											
	2003	2004	2005	2006	2007	20008	2009	2010	2011	2012	Average. ¹
Dredging	\$283	0	\$850	0	\$850	0	\$850	0	\$850	0	\$737
Economic Evaluation	0	0	\$0	\$20	\$0	0	\$0	20	\$0	0	\$8
Total:	\$283	0	\$850	\$20	\$850	0	\$850	\$20	\$850	0	\$745

1. Dredging cost per dredging event, based on removing the cubic yards provided in Table 6.
2. Projections assume continued reception of 1.3 million tons of iron ore per year at RTI ore docks.

5. DREDGED MATERIAL DISPOSAL SITE CAPACITY AND USAGE

Open-Lake Disposal Site

The designated Lorain Harbor open-lake discharge site (960 acres in area) is located 3.5 miles north 10⁰ west from the west breakwater light. Since 1979, all dredged material from the harbor has been classified as unsuitable for open-lake discharge and has been discharged into the CDF at Lorain Harbor. However, recent sediment test results indicate that the material from the Outer Harbor now meet federal water quality standards, making them eligible for open lake disposal. This finding will require concurrence by the Ohio Environmental Protection Agency before open lake disposal of these sediments could occur. Sediment samples in the Inner Harbor, on the other hand, still do not meet water quality standards and will still require confinement.

Nearshore Disposal Sites

Due its grain size composition, dredged material from Lorain Harbor has been determined to be not suitable for nearshore discharge.

Confined Disposal Facility

The CDF for Lorain Harbor is located to the northeast of the outer harbor with the east breakwater shorearm serving as the southern boundary. The CDF covers 58 acres and has an estimated capacity of 1,850,000 cubic yards (Table 8).

The CDF is currently at 92 percent capacity. It is estimated that it can accommodate one more dredging event (FY03). The District plans to construct an interior berm in early FY05, well in advance of the planned FY05 dredging. This berm will increase the capacity of the dike to accept dredged material for another 2-3 additional dredging events (FY).

TABLE 8 DISPOSAL SITE DATA							
Disposal Site(s) (Name or Identifier)	Site Type	Disposal Site Capacity		Beneficial Uses (CY/Year)		Other Users	Disposal Site Sponsor (Y/N)
		Original(CY)	Percent Filled	Existing	Anticipated		
CDF	Confined Disposal	1,850,000	92%	None	None	N/A	Y

In recent years, since 1992, all dredged material has been deposited in the CDF (Table 9).

TABLE 9 PLACEMENT HISTORY						
Disposal Site(s)	Placement History (CY per Year)					
	1992	1995	1996	1998	2000	Average ¹
TOTAL:	172,756	179,539	152,425	165,000	62,000	146,344

1. Average equals average per dredging event.

Hydraulic dredges are generally used to dredge the navigation channels. Dredged material is deposited into the CDF.

6. ENVIRONMENTAL COMPLIANCE

National Environmental Policy Act (NEPA) documents which evaluate existing dredging and discharge activities for Lorain Harbor are listed in Table 10. The Buffalo District will remain in compliance with applicable environmental laws and regulations for dredging and dredged material management at Lorain Harbor.

The major problem relating to dredging at the harbor is that the CDF is reaching capacity.

Required documents for future activities would depend on the dredging and discharge methods selected, expansion of dredging limits, updated information on sediment contamination levels, changes to or expansion of the CDF or significant changes in existing environmental conditions. The Buffalo District normally conducts sediment analyses every five years. The EIS for harbor operations and maintenance activities is updated via an environmental assessment or Supplement to the EIS when these activities substantially change

or significant new information on the environmental effects of these activities becomes available.

Future environmental compliance requirements could include NEPA documentation, Section 404(b)(1) evaluation, Section 401 State Water Quality Certification, and Ohio Coastal Management Program Federal Consistency Determination.

TABLE 10 PROJECT COMPLIANCE				
Harbor Reach & Disposal Site(s)	Document	Date	Expiration Date	Scheduled Update
Confined Dredge Spoil Disposal Facility	Summary of Environmental Considerations	June 1973	--	--
Lorain Harbor Operations and Maintenance	FEIS	October 1974	--	-
Diked Disposal Facility Site No. 7	Final Environmental Impact Statement	March 1975	--	-
Diked Disposal Facility Site No. 7	Cultural Resources Inventory	September 1975	--	-
Lorain Harbor CDF Disposal	Section 404(b)(1) Evaluation	January 1981	--	-
Lorain Harbor Navigation Study	Cultural Resources Reconnaissance	April 1984	-	-
Lorain Harbor Navigation Study	Cultural Resources Phase I/II Survey	January 1989	--	--
Relocation of Dredge Pump-Out Pipeline	EA/FONSI and Section 404(b)(1)	September 1991	--	--
Lorain Harbor Maintenance Dredging and Disposal	Section 401 Water Quality Certification	22 February 1996	22 February 1997	-

7. CONCLUSIONS

The Lorain CDF is rapidly approaching capacity. A planned interior berm will extend the life of the dike for an additional 2-3 dredging events. During this timeframe, a plan needs to be developed to address the management of dredged materials to include an in-depth review of all beneficial uses.

TABLE 11 CONCLUSIONS	
The ability to maintain this project for the next 20 years is limited by:	
Disposal Site Capacity	Y
Economic Viability	N
Environmental Compliance	N

8. RECOMMENDATION

Since this assessment has identified significant problems to the continued maintenance of Lorain Harbor, it is recommended that a Dredge Material Management Plan (DMMP) be initiated using the attached scope of work. The estimated cost of the DMMP is \$1.2M.

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JEFFREY M. HALL
LTC, EN
Commanding