

APPENDIX D
SEDIMENT ANALYSIS



REPORT ON THE DEGREE OF POLLUTION OF
BOTTOM SEDIMENTS IN THE FOX RIVER AND GREEN BAY
July 9, 1969

May, 1970

Federal Water Quality Administration
Great Lakes Region
Lake Michigan Basin Office



In accordance with an agreement between the Federal Water Quality Administration and the United States Army Corps of Engineers that the Federal Water Quality Administration would determine the degree of pollution in bottom sediments in harbors to be dredged by the Corps of Engineers, personnel of the Lake Michigan Basin Office sampled the Fox River and Green Bay navigation channel on July 9, 1969. The points sampled represent the entire Federal channel maintenance project. Color photographs were made of all samples observed. These photographs are on file at the Lake Michigan Basin Office.

Members of the sampling crew were:

Robert J. Bowden - Sanitary Engineer
William J. Degutis - Aquatic Sampler
Phillip Morris - " "
Daniel Chorowicki - Boat Operator

CONCLUSIONS

1. Sediments in the channel north of station GBAY 69-9 (Channel marker B 15) are moderately polluted sands.
2. Sediments in the channel between station GBAY 69-9 and the mouth of the Fox River are heavily polluted by the sewage treatment plant discharge.
3. Sediments in the Fox River from its mouth to the turning basin in DePere are heavily polluted by industrial wastes.
4. None of the sediments in this channel are suitable for disposal in the open waters of Green Bay or Lake Michigan.

DISCUSSION OF RESULTS

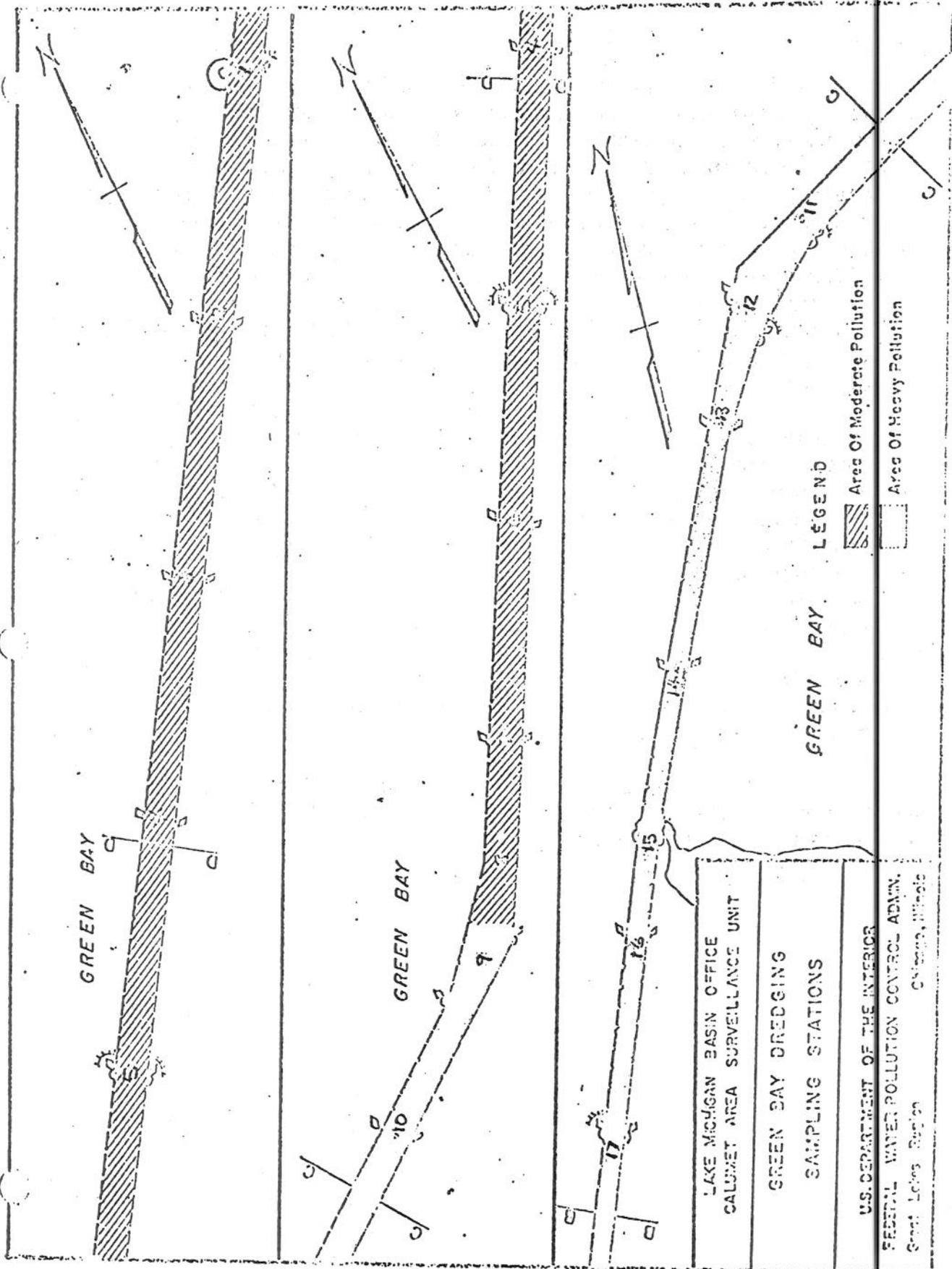
Sediments from station GBAY 69-1 thru GBAY 69-5 (See page 5) consisted of a reddish or dark brown sand. They had a sewage odor with snails and sludgeworms (See Table I). The results of chemical analysis of station GBAY 69-1 (See Table II) reveal that these sands have been effected by pollution. High concentrations of volatile solids and phosphorus indicate pollution from organic or domestic wastes. Most of the other parameters were moderately high with the exception of hexane solubles which was low. The sands in the area do support benthic life but are moderately polluted by organic material.

Stations GBAY 69-6 to GBAY 69-8 appear to be in a scour area. The hard red clay found is typical of the natural underlying strata of Green Bay.

A dark brown silt was found at station GBAY 69-9. Chemical analysis of this sample found high concentration of all parameters. The sediment in the area is heavily polluted. This silt appears to be typical of heavily polluted material in the river. All of the remaining samples that were analyzed consisted of silt and were heavily polluted. (Stations GBAY 69-18, GBAY 69-25 and GBAY 69-36, see map page 6).

With the exception of stations GBAY 69-12 and GBAY 69-17 which appear to be scoured all of the stations between GBAY 69-9 and GBAY 69-21 are effected by the Green Bay sewage treatment plant which discharges near the mouth of the river. Stations above GBAY 69-21 appear to be more affected by industrial wastes with chemical musty and earthy odors. Wood pulp was found at stations GBAY 69-38 and GBAY 69-39.

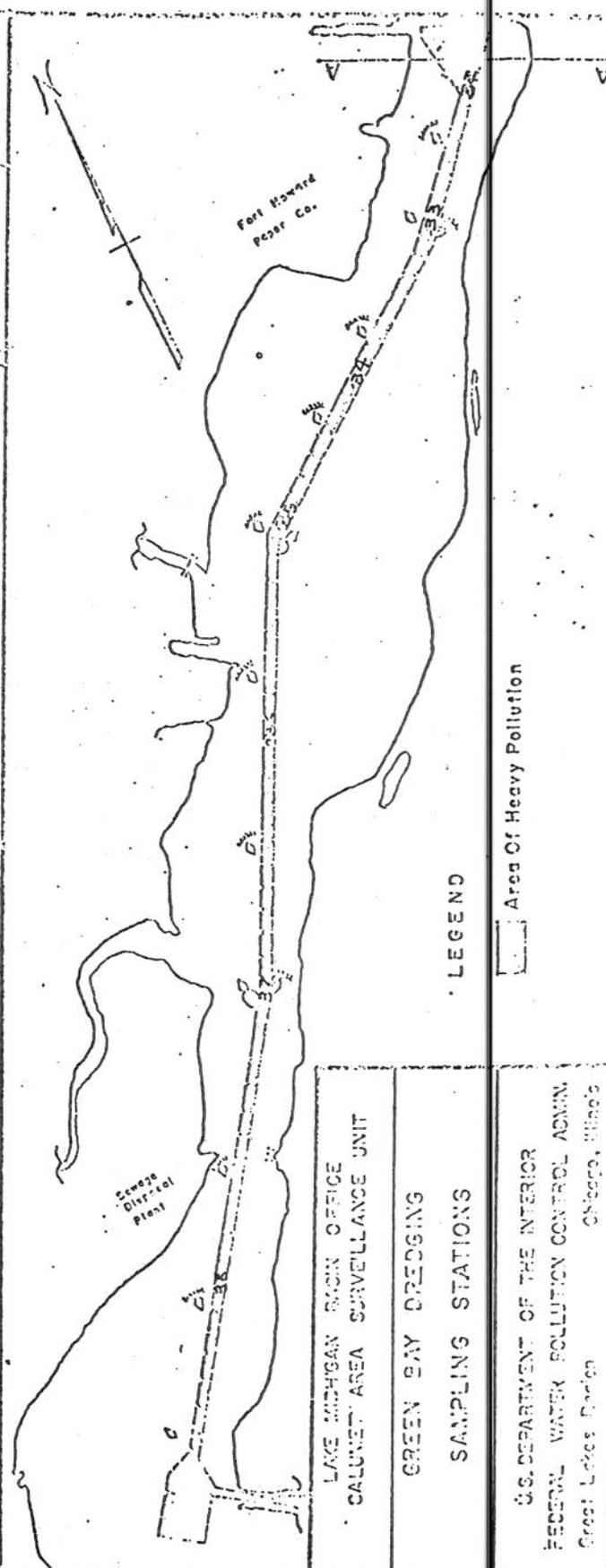
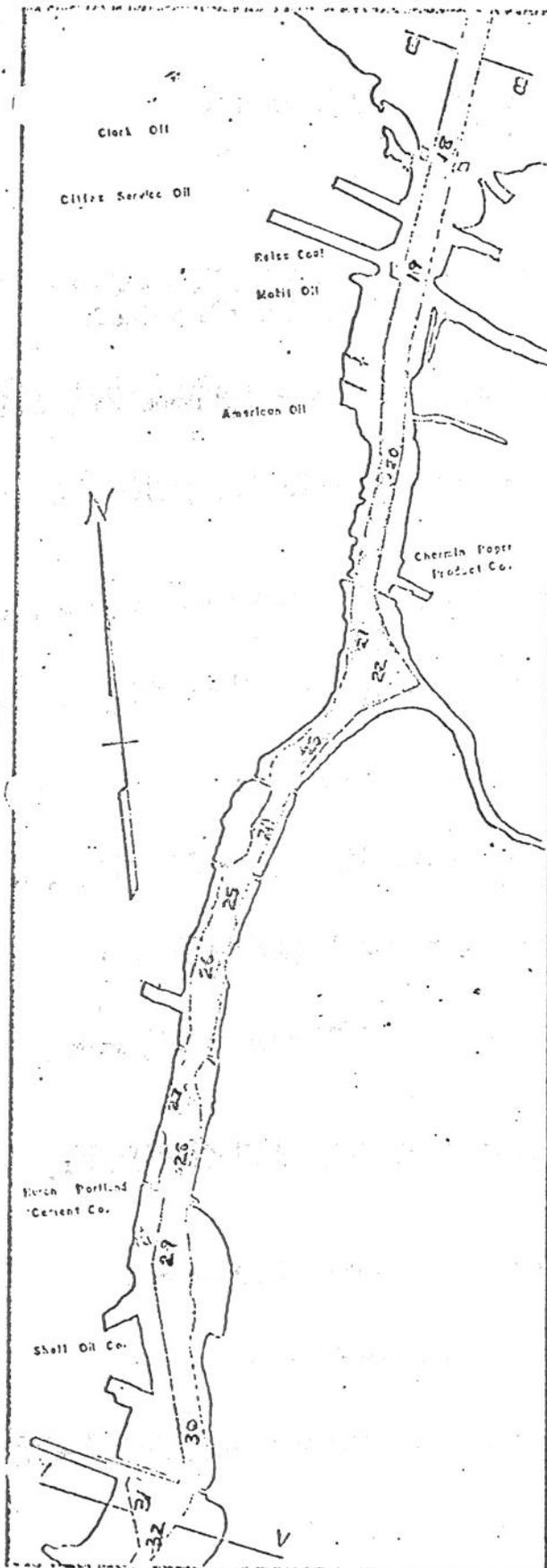
A previous study was made in the area on May 21, 1968. Samples were collected in the area between GBAY 69-33 and GBAY 69-36. All of those samples indicated heavy pollution.



LAKE MICHIGAN BASIN OFFICE
CALUMET AREA SURVEILLANCE UNIT

GREEN BAY DREDGING
SAMPLING STATIONS

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMIN.
Great Lakes Region Chicago, Illinois



LEGEND

□ Area Of Heavy Pollution

LAKE MICHIGAN BASIN OFFICE
 CALUMET AREA SURVEILLANCE UNIT
 GREEN BAY DREDGING
 SAMPLING STATIONS

U.S. DEPARTMENT OF THE INTERIOR
 FEDERAL WATER POLLUTION CONTROL ADMIN.
 Great Lakes Region Chicago, Illinois

TABLE 1

FIELD OBSERVATIONS OF BOTTOM SEDIMENTS
FOX RIVER-CROWN BAY
July 9, 1969

Sta GBAY 69-1	Depth 29 Feet Very fine dark brown sand with red clay and some gravel, sewage odor, large snail shells, sample retained.
Sta GBAY 69-2	Depth 28 feet Fine reddish brown sand, sewage odor, sludgeworms, snail shells.
Sta GBAY 69-3	Depth 27 feet Very fine reddish brown sand, sewage odor, bloodworm, few sludgeworms.
Sta GBAY 69-4	Depth 29 feet Very fine grey-brown sand, sewage odor, few sludgeworms.
Sta GBAY 69-5	Depth 28 feet Brown medium sand, slight sewage odor, few sludgeworms.
Sta GBAY 69-6	Depth 28 feet Hard red clay, no odor, no benthic life.
Sta GBAY 69-7	Depth 28 feet Hard red clay, no odor, no benthic life, no photograph.
Sta GBAY 69-8	Depth 28 feet Gravel and coarse sand, no odor, small snailshell.
Sta GBAY 69-9	Depth 28 feet Dark brown fine silty sand, sewage odor, sludgeworms, sample retained.
Sta GBAY 69-10	Depth 27.5 feet Hard red clay and dark brown silty sand, little odor, no benthic life.
Sta GBAY 69-11	Depth 30 feet Grey-brown sandy silt, sewage odor, sludgeworms.
Sta GBAY 69-12	Depth 32 feet Stiff red clay, no odor, no benthic life.
Sta GBAY 69-13	Depth 32 feet Hard red clay, grey sandy silt, strong sewage odor, sludgeworms.
Sta GBAY 69-14	Depth 31.5 feet Brown silt, sewage odor, sludgeworms.

TABLE 1 (cont.)

Sta GBAY 69-15	Depth 32 feet Dark brown silt, sewage odor, sludgeworms, detritus.
Sta GBAY 69-16	Depth 31 feet Grey silt, strong sewage odor, sludgeworms.
Sta GBAY 69-17	Depth 31 feet Red clay, no odor, no benthic life, no photograph.
Sta GBAY 69-18	Depth 30 feet Dark grey silt, sewage odor, no benthic life, sample retained.
Sta GBAY 69-19	Depth 28 feet Dark brown silt, strong sewage odor, no benthic life.
Sta GBAY 69-20	Depth 28.5 feet Grey silt, strong sewage odor, sludgeworms.
Sta GBAY 69-21	Depth 33 feet Grey-brown silt, sewage odor, large clam shells, fingernail clams, snails, sludgeworms, coal.
Sta GBAY 69-22	Depth 27 feet Grey-brown silt, strong musty odor, sludgeworms.
Sta GBAY 69-23	Depth 31.5 feet Dark brown fine sand, black gravel, earthy odor, large clamshells.
Sta GBAY 69-24	Depth 30 feet Stiff grey clay, coal, little odor, large clamshell, fingernail clamshell.
Sta GBAY 69-25	Depth 29 feet Grey silt, sewage odor, sludgeworms, sample retained.
Sta GBAY 69-26	Depth 32 feet Dark grey silt, earthy odor, few sludgeworms.
Sta GBAY 69-27	Depth 27 feet Light grey stiff clay, little odor, no benthic life.
Sta GBAY 69-28	Depth 32 feet Dark grey silt, little odor, few sludgeworms, detritus.
Sta GBAY 69-29	Depth 26 feet Dark grey-brown silt, earthy odor, sludgeworms.
Sta GBAY 69-30	Depth 30 feet Dark brown silt, earthy odor, sludgeworms.
Sta GBAY 69-31	Depth 20 feet Grey-brown silt, chemical odor, sludgeworms.

TABLE 1 (cont.)

Sta GBAY 69-32	Depth 24 feet Grey-brown silt, chemical odor, few sludgeworms, oil.
Sta GBAY 69-33	Depth 22 feet Dark brown silt, earthy odor, sludgeworms.
Sta GBAY 69-34	Depth 20 feet Dark brown silt, earthy odor, no benthic life, no photograph.
Sta GBAY 69-35	Depth 17 feet Dark brown silt, chemical odor, no benthic life.
Sta GBAY 69-36	Depth 22 feet Dark brown silt, chemical odor, no benthic life, sample retained.

TABLE II

RESULTS OF ANALYSIS OF BOTTOM SEDIMENTS
COLLECTED IN THE FOX RIVER AND GREEN BAY
July 9, 1969

	GBAY-69-1	GBAY 69-9	GBAY 69-18	GBAY 69-25	GBAY 69-36
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
% Total Solids	58.7	26.3	32.7	20.4	18.4
% Volatile Solids	9.8	15.3	12.4	20.2	22.3
Specific Gravity	1.5320	1.1676	1.2203	1.1180	1.1074
COD	44,985	170,625	195,145	136,720	279,260
Total Phosphorus	545	1,245	2,020	4,355	4,830
Ammonia Nitrogen	65	215	365	775	925
Organic Nitrogen	1,635	6,640	5,350	10,440	11,510
Oil and Grease*	995	5,910	8,215	11,115	10,200
Total Iron	7,020	14,450	13,335	15,065	15,995
Zinc	37	148	190	314	283
Lead	66	141	125	74	82

* Hexane Solubles

All results reported on a DRY basis.



APPENDIX E

LETTERS OF COMMENT

ON DRAFT EIS

**Advisory Council
On Historic Preservation**

1522 K Street N.W. Suite 430
Washington D.C. 20005

May 13, 1975

Colonel James M. Miller
District Engineer
Chicago District, Corps of Engineers
U. S. Department of the Army
219 South Dearborn Street
Chicago, Illinois 60604

Dear Colonel Miller:

This is in response to your request of April 2, 1975, for comments on the environmental statement for Maintenance Dredging and Contained Disposal of Dredge Materials at Green Bay Harbor, Wisconsin.

Pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, the Advisory Council on Historic Preservation has determined that your draft environmental statement is inadequate regarding our area of expertise, as it does not contain sufficient information to enable the Council to comment substantively. Please furnish additional data indicating:

Compliance with Executive Order 11593 "Protection and Enhancement of the Cultural Environment" of May 13, 1971.

1. In compliance with Section 1(3) of the Executive Order and §800.4(a) of the Advisory Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800([copy enclosed], the Corps of Engineers should identify all historical and archeological properties located within the area of the undertaking's potential environmental impact that are eligible for inclusion in the National Register of Historic Places. In the case of archeological resources, it may be necessary for the Corps to undertake an archeological survey of the area to adequately comply with the provisions of this section.
2. In the event eligible properties are identified in the area of the undertaking's potential environmental impact, the Corps should comply with the remaining provisions of §800.4. It should be emphasized that for the purposes of the Council's procedures, "a Federal, federally assisted, or federally licensed undertaking shall be considered to have an effect

E-1a

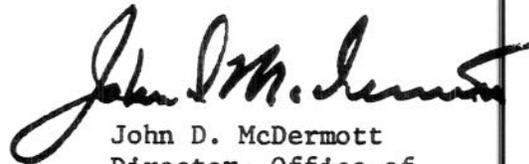
on property eligible for inclusion in the National Register when any condition of the undertaking causes or may cause any change, beneficial or adverse, in the quality of the historical, architectural, archeological or cultural character that qualified the property under the National Register criteria" (36 C.F.R. Partt 800.8).

1 To ensure a comprehensive review of historical, cultural, archeological, and architectural resources, the Advisory Council suggests that the final environmental statement contain a copy of the comments of the Wisconsin State Historic Preservation Officer concerning the effects of the undertaking upon these resources.

2 Finally, it should be noted that the document referred to on page 19 is the National Register of Historic Places.

Should you have any questions, or require additional assistance, please contact Jordan Tannenbaum of the Council staff at 202/254-3380.

Sincerely yours,



John D. McDermott
Director, Office of
Review and Compliance

Enclosure



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604



Colonel James Miller
District Engineer
U. S. Army Engineer District, Chicago
219 South Dearborn Street
Chicago, Illinois 60604

MAY 28 1975

Dear Colonel Miller:

We have completed our review of the Draft Environmental Impact Statement (EIS) for Maintenance Dredging and Contained Disposal of Dredge Materials at Green Bay Harbor, Brown County, Wisconsin as requested by your letter dated April 2, 1975. Our major environmental concerns relate to filling of wetlands and the expected inadequacy of the disposal site to treat supernatant waters before their release to bay waters. Additional information is necessary in order for us to evaluate the impact of this project upon water quality during maintenance activities.

In our February 26, 1974 letter to you, we indicated that we had no objections at that time to the use of the Green Bay diked disposal site west of Fox River; however, we further stated that this was a preliminary determination and would be contingent upon our review of the Draft EIS and a site inspection by our office. Our December 19, 1974 letter to your office expressed a desire to meet with your office in order to inspect the subject diked disposal site. Unfortunately, we did not have an opportunity to inspect this site with your staff. While we met with your staff on January 27, 1975 at the Fish and Wildlife Service's (FWS) Green Bay Area Office at FWS's invitation, the subject of the meeting was a proposed confined disposal site along an island chain in Green Bay; it did not relate specifically to the current Green Bay diked disposal site.

After contacting your staff on May 15, 1975, we discovered that dredging and disposal operations at Green Bay had begun on April 29, 1975 and will continue through May 30, 1975. We received the subject EIS on April 7, 1975 and were requested to comment by May 30, 1975. The EIS was not filed with the Council on Environmental Quality (CEQ) until April 18, 1975; CEQ's due date for comments on the EIS is June 3, 1975. Although your regulations allow for suspension of CEQ's mandatory 90-day waiting period subsequent to the filing of a Draft EIS on operations and maintenance activities, the preparation and review period for the EIS should have been better coordinated with maintenance schedules so as to allow consideration of comments and concerns on the project and any constructive mitigative measures before adverse environmental effects of the project could occur. We do not believe the Draft EIS demonstrated an imminent need for dredging. Therefore, we fail to understand why dredging was commenced before comments were due on the

Draft EIS and before the Final EIS was filed with CEQ and the normal waiting period for administrative action had expired. We understand the problems faced with equipment scheduling and the responsibility to maintain navigation, but we believe that environmental values would be better served by compliance with the procedural aspects of the EIS process.

We note that alternative disposal sites have been disregarded primarily because of the declaration of intent by the City of Green Bay to fill the remaining wetlands of the 400-acre dike site regardless of the Federal actions. While it may not be the policy of local governments to preserve and protect valuable wetlands, it is the policy and responsibility of the Federal Government to do so. To justify the current destruction of Atkinson's Marsh from Federal disposal practices because the City plans on filling it anyway does not conform with our wetland policies. We do not believe satisfactory consideration was given to alternative disposal sites to avoid this remaining wetland. We note that the EIS and the FWS indicated that this remaining wetland was made more valuable because of partial filling. It should be realized, however, that the potential of this area to have become more productive in the future existed regardless of the filling practices. While filling may have to some degree accelerated that productivity process, secondary wetland encroachment and current Federal disposal practices are destroying the marsh's remaining potential for productivity. The extent of this current damage should be detailed in the Final EIS.

According to Exhibit B-6, the Brown County Regional Planning Commission in 1967 planned that the bay shore area west of the Fox River would be reserved for conservancy purposes. An explanation should be presented on the apparent conflict between this proposed land use plan and the City of Green Bay's intended industrial usage of the shore from Fox River west to a point near Duck Creek and the intersection of West Tower Drive and Military Road.

Since dredging and disposing practices have begun and it was stated in the EIS that the overflow effluent from the diked disposal site would be monitored during dredging and disposal, we request that samples be analyzed and this data provided to us as early as possible. A summary of this data should be presented in the Final EIS. The expected inadequacies of the present site with regard to detention time and effluent quality that were indicated in the EIS should be discussed in more detail in the Final EIS. If the effluent discharge fails to meet applicable water quality standards and water quality in the bay is degraded, dredging and disposal operations should cease until appropriate design modifications are made at the disposal site and a suitable quality of effluent is obtained.

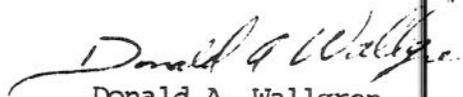
Future dredging and disposal in this harbor will constitute a Section 404 action (PL 92-500). Section 404(b) guidelines are currently proposed and were recently published in the Federal Register. In the future, Section 404(b)

guidelines will have to be considered in dredge and fill operations in this harbor.

With regard to the above discussion and in accordance with EPA procedures, we have classified the project as ER (environmental reservations) and have rated the Draft EIS as Category 2 (additional information is required to assess the total project impact). While it is not our intention to delay current maintenance activities or next year's maintenance activities, we believe a better effort by the Corps of Engineers, City of Green Bay and Brown County should be made in considering more environmentally compatible sites for polluted dredge material, protecting the remaining marsh in the diked area for conservancy purposes and avoiding further encroachment in Atkinson's Marsh and Duck Creek estuary.

If you or your staff have any questions concerning our comments, please contact me or Mr. Gary A. Williams at 312-353-5756.

Sincerely yours,



Donald A. Wallgren
Chief,
Federal Activities Branch



DEPARTMENT OF THE ARMY
CHICAGO DISTRICT, CORPS OF ENGINEERS
219 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

NCCOD-L

6 August 1975

Mr. Donald A. Wallgren
Chief, Federal Activities Branch
U. S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

Dear Mr. Wallgren:

This is in reply to your letter commenting on our draft Environmental Impact Statement (EIS) for maintenance dredging and disposal at Green Bay Harbor, Wisconsin. A few points raised in your letter should be clarified.

A review of our files, which includes your 26 February 1974 letter, did not disclose any request for an inspection of the Bayport site. We would have been happy to meet with you and inspect the site at any time. Your letter of 19 December 1974 provided comments on future disposal sites then under consideration and requested a site inspection of them, but made no reference to the Bayport site.

We recognize that you did not have sufficient time to comment on the draft EIS prior to our dredging and disposal operations this spring. We are still catching up on all those EIS's for Federal navigation projects which were in operation at the time NEPA became law. As a matter of Corps policy, this backlog will be eliminated by 1 January 1976. We did advise you, other interested Federal and State agencies, private groups and individuals of our plans through issuance of a public notice dated 17 January 1975 in which we outlined our plans for dredging and disposal in the Bayport site, including our intent to dredge during May 1975. To eliminate any recurrence of this kind of problem in the future, we will advise you in advance by separate and specific letter of our intention to proceed with dredging activities where a final EIS has not been issued.

Our reasons for continuing to use this site were based primarily on the fact that the dredging was urgently needed and no other alternative sites were immediately available. Our examination soundings indicated that dredging was necessary in order to maintain an adequate channel for the deep draft vessels using the harbor. Shoaling along the channel limits was reducing the channel width available for these vessels. Also, a shoal area extending the entire width of the channel reduced the project depth by two to three feet at the entrance to the Fox River. Based on these

6 August 1975

Mr. Donald A. Wallgren
Chief, Federal Activities Branch, USEPA

considerations, it was decided to schedule the dredging in May. It would have been difficult to reschedule the dredging for a future time period because the plant is committed to other projects in advance and would not be available until next dredging season at the earliest. Also, preparation of the disposal area, including pipeline layout, is required so that it can be ready when dredging begins. While we are currently in the process of identifying a disposal area for future dredging operations, it would not have been possible to pursue alternative sites because of the long lead time required for construction of a new containment structure. The effects of our filling action on the site are considered in the EIS.

The planning map denoted as Exhibit B-6 in the draft EIS is not a Green Bay-Brown County Regional Planning Commission proposal. This map, which indicates that a large part of the present Bayport site should be for conservancy purposes, was actually a proposal by the Department of Interior in 1968, as stated in the text in paragraph 2.19 on page 11.

The effluent from the disposal area will be monitored. A water quality monitoring program could not be implemented in time for this past dredging operation due to the urgency of the work. In developing a program for future dredging at Green Bay Harbor and other projects where dredged material must be contained, various parameters, of course, need to be analyzed. The following is a list of parameters that are proposed to be analyzed:

- | | |
|---------------------|---------------------------|
| a. Total Solids | k. Phenols |
| b. C.O.D. | l. Total Dissolved Solids |
| c. Oil and Grease | m. Barium |
| d. Dissolved Oxygen | n. Hexavalent Chrome |
| e. pH | o. Lead |
| f. Turbidity | p. Total Mercury |
| g. Threshold Odor | q. Chlorides |
| h. Ammonia Nitrogen | r. Fluorides |
| i. Cyanide | s. Sulfates |
| j. Dissolved Iron | t. Phosphates |

Any comments you have to offer on the above list or on a water quality monitoring program in general would be appreciated.

The guidelines outlined in the rules proposed by the EPA pursuant to Section 404(b) of Public Law 92-500 will be adhered to when they are finalized.

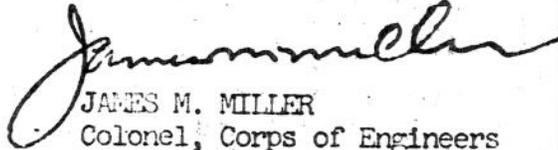
NCCOD-L

6 August 1975

Mr. Donald A. Milligan
Chief, Federal Activities Branch, USEPA

Thank you for your review and comment on this project.

Sincerely yours,



JAMES M. MILLER
Colonel, Corps of Engineers
District Engineer



United States Department of the Interior

OFFICE OF THE SECRETARY

NORTH CENTRAL REGION
230 S. DEARBORN STREET, 32nd FLOOR
CHICAGO, ILLINOIS 60604

June 3, 1975

(ER-75/346)

AIR MAIL - SPECIAL DELIVERY

Colonel James M. Miller
District Engineer
U. S. Army Engineer District
Chicago
219 South Dearborn Street
Chicago, Illinois 60604

Dear Colonel Miller:

The Department of the Interior has reviewed the Draft Environmental Statement for the Maintenance Dredging and Contained Disposal of Dredge Materials at Green Bay Harbor, Brown County, Wisconsin as requested in your transmittal letter of April 2, 1975, to our Assistant Secretary, Program Development and Budget. Our comments which are of both a general and specific nature relate to areas of our jurisdiction and expertise and have been prepared in accordance with the National Environmental Policy Act of 1969.

GENERAL COMMENTS:

The discussion of alternatives concludes that "no immediate alternate disposal sites are available at Green Bay" (p. 21, par. 6.03). However, it was previously stated that the Grassy Island Disposal Area was diked but was never used for dredge disposal (p. 3, par. 1). This area is delineated on the map on page B-8, surrounded by dikes 5 feet high, situated alongside the navigation channel near Grassy Island. The alternative of using that site does not appear to have been discussed, as far as can be determined. In addition, the alternative of confining future spoil deposition to the 350 acres of the proposed disposal site that have already been filled merits further consideration. Since the anticipated volume of spoils is about 800,000 cubic yards, that volume would cover a 350-acre area to a depth of only about 22 inches.

From the standpoint of fish and wildlife resources, the main body of the draft statement and the appendicized letters from the U. S. Fish and Wildlife Service document sufficiently that the dredge spoiling in the wetlands of the "Green Bay Diked Disposal Area" has resulted



in extensive and irreparable biological losses. Since the destruction of the remaining wetland habitat appears inevitable, without any attempt to avert or compensate for anticipated natural resources losses, Section 6, "Alternatives to the Proposed Action" is superfluous. Although this section possibly complies with the National Environmental Policy Act of 1969 (Section 102 (2) (D)), failure to circulate an Environmental Impact Statement until filling of the marsh has nearly been completed is not consistent with the intent of the Act. The selected plan for future dredge spoil disposal in this area is unacceptable to the Fish and Wildlife Service.

In several places it has been implied that the 30 acres of wetland within the disposal site has already been partially filled with spoils. For example, it is stated that this area "has been filled somewhat by runoff from the rest of the site" (p. 5, par. 1.15). However, it should be emphasized that the rest of the disposal site was filled largely with sand and clay dredged in a channel-deepening project, and that this material has been described as "relatively less polluted" than spoils now proposed for disposal there. The present proposal should not be viewed as simply a continuation of past actions, as the spoils would now evidently be dredged largely from an area described as a "grossly polluted area with black foul-smelling sediments" (p. 8, par. 2.06).

In general, the possible impacts of the proposed action on ground-water resources seem to be properly anticipated, although a few additional details would be helpful. Sediments underlying the present disposal site apparently are fairly impermeable (p. 8, 10) and disposal of fly ash as well as dredged materials has been in progress for some years. Use of additional areas adjacent to the disposal site will further spread pollutants, but damaging migration into significant aquifers seems unlikely, in view of reported thicknesses of clay and clayey materials underlying the site (p. 8). Slow movement, low permeability, high porosity, ion exchange, and normal organic reactions should prevent excessive damage; however, the statement should address these factors at least in the summary fashion. Even a gross comparison of vertical versus lateral permeability and a statement concerning underlying aquifers would be helpful in the evaluation of impacts on ground-water.

SPECIFIC COMMENTS:

SECTION 2

ENVIRONMENTAL SETTING WITHOUT THE PROJECT

HUMAN ACTIVITIES OF STUDY AREA

Land Use

After a description of the location of the proposed disposal site in paragraph 2.31, it is stated that "the remainder of the west bay shore south of Long Tail Point is mostly marshland which is proposed as a conservancy area (Appendix B-6)" (p. 14-15, par. 2.31). However, the map on page B-6 shows that the proposed conservancy area coincides with most of the proposed disposal site as delineated on pages B-5 and B-8. The area identified on the map of proposed land-use (p. B-6) as having been "zoned for general industry" apparently comprises only a narrow strip of land along Tower Drive within the proposed disposal area. It is not entirely clear what agency or agencies are the authorities for the proposed or zoned land uses shown on the Planning Map (p. B-6). The authority identified on the map is the Green Bay-Brown County Regional Planning Commission, and the date is shown as November 1967. However, no revision of the land-use plan during the intervening period of nearly ten years is mentioned in the draft statement. The plan depicted on page B-6 now appears to have been rendered obsolete by the subsequent filling of at least 350 acres of marshland within the area shown as "proposed conservancy," and by the fact that officials of the City of Green Bay now evidently consider the area zoned for general industry to include a considerable acreage within the "proposed conservancy." We suggest this discrepancy be clarified.

SECTION 4

PROBABLE ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT
 HISTORICAL OR ARCHEOLOGICAL IMPACTS

Paragraph 4.14 indicates that "The State Historical Society has been contacted and the Federal Register of Historic Places has been consulted to determine the possible locations of affected sites." However, the final statement should reflect that the State Historic Preservation Officer, Mr. James Morton Smith, was consulted, and should contain a copy of his written response.

The statement should discuss the action taken or proposed to professionally determine the presence or absence of archeological resources in the project area and the effect of the proposal upon any such resources present. The statement should further reflect procedures to be followed should previously unknown archeological resources be encountered during project development.

Sincerely yours,

Madonna F. McGrath
 Madonna F. McGrath
 Acting Special Assistant
 to the Secretary



United States Department of the Interior

OFFICE OF THE SECRETARY
NORTH CENTRAL REGION
230 S. DEARBORN STREET, 32nd FLOOR
CHICAGO, ILLINOIS 60604

ER 75/346

August 29, 1975

Colonel James M. Miller
District Engineer
U. S. Army Engineer District
Chicago
219 South Dearborn Street
Chicago, Illinois 60604

Dear Colonel Miller:

In response to a telephone inquiry from your Environmental Resources Branch, we have found that there is an incorrect statement in our June 3, 1975 letter providing review comments on the draft environmental impact statement for maintenance dredging and contained disposal of dredged materials at Green Bay Harbor, Brown County, Wisconsin. The error occurs near the top of page 2, where we state that "The selected plan for future dredge spoil disposal in this area is unacceptable to the Fish and Wildlife Service".

Although there will be a regrettable loss of wetland habitat, mutually agreeable resolution of the issue has occurred and is documented in Appendix A of the draft EIS.

Sincerely,

Madonna F. McGrath
Acting Special Assistant
to the Secretary





UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

June 10, 1975

Colonel James M. Miller
District Engineer - Chicago District
Corps of Engineers
U. S. Department of the Army
219 South Dearborn Street
Chicago, Illinois 60604

Dear Colonel Miller:

The draft environmental impact statement "Maintenance Dredging and Contained Disposal of Dredge Materials at Green Bay Harbor, Wisconsin," which accompanied your letter of April 2, 1975, has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

We see no serious environmental problems which would prohibit the continuation of maintenance dredging in Green Bay Harbor and the disposal of polluted spoil in an existing diked facility.

1 Considering the difficulties in obtaining additional land or water areas for disposal of polluted spoil, effort should be made to reduce the amount of spoil. A much more definite knowledge is needed of sediment sources and rates of supply. With this knowledge, measures could be taken to intercept the sediment before it enters the waterways. Careful exclusion of any lightly polluted spoil from disposal in a contained facility will require a smaller facility.

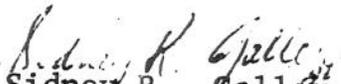
2 In addition, an experimental disposal of nutrient-rich spoil could be tested in nearby marshy areas with the aim of improving them. The city of Green Bay in a letter dated March 27, 1974 (Page A-2a) stated that prior to filling in the present disposal area, the only vegetation existing was marsh grass growing to a height of four to five feet with a few box elders near the bay shore. As to the wildlife, two flights of a single duck were observed under a half-day period. After partial filling with spoil rich in nutrients and organic

material, conditions in the marsh visibly improved with considerable amounts of vegetation and animal life of one type or another.

3 A water level gage is located on the Wisconsin Public Service Corporation Power Plant dock in the Fox River. Geodetic control survey monuments are located in the immediate vicinity of the proposed project area. If there is any planned activity which will disturb or destroy these monuments, the Department of Commerce, National Ocean Survey, of which the National Geodetic Survey is a part, requires not less than 90 days notification in advance of such activity in order to plan their relocation. This Department also recommends that funding for this project include the cost of any relocation required for these monuments. We request that this advance notification be given to: Director, National Geodetic Survey, Room 204A - WSC # 1, 6010 Executive Blvd., Rockville, Maryland 20952.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving two copies of the final statement.

Sincerely,


Sidney R. Galler

Deputy Assistant Secretary
for Environmental Affairs

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P. O. Box 4248, Madison, Wisconsin 53711

May 16, 1975

Colonel James M. Miller
Department of the Army
Corps of Engineers, Chicago District
219 South Dearborn Street
Chicago, Illinois 60604

Dear Colonel Miller:

The draft environmental statement for maintenance dredging and contained disposal of dredge materials at Green Bay Harbor, Wisconsin was referred to the Soil Conservation Service, Madison, Wisconsin on April 16, 1975 for review and comment. Our comments are as follows:

1. The statement should include some indication of the potential use of the disposal site after the project is completed. The final use of this site could have greater impact than the proposed action.
2. The disposal site may be subject to wind erosion. Provisions for revegetating the disposal site should be included.
3. According to the draft statement, 30 acres of type 3 wetlands will be destroyed. Will any new areas be created to replace this loss?
4. No Soil Conservation Service projects will be affected by the proposed action.

We appreciate the opportunity to review and comment on this proposal.

Sincerely,


Acting State Conservationist
Richard W. Akeley
State Conservationist

cc: K. Grant, SCS, Washington, D.C.
Council on Environmental Quality, Washington, D.C. - 5 copies
Office of Coord. of Evt. Quality Activities, Washington, D.C.
K. Myers, SCS, Lincoln, Nebraska
T. Marini, SCS, Green Bay, Wisconsin



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (G-WS/)
400 SEVENTH STREET SW.
WASHINGTON, D.C. 20590
PHONE: (202) 426-2262

30 MAY 1975

Colonel James M. Miller
District Engineer
Chicago District, Corps of Engineers
219 South Dearborn Street
Chicago, Illinois 60604

Dear Colonel Miller:

This is in response to your letter of 2 April 1975 addressed to the DOT Director, Office of Environmental Quality concerning a draft environmental impact statement for Green Bay Harbor Maintenance Dredging, Wisconsin.

The Department of Transportation has reviewed the material submitted. We have no comments to offer nor do we have any objection to this project.

The opportunity to review this draft statement is appreciated.

Sincerely,

W. E. Caldwell

W. E. CALDWELL
Captain, U.S. Coast Guard
Deputy Chief, Office of Marine
Environment and Planning
By direction of the Commandant



**DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD**

Address reply to:
COMMANDER (nep)
Ninth Coast Guard District
1240 East 9th St.
Cleveland, Ohio 44199
Phone: 216-522-3919

5922
11 April 1975

Department of the Army
Chicago District, Corps of Engineers
219 South Dearborn Street
Chicago, Illinois 60604

Re: Draft Environmental Statement,
Maintenance Dredging and Contained
Materials at Green Bay Harbor
Wisconsin

Dear Sir:

The referenced Draft Environmental Impact Statement has been reviewed
by this office and at this time we have no comments to offer.

Sincerely,

W. C. OCHMAN
Captain, U. S. Coast Guard
Chief, Marine Safety Division
By direction of the Commander,
Ninth Coast Guard District



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

L. P. Voigt
Secretary

June 18, 1975

BOX 450
MADISON, WISCONSIN 53701

IN REPLY REFER TO: 1600

Colonel James M. Miller, District Engineer
U.S. Army Corps of Engineers
219 South Dearborn Street
Chicago, Illinois 60604

Dear Colonel Miller:

Re: Draft Environmental Impact Statement
for Maintenance Dredging and Contained
Disposal of Dredge Material at Green Bay
Harbor, Brown County, Wisconsin

We understand that the Corps of Engineers has already commenced the dredging activity which is the subject of the draft environmental impact statement under review. Such an action is obviously contrary to the spirit and intent as well as the provisions of the National Environmental Policy Act. The impact statement becomes nothing more than a paper exercise which is being used to justify an action which the Corps has already undertaken. Under these circumstances, the time spent reviewing and commenting on this document is largely wasted. We submit the following comments with the hope and intention that the concerns and suggestions presented will be addressed in the final environmental impact statement and that they will be considered in all impact documents on any future Corps dredging activity in Green Bay Harbor. We also hope that all future impact documents will be prepared in full compliance with the National Environmental Policy Act.

Specific Comments

Page 3, paragraph 1.07 - If the Forster's terns are to be discouraged from nesting in the disposal area, where are they going to nest?

Page 6, paragraph 1.16 - We do not feel that the problem of the present facility becoming inadequate after a period of years has been completely addressed in this portion of the impact statement. It is simply stated that a modified design would be used which would meet State and Federal standards. The fact that this design is not discussed in any degree of detail does not allow for a proper assessment of the impacts of the project during its later stages of development.

A pair of 24-inch overflow pipes drain the disposal area. No mention is made of any filtering mechanism before discharge to Green Bay. Other dredging projects have provided a sand and gravel filtering system which provides some protection from the discharge of suspended pollutants to a water body. Is this not a possibility at Green Bay?

E-10a

THIS IS 100% RECYCLED PAPER

While it is not clearly stated in the impact statement that the Grassy Island disposal site is proposed to be used as a part of the project, its inclusion in appendix B as an alternate site indicates that this is a possibility. The conditions under which this site might be used should be clarified.

Page 12, paragraph 2.21 - There are two significant omissions in the discussion of the avian fauna of Atkinson Marsh. The first, which has been referred to, is the colony of nesting Forster's terns. This is one of the few nesting sites of this bird remaining in Wisconsin. The little gull (Larus minutus) has been observed nesting in Atkinson Marsh. The bird is an European straggler and has not been reported from anywhere else in Wisconsin.

Page 13, paragraph 2.25 - Appendix C-2 which is mentioned in this paragraph contains numerous mammal species which are not found in the immediate project area. The list should be revised to indicate which species inhabit the marsh in the spoil area.

Page 16, paragraph 4.01 - It is stated that the magnitude of the environmental impact associated with maintenance dredging is not known due to the fact that dredging at Green Bay has not been monitored. Monitoring of this and all other maintenance dredging activities should be undertaken by the Corps at the earliest opportunity.

An impact statement which cannot accurately describe or predict the probable environmental impacts of the proposed action is not considered adequate.

Earlier in the impact statement, there is a brief discussion of the role that marshlands play in maintaining water quality in associated water bodies. What adverse effects on water quality can be expected with the destruction of an additional 30 acres of marshland?

Page 17, paragraph 4.06 - It is doubtful that very many of the marshland organisms would be displaced. Most would be eliminated either through direct mortality or subsequent increased competition for the available habitat.

Page 18, paragraph 4.07 - The secondary impacts described would probably be even more damaging to the remaining marsh area than the dredge spoil disposal.

Page 19, paragraph 4.12 - It is stated that the land values in the disposal area will increase with or without the dredging due to the intention of the City of Green Bay to fill this area. This statement should be modified to indicate that while the monetary value of the land may increase, the value of the land in the overall sense will not necessarily increase.

In general, this section of the statement does not address impacts specifically expected to result from this project. The discussion of impact is a general one related to limited observational and experimental determinations. It should again be emphasized that unless specific information is given, the actual effects upon the local environment will not be known. It should be

specifically stated what materials might be reintroduced into the aquatic environment as a result of dredging of bottom sediments in Green Bay Harbor and what effects these would have upon organisms living specifically in this area.

Page 20, paragraph 5.03 - It is stated that monitoring has not been done to determine the dredging-produced turbidity in Green Bay Harbor. Therefore, it does not appear that justification is given for stating that the effects of dredging would be insignificant when related to natural forces. While the dredging period may be of a relatively short duration, turbidity levels may also be substantially higher than under normal conditions.

Page 21, paragraph 6.03 - The fact that the City of Green Bay intends to complete the filling of the present disposal site regardless of future Corps activity does not justify dismissing the cumulative impact of continued dredge spoil disposal around Green Bay in the future. The possibility of utilizing upland sites sufficiently removed from the lake to prevent damage to valuable wetland areas should be looked into.

Page 21, paragraph 6.04 - We believe that hydraulic dredges are generally more environmentally compatible provided that a satisfactory spoil disposal location and method can be found. The hydraulic dredge causes less turbidity in the water and performs a more complete removal of polluted bottom materials.

Page 24, paragraph 7.01 - It is noted that there are no comments in this section regarding the effects on the long-term productivity of the aquatic environment of Green Bay exclusive of the present disposal site.

Appendix B-8 - The northwest boundary of the disposal site indicated on this map lies outside of the bulkhead line approved by the Public Service Commission. We believe this is a cartographic error. If so, the map should be corrected to more accurately indicate the location and size of the disposal site.

General Comment

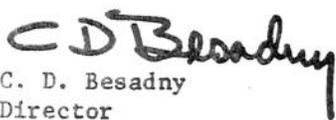
This particular environmental impact statement appears to have involved more site-specific work by the Corps than many of those previously developed for harbors on the Lake Michigan shoreline. More information is given on the local environment and not as many attempts have been made to transform data collected at another site and make them applicable to this particular site. However, it is still noted that there are no results of research done specifically on the effects of maintenance dredging of this or any other harbor on the Lake Michigan shoreline. Until a program of monitoring has been instituted, the discussion of impacts related to the actual dredging are somewhat speculative. It is questionable whether an adequate impact statement can be written on speculation and guesswork without some documentation from specific experiments or from studies of similar previous projects.

Colonel James M. Miller - June 18, 1975

4.

We thank you for the opportunity to review this draft environmental impact statement and look forward to receiving six copies of the final environmental impact statement when it is completed.

Sincerely,
Bureau of Environmental Impact


C. D. Besadny
Director

cc: S. G. DeBoer - LMD (2)
Ed Brick - 4
Jerry McKersie - 11
Ruth Hine - 9
L. A. Posekany - 9
D. F. Gebken - 9



State of Wisconsin \ DEPARTMENT OF BUSINESS DEVELOPMENT

Patrick J. Lucey
Governor

William C. Kidd
Secretary

123 WEST WASHINGTON AVENUE
MILWAUKEE, WISCONSIN 53102
414-266-3212

May 28, 1975

Colonel James M. Miller
District Engineer
U. S. Army Corp. of Engineers
219 Dearborn Street
Chicago, Illinois 60604

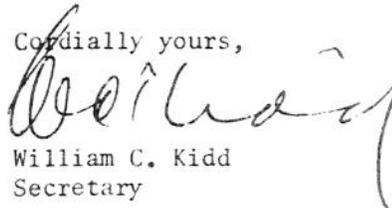
Dear Colonel Miller:

The Wisconsin Department of Business Development has carefully reviewed the environmental statement which has been prepared covering the maintenance dredging and continued disposal of dredged materials at Green Bay Harbor, and while we are very much interested in the preservation of vegetation and wildlife, we also hope to see substantially more industrial growth occur in the Green Bay area.

Therefore, it is our opinion that continued fill of the southwest shore bulkhead line will further enhance the future potential of Green Bay's industrial development effort. The city has already expended a substantial amount of money for industrial development in the area, and therefore it is our hope that this present specific land use can be continued through the mutual satisfaction of all concerned parties.

The city of Green Bay, through this action, has expressed a strong interest in strengthening their economic base, and we have every reason to believe this can be successful through their program which is designed for orderly growth and development and encompasses a continued interest on their part for a strong, healthy environment as well. Therefore, we have every reason to feel much can and will be accomplished through joint cooperation.

Cordially yours,



William C. Kidd
Secretary

WCK:sjn

cc: Mr. Robt. Houle

**THE STATE HISTORICAL
SOCIETY OF WISCONSIN**

816 STATE STREET / MADISON, WISCONSIN 53706 / JAMES MORTON SMITH, DIRECTOR

State Historic Preservation Office

May 1, 1975

Colonel James M. Miller
Department of the Army
Chicago District, Corps of Engineers
219 South Dearborn Street
Chicago, Illinois 60604

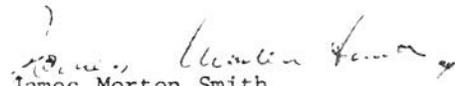
SHSW 0127-75

Dear Colonel Miller:

Reference your April 2, 1975 letter concerning project NCCPD-ER for maintenance dredging and contained disposal of dredge materials at Green Bay Harbor, Wisconsin.

There are no sites in, or eligible for, the National Register of Historic Places within the boundaries of the proposed project nor will any other known historic sites be affected. Furthermore, no known archeological sites will be affected.

Sincerely,


James Morton Smith
State Historic Preservation Officer

JMS:owmd

cc: Mrs. Dorothy Wittig, Research Chairman
Brown County Historical Society

**GREEN
BAY
BROWN
COUNTY**

PLANNING COMMISSION

TELEPHONE: 437-7611

100 NORTH JEFFERSON STREET
GREEN BAY, WISCONSIN
- 54301 -

May 27, 1975

Colonel Richard Miller
U.S. Corps of Engineers
219 South Dearborn
Chicago, Illinois 60606

RE: Maintenance Dredging and Contained Disposal of Dredge
Materials at Green Bay Harbor

Dear Colonel Miller:

In response to the above Environmental Statement, we have reviewed this report with respect to the Brown County Comprehensive Plan.

We would like to correct Page B-6, "Planning Map Depicting Proposed Conservatory Areas". In as much as we are credited as being the source, it should read "Proposed Conservancy".

Since the Bay Port diked disposal areas is almost completed, and in view of the lengthy legislative legal and engineering research needed to begin to advance one of the alternatives in the recently prepared Plan, there is little justification not to endorse completion of this disposal area.

If we may be of further assistance, please advise.

Sincerely,



B.F. Paruleski, AIP
Executive Director

BFP:cln



City of Green Bay

INDUSTRIAL DEVELOPMENT AUTHORITY
ROOM 612 - CITY HALL - 437-7611

WISCONSIN
5 4 3 C 1

May 30, 1975

Colonel James M. Miller
U.S. Corps of Engineers
219 South Dearborn
Chicago, IL 60606

Dear Colonel Miller:

RE: Disposal of Dredge at Green Bay Harbor

My office has reviewed the environmental statement pertaining to maintenance dredging and contained disposal of dredge materials by the U.S. Corps of Engineers at Green Bay Harbor, Wisconsin.

It is my opinion that fill within the Bay Port containment should continue until such time as the overall elevations reach the recommended 103 datum levels.

With regard to future disposal of dredged materials from the navigation channel or elsewhere in the Bay itself, such materials would best serve the public interest if they are deposited in previously constructed containment area lying between Grassy Island and Long Tail Point. As a long range alternative, my department would like consideration of another possibility. Specifically, I refer to the possibility of establishing a totally new dredgings disposal area which would lie approximately 1,600-feet westerly from Bylsby Avenue along the established pierhead-bulkhead line, thence northerly for about 2,000-feet. The area between this proposed site and the navigation channel could be dredged and the spoils placed in a containment area approximately 1,600-feet at the base (or pierhead-bulkhead line) and approximately 1,200-feet at the northerly boundary of the proposed site where it would lie 2,000-feet north of the pierhead-bulkhead line. This could, at some future date, provide for adequate municipal dockage and, at the same time, substantially retain the integrity of the wetland areas, outside the existing containment dike.

Sincerely,

Robert C. Houle

Robert C. Houle
Industrial Development Coordinator

RCH:amd
Enc.

