

Enclosure 2
U.S. Army Corps of Engineers (USACE) Requests for Additional Information (RAIs)
Fermi Nuclear Power Plant, Unit 3 (Fermi 3)
Combined License Application - Environmental Report

RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
<p>USACE-1</p> <p>33 CFR Parts 320-330: Regulatory Programs of the Corps of Engineers¹</p> <p>Detroit District Corps permit evaluation document template²</p> <p>40 CFR Part 230-Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material¹</p>	<p>Provide a review and evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest (public concerns or rights). This review/evaluation should include supportive materials, including drawings, and references. This may be integrated with the Clean Water Act (CWA), Section 404(b)(1) Guidelines alternative analysis (see USACE-2).</p> <p>For public interest or other relevant factors that may also require review by statute (see CFR 320.3), include reference to the statute.</p>	<p>This information is necessary to allow comparison of existing conditions to proposed conditions relative to the public interest that may be affected by the construction, including indirect and cumulative impacts, and operation of the proposed project.</p> <p>A Department of the Army (DA) decision on whether to issue a Section 10 and/or 404 permit(s) is required to reflect the national concern for both protection and use of important resources. This is accomplished through a public interest review and evaluation conducted in accordance with the U.S. Army Corps of Engineers (Corps) General Policies for Evaluating Permit Applications found in 33 Code of Federal Regulations (CFR) Part 320.4. The Detroit District Corps incorporates the required public interest review, National Environmental Policy (NEPA) documentation, and if applicable, the factual and compliance determination according to the CWA Section 404(b)(1) Guideline (Guidelines) in a single permit evaluation document.</p>

¹ Available at: www.usace.army.mil/CECW/Pages/reg_materials.aspx

² Document provided as attachment to Enclosure 2.

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USACE-1a	<p>For the public interest factors listed in 33 CFR Part 320.4 (a)(1), as well as all other factors which may be relevant to the proposal and the cumulative effects thereof, include specific baseline condition descriptions of the characteristics, including all existing structures and fills located at or waterward of the Ordinary High Water Mark for Lake Erie (bulkhead, riprap, fencing, etc.) within the site boundaries, for each anticipated preconstruction, construction and operation direct, secondary or cumulative impact area attributable to permanent and temporary structures, including the intake pipe and outfall; dredging; and the discharge of dredged/fill material, and other work (exclusionary boundary) proposed in navigable waters of the US or would involve the discharge of dredged/fill in adjacent wetlands.</p>	<p>33 CFR Section 320.3 lists laws related to the Corps permit application evaluation.</p> <p>The public interest factors listed in 33 CFR Part 320.4(a)(1) include: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish & wildlife values, flood hazard, floodplain values, land use, navigation, recreation, shore erosion and accretion, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people.</p> <p>Specific Corps policy for perspective for certain public interest review factors are included in 33 CFR Parts 320.4 (b) through 320.4 (r).</p>
USACE-1b	<p>Include a discussion of the overall importance, development/loss status, etc, in western Lake Erie, of the most readily identifiable natural feature, as defined by the MDEQ (Michigan Department of Environmental Quality) & Michigan Natural Features Inventory (MNFI), in the context of the water of the US and adjacent wetlands in which these work areas are located.</p>	<p>MDEQ defines the wetlands on site to be affected by the project as Great Lakes coastal wetlands (letter to NRC, dated February 2, 2009). The Michigan Natural Features Inventory more specifically defines the wetlands as a Great Lakes Marsh natural community (http://web4.msue.msu.edu/mnfi/)</p>

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USACE-1c	For the public interest factors listed in 33 CFR Part 320.4 (a)(1), as well as all other factors which may be relevant to the proposal and the cumulative effects thereof, specify the type and magnitude of the direct, secondary and cumulative impacts attributable to the proposed work in navigable waters of the US and adjacent wetlands from the perspective of Corps policy.	Specific Corps policy for perspective for certain public interest review factors are included in 33 CFR Parts 320.4 (b) through 320.4 (r).
USACE-1d	Specifically relate proposed project activities to the type, location, and degree of unavoidable adjacent wetland and other water-related impacts and expand the discussion to include impacts on the values and functions of the water/wetlands types (regulatory) individually, as well as within the context of the coastal wetland resources of western Lake Erie. Include all aspects of the project including preconstruction, construction and temporary work.	The Corps regulations (33 CFR Part 320.4(b)) recognize that some (but not necessarily all) wetlands perform functions important to the public interest (see 33 CFR Part 320.4(b)(2)). When alteration of wetlands considered to have important functions is proposed, documentation should be as specific as possible about how the functional importance (or lack of functional importance) of the wetland was determined. Statements such as, "this type of wetland is known generically to be important" (or unimportant) are not adequate and need to be augmented with more specific information, including the incremental contribution of the area in question to the whole. Documentation of value and importance should be objective and factual.

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RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
USACE-1e	<p>Include discussion of on-site project modifications to minimize temporary and permanent fill discharges into waters of the US and adjacent wetlands, including how alternate on-site locations, changes in configuration, construction methods, technologies, work scheduling, etc. were considered to minimize damage to waters of the US and adjacent wetlands. Show the method to estimate the environmental consequences of each modification plan, and narrative showing the quantities of fill for the proposed plan is the minimum amount practicable. Conceptually, describe how compensation for unavoidable short term and long term water of the US and adjacent wetland losses will be accomplished and/or why compensatory mitigation should not be required for all or specific aquatic impacts.</p>	<p>The Guidelines and 33 CFR Part 332 project review progresses through a sequence of avoidance, minimization, and then compensation for project impacts. Compensatory mitigation is required for unavoidable wetland resource losses which remain after minimization. A conceptual mitigation plan is a necessary component of the 404 permit review process. However, a DA 404 permit cannot be authorized on the basis of a conceptual plan; a final mitigation plan must be reviewed and approved prior to DA permit issuance</p>
USACE-1f	<p>Describe any special practices or conditions proposed to minimize detrimental project effects, what impact would be reduced, the magnitude of the reduction and how the condition or practice would reduce the impact.</p>	<p>Any special practices or conditions proposed to minimize impacts should be limited to those necessary to comply with Federal law (relative to Corps authorities), while affording the appropriate and practicable environmental protection, including offsetting aquatic impacts with compensatory mitigation. The special conditions must be sufficiently justified and substantially related to impact issues raised in the public interest review process or specifically requested/offered by the applicant. 33 CFR Parts 320.1 and 320.2 describe the types of activities regulated by the Corps and authorities to issue permits and Part 320.3 lists laws related to the Corps permit program.</p>

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RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
USACE-1g	<p>Provide figure(s) showing project location, footprint and type of permanent and temporary construction impact in relation to wetland type/other water. These figures should reflect any updates to the proposed project features and work since the ER, if available.</p> <p>Include project description that summarizes the anticipated construction sequence and equipment use, specific types of work and/or structures(including proposed barge channel dredging, barge docking facilities, turbidity containment, intake and pipeline discharge systems and Exclusion Area Boundary), work and structure locations, approximate work and/or structure dimensions, and approximate acreage/square footage and approximate quantities for all dredged/fill discharge areas, associated with all preconstruction, construction and temporary activities/features and best management practices, proposed waterward of the Ordinary High Water Mark of Lake Erie and adjacent wetlands. The project description should include 8-1/2" x 11' figures depicting the existing site conditions (including the Exclusion Area Boundary, existing dredging/disposal area, shoreline structures, natural features, etc.) as described in the baseline condition description and proposed site footprint, as described in the project description, in both plan-view and cross-sectional views. Include anticipated dredging/fill areas and structures, temporary work areas, stockpile/disposal site, roads and structures, and Exclusion Area Boundary. These figures should reflect any updates to the proposed project features and work since the Environmental Report, if available.</p>	<p>Discussion at the site audit indicated that there may be changes to the proposed locations of project features and work. Any specific design information or updates not currently available should be included in the application for DA Section 10 and 404 permits.</p>

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RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
USACE-1h	Incorporate consideration of the general criteria listed in 33 CFR Part 320.4(a)(2) in the evaluation.	The public interest review includes consideration of public and private needs, alternatives, and impacts, known as General Criteria, as discussed in 33 CFR Part 320.4 (a)(2): The relative extent of the public and private need for the proposed structure or work; where there are unresolved conflicts as to the use of the resource, whether there are practicable alternate locations and methods to accomplish the objective of the proposed structures and/or work; and the extent and permanence of the beneficial and/or detrimental effects the proposed structure or work is likely to have on the public and private uses to which the area is suited.
USACE-1i	Use following significance levels to describe direct, secondary and cumulative impacts: short term/long minimal; short term/long term minor, short term/long term major, in the evaluation, as appropriate.	See Detroit District Corps permit evaluation document template.
USACE-1j	Include all supportive records and drawings, as attachments, used to document the public interest evaluation, including baseline conditions, impacts, and special practices/conditions.	The Public Interest review/evaluation should be a “stand alone” document and include all drawings and supportive documentation. It can be integrated with the Section 404(b)(1) Alternative Analysis (see USACE-2) to avoid duplication.

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RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
USACE-2	Provide a Section 404 (b)(1) Guidelines Alternative Analysis Package. A suggested list and order of topics to be discussed and presented in the package is provided below. This alternative analysis should include supportive materials, including drawings, and references. This may be integrated with the Public Interest Review/Evaluation (see USACE-1).	<p>The purpose of the Section 404(b)(1) Guidelines alternative analysis package is to demonstrate that the proposed plan satisfies the CWA Section 404(b)(1) Guidelines (40 CFR Part 230), which are the substantive criteria the Corps will use in determining the project’s environmental impact on aquatic resources from discharges of dredged or fill material.</p> <p>A DA Section 404 permit is necessary to construct any project involving the discharge of dredged or fill material into waters of the US. The Corps must ensure that the activity complies with the Guidelines as one step in its evaluation process. Among other things, an applicant for a 404 permit must demonstrate to the Corps that the Proposed Project is the least environmentally damaging practicable alternative (LEDPA). The LEDPA is determined by the preparation of a Section 404(b)(1) Guidelines Alternatives Analysis.</p>
USACE-2a 33 CFR Part 332, Compensatory Mitigation for Losses of Aquatic Resources ¹	<u>Project Description/Purpose & Need:</u> Provide narrative that includes project description and clarification of Detroit Edison Company’s basic purpose and need for the project. Why is the project proposed? Include narrative information on marketing, location, history, and other factors that influence or constrain the nature, size, price, class, or other characteristic of the project.	<p>Consideration of project purpose is important element of the Guidelines evaluation.</p> <p>Consideration of project need is a requirement of every Corps permit evaluation (33 CFR Part 320.4(a)(2)(i)). The Corps will consider the applicant’s stated purpose (: “...to generate electricity for sale” but will define the overall purpose. Overall project purpose is the basis for the alternative analysis and determined solely by the Corps. It will be reviewed and redefined, if necessary, since it may change or need to be revised as the result of project review.</p> <p>The overall project purpose includes the public and/or applicant’s needs. It does not include</p>

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		<p>secondary project purposes, site-specific secondary requirements, project amenities, desired size requirements or desired return on investment. Based on the information provided in the ER, the overall project purpose, as determined by the Corps, would reflect a statement such as: Add baseload electric generating capacity to address current and future peak electricity demand in the Detroit Edison Company service area.</p> <p>At this point, it is necessary to consider ways to achieve the overall project purpose which would avoid discharges in wetlands by analyzing all practicable alternatives to the proposed discharge in wetlands. The Guidelines define a practicable alternative as one which “is available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purpose.” Further guidance is available in 40 CFR Part 230.10(a)(2).</p> <p>The consideration should include use of offsite areas which can be reasonably obtained, utilized, expanded or managed in order to fulfill the overall project purpose. The Corps and US Environmental Protection Agency (USEPA) Memorandum of Agreement (MOA) requires the 404 review of practicable alternatives to progress through a mitigation sequence of avoidance, minimization, and then compensation for project impacts, which is now codified as Corps and USEPA regulations (33 CFR Parts 325 & 332; 40 CFR Part 230, Compensatory Mitigation for Losses of Aquatic Resource; Final Rule, dated April 10, 2008).</p>

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RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
USACE-2b	<p><u>Avoidance.</u> Include (1) a set of criteria to determine practicability for alternative site selection; (2) a definition of the geographic limits to search for alternative sites; (3) the cost of creating a complete project at each site; (4) an analysis of impacts of candidate sites on Corps public interest factors, including quantification of aquatic impacts relative to the aquatic site function and values; and (5) a system to rate an alternative site against the criteria items and a method to comparatively weigh each rating ; 6) a report describing the search for the sites, their rating, and narrative of the rationale for selecting the proposed plans as the least environmentally damaging practicable alternative. The alternative analysis must clearly and fully show that the proposed site and site plan is the least environmentally damaging or the only practicable alternative; that it <u>must</u> be located on the wetland and that the project <u>could not</u> be changed to a non-wetland location. The report must include the rating and narrative for the proposed Site Plan as well as for the “No Project (use existing facilities)” alternative. If cost is used to show that an alternative is not practicable, then no additional analysis is necessary. If cost is used to show that one option is more expensive than the preferred alternative, then total cost comparison between alternatives should be completed to prove this statement. Included with the cost comparisons are all aspects of project completion. Note that the criteria are predicated on the project’s purpose.</p>	<p>Avoidance (Step 1): involves a look at other geographic sites to determine the least environmentally damaging practicable site (LEDPA):</p> <ul style="list-style-type: none"> • Only practicable alternatives to the proposed plan need to be considered in determining the LEDPA. • Upland sites are presumed to be available unless clearly demonstrated otherwise by the applicant. <p>Note that an expansion of the alternatives originally considered in the ER may be necessary for the Guidelines analysis. Compensation cannot be used to reduce impacts to satisfy avoidance.</p> <p>The Corps will seek avoidance first.</p> <p>The 404 alternative analyses will need to continue for each practicable alternative until it is proven that it is not a practicable alternative, or that it has more impacts (quantified) to aquatic resources than the Proposed Plan. If alternative practicability continues, off-site alternatives (away from the Fermi 3 site, which may include a site not owned by the applicant,) will need to be included within the evaluation for the impacts to waters of the U.S.</p>

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RAI Number	Question Summary (RAI)	Full Text (Supporting Information)
USACE-2c	<p><u>Minimization</u>. Include (1) alternate site plans; (2) a method to estimate the environmental consequences of each plan; and, (3) a narrative that shows the quantity of fill is the minimum amount practicable. Minimization must be shown for each of the alternate sites in the analysis of avoidance.</p>	<p>Minimization (Step 2): If the “avoidance” presumption is overcome, the next step is to analyze all practicable alternatives which minimize damages to wetlands within a practicable site. Minimization involves a look at on-site reconfiguration of the project, implementation of special operating procedures, or other actions to reduce impacts. Project modifications to minimize adverse impacts may include a reduction in scope or size, change in construction methods, or the use of other methods that reflect sensitivity to the environment.</p>
USACE-2d	<p>Include all supportive records and drawings, as attachments, used to document the Section 404(b)(1) Alternative Analysis.</p>	<p>The Section (404(b)(1) Alternatives Analysis should be a “stand alone” document and include all drawings and supportive documentation. It can be integrated with the Public Interest review/evaluation (see USACE-1) to avoid duplication.</p>

Detroit District
U.S. Army Corps of Engineers

File Number #FOLDER_DA_NUMBER#<<MODIFIER>>

Department of the Army Permit Evaluation
#FOLDER_NAME#

This document constitutes my Environmental Assessment, Public Interest review summary, and, if applicable, my factual and compliance determination according to the 404(b)(1) Guidelines for the work proposed for permit. It was prepared from a generic master document that facilitated consideration of the range of all possible impacts from projects within the purview of the Regulatory Program of the Army Corps of Engineers, in accordance with 33 CFR Part 320, 33 CFR Part 325 Appendices B and C, and 40 CFR Part 230.

I. Application Processing

A. Name of Applicant: #APPLICANT_FULLNAME#, #APPLICANT_CITY# , #APPLICANT_STATE_FULL# You may add names of agents if their names will come up in the summary of correspondence.

B. Work Description: The most recent plans showing the proposed work are attached (Encl. 1.). The applicant has applied for a Department of the Army (DA) permit to ##ENVA## This should be the project as it is proposed today. It may have been changed by the applicant since the public notice was issued, it may have been modified by the state permit decision, etc. If it has changed from what appeared on the public notice, so state, enclose the public notice as encl. 2; and briefly summarize changes.

C. Purpose:

The applicant's stated purpose for the work is /. We are responsible to define the purpose and need in accordance with NEPA Regulations (Appendix B, 7.), the objective of the project (33 CFR 320.4(a)(2)(ii), and the "overall project purpose" under the 404(b)(1) Guidelines and subsequent guidance. We have determined that the reason why the applicant proposes to conduct the DA permit activities described above is /The purpose underlies the search for practicable alternatives. The purpose is not the proposed structure or work itself; it is why the applicant feels a need for it, what it will do for them. If described too broadly, the applicant will have unlimited alternatives to fulfill the purpose other than what he currently proposes. If defined too narrowly, there would be no alternative other than his preferred one.

D. We are reviewing this application for a Department of the Army permit under authority delegated to the District Engineer by the Secretary of the Army and the Chief of Engineers by Title 33, Code of Federal Regulations, Part 325.8, pursuant to Section 10 of the Rivers and Harbors Act, /and Section 404 of the Clean Water Act.

E. Public Involvement: A list of the agencies, interested groups, and the public consulted regarding the project is attached to the Public Notice dated #ACTION_DATE_OF_PUBLIC_NOTICE# which expired on «DATE_PN_ENDS» (Encl. /).

F. Federal, State, Local, and Public Comments Relating to the Activity:

1. Federal:

a. U.S. Environmental Protection Agency (EPA):

Did not respond to the public notice.

Contemplated no action in response to the public notice (Encl. /).

Objected to the proposed permit based on non-compliance with the 404(b)(1) Guidelines (Encl. /). The impacts and issues which they addressed, any rebuttals from the applicant, and our ultimate determination will be summarized in appropriate sections of our evaluation below.

b. U.S. Fish and Wildlife Service (FWS):

Did not respond to the public notice.

Contemplated no action in response to the public notice (Encl. /)

Indicated that they do not object to the proposed permit (Encl. /).

Object to the proposed permit based on anticipated impacts to fish and wildlife resources (Encl. /). The impacts and issues which they addressed, any response or rebuttals from the applicant, and our ultimate determination will be summarized in appropriate sections of our evaluation below.

c. Congressional: No interest was expressed by any member of Congress.

2. State:

If location state Michigan and AUTH = 404##a. Section 401 Water Quality Certification:

Certification is presumed to be waived because the Michigan Department of Environmental Quality (MDEQ) has issued their respective permit for the project. (Encl.).pursuant to a letter dated 9 July 82 from the District Engineer to the Director of the Michigan Department of Environmental Quality (MDEQ), since 30 days have elapsed since the public notice issuance date, we have received no response, and have no written indication of their position on the application.

a. Coastal Zone Management Act:

The MDEQ did not respond to the Public Notice. Therefore, we presume that the proposal is consistent under Section 307 of the 1972 Coastal Zone Management Act, and that CZM Certification has been obtained or waived because they have issued their respective permit for the proposal /based upon the letter dated 9 July 82 cited above.

b. MDEQ issued a permit as proposed to the applicant (Encl.).

The Michigan Department of Environmental Quality (MDEQ) denied the permit request, and we cannot presume Coastal Zone Management Consistency nor Section 401 Water Quality Certification for the proposed unauthorized work (Encl.).

c. State Historic Preservation Officer (SHPO):

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If location state Indiana and AUTH = 404##a. Section 401 Water Quality Certification:

An extension of the comment period was requested (Encl.). Certification is presumed to be waived since 30 days have elapsed since the public notice requesting certification was sent to the Indiana Department of Environmental Management (IDEM). We determine that this has been a reasonable time for IDEM to act. The Indiana Department of Environmental Management (IDEM) has denied Certification and Objected to issuance of a permit and cited the following as the basis of their position (Encl.):

a. The Indiana Department of Natural Resources (IDNR)Choose one of these statements.:
has issued a permit for the activity under their respective state statutes (Encl.).

objected to issuance of a permit (Encl.), citing the following as the basis of their position:

b. State Historic Preservation Officer (SHPO): Indicated no known historical, architectural, or archaeological sites listed on or eligible for inclusion in the National Register of Historic Places would be affected by the project (Encl.).

Requested an archaeological /

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3. Local: No local governmental officials responded to the public notice.

4. Public: No nongovernmental groups or individuals responded to the public notice.

We received objection comment letters from /

We received requests for a public hearing from /

We received positive comment letters from /List the authors by name and Enclosure reference. We will summarize and evaluate the comments under appropriate aspects of the Environmental Setting in Section II and/or specific public interest review factors in Section III below.

G. List of communications with the applicant relative to permit evaluation:

We furnished the applicant with copies of all substantive objections, and afforded him/her the opportunity to resolve or rebut them (Encl.).

We directed the applicant to specifically respond to certain issues (Encl.).

We have received no response or rebuttal.

The applicant responded to the objections/comments by letter dated / (Encl.). We will summarize the issues and responses under appropriate sections below.

II. Environmental Setting:

There may be a "stock" description of the general area and waterway characteristics within about a 10-50 mile radius of your site. If you can't find one on the "O:\LTDR\Templates\INSERTS\IMPACTS" drive , create or update one, share the wealth. To look at the available choices, select INSERT, FILE, "O:\LTDR\Templates\INSERTS\IMPACTS" Drive. Scroll thru the list covering the county of your site. The waterway and/or particular location within or along a waterway should be named with a waterway number and/or an abbreviation after the hyphen. Place the cursor bar over the name and hit return to "look" at it. If you want to use it, you can "retrieve" it into your document. If there is no description and you write a new one or use an old one reserved off somewhere, ADD IT TO THIS DIRECTORY within the naming convention above. A. Description of the Area Name and location of the waterway and county of project area, area land use, major economic activity in county and local community, population, growth trends, uses of natural resources, topography, geological setting.

B. Waterway Characteristics Flows, flooding characteristics, water fluctuations, shoreline characteristics such as extent and type of human development, erosion potential, fetch, water quality, existing wetlands and/or other relevant information.

C. Scope of Analysis: In addition to the activities which require specific DA authorization, the scope of analysis for this evaluation will include construction activities such as / use of the finished / associated / The DA permit activities under consideration are so strongly linked to these activities and effects as to control and cause them. For definition of action area, see Standard Operating Procedures, October 15, 1999, (SOP) Part I, Para. 1. If there were comments that raised issues that are not relevant to Corps jurisdiction or exceed the scope of the project under consideration, address these comments (SOP, pages 15,16). Where there have been conflicting opinions between

commenters (including FWS and EPA), the applicant, and this office regarding the scope of analysis, summarize the arguments and draw a conclusion to carry forward. Use the format:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings.

D. Action Areas When we have received comments on the nature of the affected environment, identify the comments, examine them, and provide our independent conclusion here under the characteristic in question. Use the format:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:\:

We did not perform a site inspection.

We inspected the site. See Encl. /If you did a complete inspection with the Permit Evaluation Report form completely filled out, and there were no conflicts about resources in the action areas, there should be no need to complete the rest of this project area description which contains identical details. Please just delete it or supplement it if this is necessary\.

The project site is located /. The disposal site is located / Cite the source(s) for all information detailed below.

1. Cultural Characteristics: Presently, structures on the site consist of /. The site is bordered by /. On these sites, structures and development consists of /. Lying just beyond these properties are areas that could be characterized as /.

2. Navigation Characteristics: The constraints and existing use patterns within the proposed work or structure area are as follows Provide all relevant measurements of the waterway, such as limiting widths and depths, navigation patterns, space requirements for each of the maneuvers performed by existing boat traffic along the routes, moorage, numbers and size of craft that pass the site, etc.:

3. Physical/Chemical Characteristics Include any comments on water quality, floodplains, etc. from government agencies with attribution to them.\:

The proposed permit area is subject to erosion/flooding due to /. There is no evidence of any existing erosion problem/flood damage at the site.

Wetlands located / are likely to provide erosion prevention/flood storage due to the fact that they /.

Water from / presently circulates through/over the proposed work area by means of /, and the nearest receiving water for runoff from the up-gradient portions of the site is /. Wetlands located / are likely to provide groundwater discharge/sediment removal/transformation/production export due to the fact that they /.

Soils within the proposed discharge/excavation area consist of /. Sediments and physical substrate of the bottom in the offshore proposed / area consist of /.

4. Biological Characteristics:

a. The Existing/Long term Vegetation and Habitat Values for each portion of the work site are as follows Include any comments on habitat from FWS, MDNR, or other agency with attribution to them. Although all areas should be described, specifically describe the characteristics of those areas where each respective type of proposed work would be conducted, such as dredge area, bulkhead area, etc. At a minimum, areas and sub-areas should each

be described as an ecological community type with plants and animal species and habitat values typically associated with the community. Preferrably, this can be augmented with lists of species actually observed and likely to exist there. For sites with disturbed vegetation, describe the likely climax community given the surroundings. For sites with ATF work, describe probable prior and post-restored community.:

Upland portions of the property These are the portions of the property that are within the action area determined by the scope of analysis that you described in II.C. above:

Wetland portions of the property: The wetlands located / are likely to provide functions of wildlife diversity/abundance
 aquatic diversity/abundance
 due to the fact that /

Riparian portions of the property (at the water's edge):

Benthos community: The proposed / area provides substrates of /, which support /.

Water Column Include any potential for use when water levels are occasionally elevated and afford access to fish and other aquatic organisms, as well as any areas that provide seasonal ponding. Also include any known spawning runs cited on the listing of DNR preferred dredging periods.: The proposed / area provides a habitat for / .

b. What is the most readily identifiable natural feature in which this site is located? What is state of development of this natural feature?: This would be the "reality check" you would use to explain to the Commander just how important-or unimportant- this site is and forms the basic perspective for ecological impacts of the cumulative impact review contained in Section III.B below. Depending on circumstances, describe how particular features may form a part of a continuum with adjacent areas on other properties, such as an identified wetland complex, a forest, submerged plant bed, shallow shelf, etc. and/or how the site may be a refuge and/or contribute to ecological diversity within the general area. It is also very important to describe the extent or absence of natural conditions of this continuum or, conversely, the state of development or loss of this continuum. For example, is this the last lot in an otherwise completely developed subdivision or is it the first proposed lot development in a completely natural forested wetland complex?:

E. Cumulative Impact Area (CIA): For the purpose of this application review, the geographic area for which we are reviewing cumulative effects is / Define a watershed, lake area, bay, or other readily identifiable geographic area. The area should include the immediate area of the permitted activity and a reasonable distance away in the associated aquatic area that you described in part II.B. and/or part II.D.4.b. above. The type of project epitomized by this application is / Define the scope of work and type of project for assessment of similar projects that have or would be expected to occur in the area. Include all attendant aspects of this project such as presence or absence of mitigation measures. Within this area, similar projects and permit decisions on them have included

File No.	Applicant	Extent or Size of Project	Action

There have been very minor prior impacts to this area and we expect little additional cumulative impact of any kind to occur.

This is a unique proposal and/or factual situation. This is because it /. Therefore, we don't expect other similar applications, and therefore no cumulative impact. If this is the case, "find" all other occurrences of cumulative impact statements in the rest of the document (Except for the summary statement in part III.D.) and delete these statements now, so you don't have to do it later.

This project continues an established pattern of similar projects in the cumulative impact area defined above. We will consider the cumulative impact of continuing this development.

The anticipated future activities within the CIA include / WRITE A LOT. Evidence of the likelihood of this activity is / WRITE A LOT AND ENCLOSE EVIDENCE. The impact sites and scopes for these reasonably foreseeable projects are similar to this project's site and scope with regard to /. Since the District strives for fair and consistent permit decisions, it would be contrary to policy and arbitrary to foresee a different permit decision for any similar projects within the CIA. The CIA would thus be subject to current and anticipated impacts comprising /PROVIDE CREDIBLE ESTIMATE OF AGGREGATE FOOTPRINT OR QUANTITY OF IMPACTS/ We will evaluate those impacts below.

III. Environmental Impacts of the Proposed Action For cases where there are public notice comments and/or applicant's responses to issues that we've posed, summarize them under each of the appropriate review factors below using the format as below under the Water Quality factor. Unless the identity of the commenter is really useful for the purpose of analysis, such as a particular neighbor or a government agency, it is not necessary to attribute specific comments to individuals; the substance of the comment is what must be documented and evaluated. However, clearly attribute and detail coordination and evaluation of comments by local government or an agency such as FWS, EPA, SHPO, etc. when this is required by regulations, MOA, statute, etc.

A. Identified Physical Impacts

1. Effects on Water Quality

a. Construction Impacts:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings

The physical disturbance of the bottom during / will cause resuspension of sediments at the point of disturbance and for a limited radius around it. This will cause reduction of dissolved oxygen levels
reintroduction of soluble contaminants in the sediments
reintroduction of particulates and adsorbed contaminants
in the water column.

The dredged material will be transported by barge. There will be releases of sediment to the surrounding waterbodies during dredging at the dredge area, along the route to offloading, and at the offloading point. Onshore handling and disposal areas for the material will be sources of runoff of the sediment until the areas are stabilized.

The dredged material will be transported by slurry pipeline. Construction of the contained disposal facility will

cause runoff of dike construction materials and native soils to the waterway. The overflow system as designed is/not sufficient to remove suspended materials so that effluent to the waterway will/not exceed background levels of contaminants and suspended materials.

The temporary construction discharge of dredged/fill material into the water will consist of materials that are/not of sufficient grain size and inertness so as to cause more than minor adverse impacts on water quality.

The methods and/or materials used in the backfill process would/not minimize turbidity. Alternative methods and/or materials could include /.

All project-associated excavated, graded, and filled areas would be subject to erosion, thereby causing negative impacts to water quality until the areas are stabilized.

In summary, the proposed / would cause minor/major temporary degradation of water quality. Due to the nature of the sediments the velocity of the water current, turbidity / contaminants should return to ambient levels following project completion.

In order to minimize the detrimental impacts due to / Name which impacts and which activities you mentioned above, the permit could be conditioned to require use of silt curtains in the water column around the work area and adequate containment and stabilization measures for upland work and equipment use areas, and / any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. These measures will reduce the impacts due to / by capturing/confining suspended sediment prior to its dispersal.

b. Post-Construction and Use Impacts:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The proposed / would destroy/adversely impact an area that filters rainfall, runoff, groundwater, and floodwaters that would otherwise directly enter the waterway, and would replace it with a new source area for runoff pollutants. Pollutants from this area may include lawn fertilizers, herbicides, pesticides, road salt, oil, grease, and septic runoff/leachate. This would cause a long-term negative impact on water quality.

Dredging/excavation will expose surfaces of contaminated material that will cause major/minor long term adverse impacts on water quality within the associated mixing zone.

The proposed / will induce increased boater use of the area, which will in turn cause water quality degradation due to gasoline and oil spills, littering, and increased turbidity because of propeller wash. bank sloughing and increased turbidity.

Deflection of wave energy off the face of the proposed bulkhead will continuously resuspend sediments at its toe and increase erosion of other unprotected shorelines, increasing the turbidity in the shoreline area.

Installation of the / will afford better sewage treatment with a long term benefit to water quality.

The / will have adverse impacts to groundwater quality by /.

The cumulative impacts of numerous such projects would /

The cumulative impact of similar channelization reductions of riparian vegetation along the waterway will cause minor/major adverse impacts to water chemistry, temperature, and turbidity.

Destruction of wetlands/vegetated shallows by / will remove their buffering/cleansing ability. Numerous projects such as this could seriously reduce water quality, habitat, and overall value of the cumulative impact area.

Overall, the operation and use of the proposed activity would have a major/minor, long term, positive/negative impact on water quality.

Denial of the permit would avoid these minor/major positive/negative impacts to water quality any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems.

The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor

2. Shore Erosion and Accretion Effects:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The proposed activity would cause noticeable accretion/erosion along adjacent/downriver areas. See attached review performed by the Great Lakes Hydraulics and Hydrology Branch (Encl.).

Deflection of waves against the proposed bulkhead will increase the wave climate and energy to which adjacent unprotected areas will be subject.

The proposed activity could alleviate or reduce erosion in the project area This should be a net change based on existing conditions, not on what will be needed as a result of another proposed portion of the project.

The project would not be expected to accelerate erosion on the property or along adjacent properties.

Shoreline erosion may increase due to boat wakes. Unprotected areas could be affected.

The project would reduce the ability of the wetland to act as a sediment catch basin.

would reduce the ability of the wetland to anchor the shoreline and dissipate erosive forces.
would eliminate wetlands/shallow backwaters which presently allow sediment trapping functions.
would cause sedimentation of a riffle and pool complex.
will cause changes in current patterns and accretion and adversely impact nearby mudflats.

The cumulative impacts of numerous such projects on shore erosion and accretion would /

The continued bulkheading of the shoreline could cause a reduction in beach nourishment material and result in attendant downdrift problems (e.g. starvation, increased erosion, etc.)

In summary, the project will have no impacts on erosion or accretion.

In summary, the project will have minor/major, short term/long term, positive/negative impacts on erosion/accretion.

Denial of the permit would avoid these minor/major positive/negative impacts on shore erosion and/or accretion. any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor

3. Effects on Flood Hazards and Floodplain Values:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The proposed work will take place in an area where water levels are solely under static level control of the Great Lakes. The volume of this contiguous water system is so vast that this project and cumulative similar projects will not induce any measurable change in the system's water level behavior. No impacts on flood hazards and floodplain values are expected.

The proposed fill will disrupt existing drainage patterns across the site and shunt runoff onto neighboring lower properties.

The proposed / would increase the hydraulic efficiency of the channel by /. This will contribute to increasing downstream flood peaks and reduce desynchronization of flood flows, while decreasing flood peaks on site and upstream.

The proposed / will decrease the hydraulic efficiency of the channel by encroachment on the floodplain creating obstructions to floodwaters and drifting materials. This will contribute to increased upstream flood peaks, while decreasing flood peaks downstream.

The proposed / will decrease floodplain values by replacing / cubic yards of floodplain storage volume with / cubic yards of fill material

eliminating natural floodplain vegetation and reducing the roughness coefficient which will increase flood peaks downstream. As such, the work would be contrary to Executive Order 11988.

The proposed project would aid in the prevention of flooding for the applicant. encourage the applicant to invest in an area which would be/is subject to flooding conditions.

The cumulative impacts of numerous such projects on flood hazards would be/

In summary, the project will have no impacts on flood hazards and floodplain values.

In summary, the project will have minor/major, short term/long term, positive/negative impacts on flood hazards and floodplain values.

Denial of the permit would avoid these minor/major positive/negative impacts on flood hazards and/or floodplain values.

any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor

4. Effects on Navigation This is a public interest factor. Only view the proposal from this perspective for this factor

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

No impacts would be expected.

During construction, the equipment and temporary structures will cause an obstruction to navigation. The equipment includes
barges
hydraulic dredging slurry pipelines
cofferdams
haul roads.

The proposed work and structure would extend into/interfere with a Federal channel. See attached comments from Operations & Maintenance Branch.

The proposed work/structure/use of the finished structure would increase congestion through an increase in the number of boats in the area.
restrict/expand the navigation area within the channel/harbor/lake.
cause a situation in which views of boating traffic would be obstructed.
facilitate safe boat movement/moorage.
Because of this, the work/structure/use of the structure will cause minor/major positive/negative adverse impacts on

public boating use and safety.

A riparian owner has a general right of access to navigable waters of the United States. This is subject to the similar rights of access held by nearby riparian landowners and to the general public's right of navigation on the water surface.

Provide a rationale as to how the circumstances fit the terms and principles of the policy stated above. For this situation, define what constitutes "riparian," "similar rights of access," "interference," "undue (or "due")," "use"? We have documented the existing navigation use and constraints in Section II.D.2. above. The work/structure/use of the structure would result in

the applicant's structure/boats having to be moored/approach/extend into the area used by/ into an area that will/not constrict/be incompatible with/ the available navigation area for the maneuvers that we have listed. This constriction will

not cause undue interference with access to, or use of, navigable waters by nearby riparian owners nor by the general public.

cause undue interference with access to, or use of navigable waters by the public/nearby riparian owner because /

If nearby property owners were to desire and be issued a comparable permit, this would/not obstruct navigation within and access to the waterway. Therefore, the cumulative impacts of numerous such projects would/

In summary, the project will have minor/major, short term/long term, positive/negative impacts on navigation.

Denial of the permit would avoid these minor/major positive/negative impacts on navigation. any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

5. Water Supply and Conservation

No impacts would be expected. There are no water intakes in the area likely to be affected, and we anticipate no impacts to any drinking water aquifer.

B. Identified Biotic Impacts

1. Effects on Aquatic Organisms (Fish, invertebrates, submerged vegetation, plankton, etc. documented in II.D. above)

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The proposed activity would eliminate/alter submersed and emergent aquatic vegetation beds and associated invertebrates.

However, similar beds would remain in nearby areas, and similar plants and invertebrates would be expected to

recolonize the work area.

No recolonization by rooted aquatic plants is expected because /

Increase in nutrients due to the project will favor algae growth over rooted aquatic vegetation, causing a shift in the rest of the aquatic community.

Dredging would reduce diversity in the benthic community. Although recolonization does take place within 3 to 1 2 months after dredging via recruitment from adjacent unaffected areas, species' composition and diversity are usually not the same after dredging. In addition to the initial and likely maintenance dredging, there will be more frequent disturbance by propellers and deflected wave energy. Organisms recolonizing disturbed sites are usually limited to opportunistic species tolerant of habitat disturbance.

After construction, the physical conditions will be dissimilar to what currently exists in terms of substrate type and particle size/temperatures/current patterns/hydroperiod, so the original benthos community is unlikely to reestablish.

Some benthic communities, sedentary life stages, and eggs would be directly buried by removed by subject to smothering from sedimentation due to the proposed activity and slumping of material along the margins of construction.

The turbidity caused by runoff from the construction site dredging the in-water construction activities may reduce photosynthesis, clog gills of fish and other animals, reduce visibility for sight feeding animals, and may cause fish to relocate from the immediate area until work is completed.

The release of contaminants to the ecosystem due to the project will adversely affect adults, juveniles, larvae, and eggs of aquatic organisms, including fish utilized by recreational or commercial fisheries.

The project would destroy fish and their spawning, nursery, and feeding habitat, including species utilized in recreational or commercial fisheries. The project could impede fish movement into and out of spawning, nursery, or feeding areas.

Work should be avoided during the period / through /. If location state Michigan## (Refer to the listing of "Preferred Dredging Periods" furnished by the Fisheries Division, MDEQ.) ##

There would be a reduction in existing cover due to dredging, in that existing bottom unevenness (i.e., holes) which might provide cover for fish and contribute habitat diversity would be eliminated, as would artificial or natural cover objects such as boulders and large rocks, sunken snags, debris, etc.

Creation of additional open water would increase the area available to fish and other aquatic organisms but would not improve their numbers, quality, or diversity since there is abundant deep water nearby.

The introduction of riprap would create a suitable habitat for benthos and some smaller species of fish, improving habitat for larger aquatic predators.

Construction of piers, pilings, and eventual mooring of boats will create structures for attached algae, invertebrates, and fish that do not currently inhabit the area.

Elimination of littoral zone shallows, riparian fringe, and shoreward site vegetation will result in an overall decrease in productivity and nutrient export capabilities for the aquatic food web.

The proposed work will alter the character of runoff on the site so as to eliminate alter the existing algae, plants, invertebrates, and fish that inhabit the nearshore area and favor colonization by species more tolerant of the new conditions.

The net result of the proposed exchange of habitats that are increasingly rare in the area for habitats that are abundant will be an overall decrease in aquatic food web diversity and productivity.

The cumulative impacts of numerous such projects would/

Current and anticipated dredging of this waterway is causing or may cause losses in benthos and/or aquatic plant populations.

Destruction of the natural shoreline vegetation can be anticipated along this waterway. This could result in losses of land-water transition zone habitat.

In summary, the project will have minor/major, short term/long term, positive/negative impacts on the aquatic organisms.

Denial of the permit would avoid these minor/major positive/negative impacts on aquatic organisms. Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by / A permit could be issued with special conditions as follows: This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

2. Effects on Wildlife (Resident and transient mammals, birds, reptiles, and amphibians associated with aquatic ecosystems, as well as upland organisms within the action area documented in II.D. above)

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The / would eliminate/alter reproductive, foraging, resting habitat, and interrupt a travel corridor for game birds, waterfowl, wading birds, shorebirds, songbirds, small and large mammals, reptiles,

amphibians,
and invertebrates which are associated with the aquatic ecosystem and the aquatic food chain.

The availability of contaminants resulting from the construction and resulting use of the project will lead to the bioaccumulation of such contaminants in wildlife.

Construction along the shoreline would eliminate/alter habitat for amphibious animals and other organisms that require the natural land-water transitional habitat and sheltered shallow waters.

A variety of organisms would be displaced from their habitat by impacts of the proposed construction and resulting use. Those displaced organisms will/not cause degradation of habitat values for those areas to which they will be driven.

Recolonization of the project area by similar species would be expected to occur after construction.

Stabilization of the area due to protection afforded by the proposed work may lead to the establishment of different plant and animal communities.

The newly created landscaped upland would furnish habitat for those few species adapted for life under these conditions.

At the dredge disposal/fill borrow site, terrestrial plants and habitats would be destroyed by burial/excavation operations. Depending on reclamation or stabilization of the site, at least some of the original habitat values will be recovered over time.

The net exchange of habitats that are increasingly rare in the area for habitats that are abundant will be an overall decrease in wildlife diversity and productivity.

The cumulative impacts of numerous such projects would/

In summary, the project will have minor/major, short term/long term, positive/negative impacts on wildlife.

Denial of the permit would avoid these minor/major positive/negative impacts on wildlife. Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by / A permit could be issued with special conditions as follows: This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor

3. Effects on Wetlands

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

No wetlands would be impacted as a direct or indirect result of the proposed project. The information below will be merged in from the "Wetland Impact Tally Screen" in RAMS. If you have not as yet

entered it in that screen, please copy this information into it as soon as possible.

The following type and areal extent of wetlands would be eliminated or covered as a direct result of the proposed discharge:

<u>Type</u>	<u>Size (Acre)</u>
****	*****

The following type and areal extent of wetlands would be eliminated/transformed by drainage as a result of the proposed project:

<u>Type</u>	<u>Size (Acre)</u>
-------------	--------------------

The following type and areal extent of wetlands would be eliminated/transformed by inundation as a result of the proposed project:

<u>Type</u>	<u>Size (Acre)</u>
-------------	--------------------

QPDS requires that acreage "impacted" by discharges through the three actions above be reported. Unless the applicant has downscaled his/her plans since the application was administratively complete, the total acreage above should be entered on the HQUSACE WETLAND IMPACTS SCEEN as acreage REQUESTED. If he/she has downscaled, be sure that the original requested acreage is entered there. The PERMITTED acreage will naturally depend on the final decision.

The following type and areal extent of wetlands would be eliminated/deepened as a direct result of the proposed dredging:

<u>Type</u>	<u>Size (Acre)</u>
-------------	--------------------

In addition, the following type and areal extent of wetlands would be degraded:

<u>Type</u>	<u>Size (Acre)</u>
-------------	--------------------

The degradation would consist of /.

The recognized wetland functions which would be affected as a result of the project are: flood water storage/ natural drainage/ sedimentation patterns/ runoff filtration and purification/ groundwater discharge for maintaining minimum baseflows/ erosion protection/ food chain production/ general habitat and nesting, spawning, rearing and resting sites for aquatic and semi-aquatic species/ designated study, sanctuary or refuge area. Wetland values affected include uniqueness/heritage/ recreation.

The extent and nature of the affect on each function has been discussed in other appropriate sections of this document except for:

Each of these functions has been objectively documented for the particular site by means of information as described in Section II.D. above.

The proposed action would result in the creation of / acres of wetland which would be likely to provide the following functions:

The proposed compensatory mitigation will/not provide functional replacement of the wetland to be impacted by the proposed project. This is because

Although alteration of the wetland would constitute a minor change, the cumulative effects of such actions may

result in major impairment of wetland resources.

Adverse impacts to the wetland are minor and the cumulative effects of such actions are not likely to result in major impairment of wetland resources.

In summary, the project will have minor/major, short term/long term, positive/negative impacts on wetlands.

Denial of the permit would avoid these minor/major positive/negative impacts.

Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

If the mitigation plan could and would be successfully implemented, it appears that there will be no net loss of functions and values. The ultimate success or failure of the mitigation plan would be dependent upon the specific actions of the applicant and their agent(s). Conditioning the permit to require the permittee to accept full responsibility for the success or failure of the plan and to require the permittee to undertake remedial measures if necessary to satisfy the success criteria would increase the probability that the anticipated mitigation benefits are realized.

4. Effect on Conservation and Overall Ecology:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

Implementation of the proposed activity would impact upon the ecological balance and integrity of a valuable resource as documented in Section II.D. above., wetlands.

fish spawning or cover areas.

floodplains.

migratory bird stopover and foraging point.

It would effect the balance and integrity by /

The proposed project would change an area that now supports a variety of species into one that would probably support considerably less diversity.

The proposed construction and subsequent operation could lead to gasoline or oil spills which could result in minor/major adverse impacts.

The proposed work would degrade or foreclose the prospect of preservation of an area of high natural heritage value.

We consulted Federal and State endangered species lists. The following endangered or threatened species are known to occur in #FOLDER_COUNTY# County in similar habitats:

No rare, endangered, or threatened species or critical habitats would be affected by the proposed project.

The cumulative impacts of numerous such projects would /

In summary, the project will have minor/major, short term/long term, positive/negative impacts on conservation and the overall ecology.

Denial of the permit would avoid these minor/major positive/negative impacts.

Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

C. Identified Social Impacts

1. Visual Aesthetics As with all of the other review factors, impacts on visual aesthetics should be based on the perspective of the public's view from possible vantage points available to them. Next in line of importance may be impacts to the neighboring landowners, but only from a relatively narrow perspective limited by the "but for permit issuance" test.

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The proposed work is/not consistent with similar type structures found in the area. The development will encourage unplanned and incompatible human access destroy vital elements that contribute to the compositional harmony or unity, visual distinctiveness, or diversity of an area as viewed by the public.

The construction activities will be noticeable from / Don't use the view across neighbors' upland lot lines as a perspective since many activities outside of our jurisdiction can change this view This may detract from the visual context of /. After project completion, this project will transform an area that may be characterized as / to one which may be characterized as /. The net impact of this transformation will depend on individual taste.

The work/and operation of the project will cause a change in the aesthetic qualities of sight, taste, odor and color of the water/air around the project area.

The work/structure/use of the structure will extend offshore across the view arc of neighbors as defined by their riparian interest lines. This will cause a minor/major obstruction of this offshore area.

The cumulative impacts of numerous such projects would /

In summary, the project's effect on aesthetics would be major/minor, short/long term, and positive/negative/ and dependent on personal preference.

Denial of the permit would avoid these minor/major positive/negative impacts.

Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

2. Noise

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

Construction activities, including / will increase ambient noise for a period of approximately /. After construction, operation/use of the project area will create a major/minor change in noise levels for receptors located /. The increase is/not expected to violate applicable noise criteria.

The project operation will be contrary to the tranquil setting of the area.

The cumulative impacts of numerous such projects would /

In summary, the project's effect on noise would be major/minor, short/long term, and positive/negative.

Denial of the permit would avoid these minor/major positive/negative impacts.

Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

3. Designated Historic, Cultural, Scenic, and Recreational Values

The up-dated National Register of Historical Places was checked. Registered Historical sites would not be affected by the proposed work. The proposed work would not affect an area designated under the Federal Wild and Scenic Rivers Act, or being considered for such designation. The proposed work would not affect areas designated as Natural Landmarks, National Rivers, National Wilderness Areas, National Seashores, National Recreation Areas, National Lakeshores, National Parks, National Monuments, archaeological resources, including Indian religious or cultural sites. We know of no applicable or affected state, regional, or local land use classification due to historic, cultural, scenic, or recreational values.

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The project will affect an area recognized as / by /. The issuance of a permit, as proposed, would be consistent with, and avoid significant adverse effects on the / values of the / for which the / was established.

4. Land Use Patterns

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The proposed project is contrary to/consistent with the existing zoning for the area.

The state has issued their respective permit for the project.

Therefore we defer to these state and local entities as reflecting benefits to state and local land use goals.

If location state Michigan## The proposed project is contrary to the St. Clair Flats Management Plan, as developed and implemented by local government and the Michigan Department of Environmental Quality, in the following respects: ##

From a national perspective,

The work may encourage a trend of conversion of wetlands/shallow water areas to upland residential development.

The work may encourage a trend of investment in potential high erosion/flood-prone areas for residential development.

The project would encourage a trend of development of natural areas rather than recycling abandoned, previously developed areas to more intensive or better uses. This would also supply an additional disincentive to clean up abandoned or contaminated sites.

The present land use patterns or cultural development would/not change due to the proposed work.

In summary, the project's effect on land use would be major/minor, long term, and positive/negative.

Denial of the permit would avoid these minor/major positive/negative impacts.

Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

5. Economic Effects

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The contractor, equipment supplier, and other commercial enterprises would benefit from the proposed work.

The neighbors' property values would decrease/stabilize/increase as a result of the proposed work.

Increased use of the area could benefit local businesses.

The local tax revenues, community services, community cohesion would benefit.

In summary, the project's effect on economics would be major/minor, short/long term, and positive/negative.

Denial of the permit would avoid these minor/major positive/negative impacts.
Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems. The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

6. Effects on Recreation Like the majority of other public interest factors, this pertains not to the applicant's recreation, but to impacts on public recreation. Private or membership-only facilities are not available to the public at large, so only write about benefits and detriments from public perspective\\

No impacts would be expected.

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

The proposed work/structure would destroy an area which is important to maintenance of populations of fish and game, although it is not in itself open to public use for hunting and fishing.

cause an obstruction of an area currently used by the public for waterskiing, fishing, and other watersports.

destroy/create an area of value for passive recreation such as photography, birdwatching, walking, peoplewatching, and the like.

cause an increase in the number of people in the area, and this would not occur but for this permitted activity. Those people may in turn degrade existing public recreational facilities in the area.

This project will provide for greater public recreational opportunities and waterway usage without adversely affecting existing use patterns.

In summary, the project's effect on recreation would be major/minor, short/long term, and positive/negative.

Denial of the permit would avoid these minor/major positive/negative impacts.
Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems.\\The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor

7. Effects on Safety

No unsafe conditions would be created or increased by the proposed construction or use of the project area.

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

During construction and as a result of the project, the project will cause increased exposure of people to /. These impacts would not occur but for the permitted activity. Watch out for conclusions that a project will induce auto traffic. There are usually many other upland activities that could occur on a site that would induce auto traffic

The project would contribute to or encourage crowded boating conditions and or unsafe boating practices.

The cumulative impacts of numerous such projects would/

In summary, the project's effect on safety would be major/minor, short/long term, and positive/negative.

Denial of the permit would avoid these minor/major positive/negative impacts.

Any modifications or conditions must be clearly linked to specific impacts that you have written about above. You need to write how or why these modifications or conditions will remedy these specific problems.\\ The project could be modified by /. This would reduce the impacts due to / by /

A permit could be issued with special conditions as follows:

This would reduce the impacts due to / by / If you found positive impacts as well as negative impacts on this factor, examine whether denial or any modifications or conditions that you've derived here will change or eliminate positive impacts to this factor\\

8. Food and Fiber Production

The proposed work would benefit food/fiber production by providing relief from potential flooding.

No impacts would be expected.

9. Mineral Needs

No impacts would be expected.

10. Energy Conservation and Development.

No impacts would be expected.

11. Consideration of Property Ownership.

The applicant has a right to reasonable private use of the property, subject to the rights and interests of the public in the waters of the United States, including federal navigation servitude and federal regulation for environmental protection.

The project will have benefits to the applicant's right to property ownership.

There are alternatives that will still afford reasonable private use of the property. These include /. There may be more.

D. Cumulative Effects

Cumulatively, the proposed permit activity would have major/minor positive/adverse impacts as described in the sections above.

We could not identify any potential cumulative impacts due to this project.

E. Secondary Effects

Issuance of the permit would cause secondary effects on the action area as detailed in the sections above; these effects would not occur but for the permitted activity.

The proposed / foot setback would minimize the potential for adverse impact to the aquatic ecosystem. A substantial buffer would remain between the waterway and the proposed /.

F. General Criteria: You may cross-reference similar considerations elsewhere in this evaluation to avoid repetition.

1. The relative extent of the public and private need for the proposed structure or work:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

2. Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the object of the proposed structure or work:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings:

3. The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited:

Commenters' points:

Applicant's response/rebuttal:

Corps Findings: Choose one of the following depending on whether we can really identify "suitable uses:""

We are not in a position to determine whether this wetland/shallows/whatever is an area that is ultimately suitable for certain uses.

This / has been developed for the use as / and has proven to be suitable for this use since this development. The structure/work is likely to have a major/minor short term/long term beneficial/detrimental effect on this public/private use by /

G. Alternatives: The following administrative alternatives have been considered Don't delete any of these possible alternatives so as to document that we considered them. See Appendix B of Part 325, Para. 7:

Issue the permit as proposed.

Issue the permit with modifications. As mentioned in paragraphs / above, a permit issued which /, will minimize /, while still fulfilling the project's purposes and beneficial effects on /.

Issue the permit with special conditions. As mentioned in paragraphs / above, a permit with special conditions to /, will minimize /, while fulfilling the project's purposes and beneficial effects on /.

Deny the application. (Consider the no action alternative.)

IV. The portions of this document constituting the Environmental Assessment adequately address the relative magnitude of the expected impacts of the proposed project within our mandatory scope of analysis. The range of possible impact magnitude included no impact, negligible impact, minor impact, major impact, and significant impact as the term significant is defined in regulations implementing NEPA. Our analysis did not indicate the potential for significant impact on the quality of the human environment. Therefore, I do not recommend preparation of an environmental impact statement.

V. 404(b)(1) Guidelines Compliance Evaluation:

We have evaluated the effects of the proposed discharge of dredged or fill material into the waters of the U.S. according to the Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, promulgated in Title 40 CFR 230 pursuant to Section 404 of the 1977 Clean Water Act.

Factual Determinations in light of Subparts C-F of the Guidelines have been set forth under appropriate impact assessments above.

Testing: The material to be discharged in this project consists of /. Subpart H of the Guidelines requires testing of the extraction site of the discharge material for contaminants except under certain circumstances.

In this case, testing is not required because /
there are prior test results that enable characterization of the contaminants
the material is comprised of commercial sand/gravel/ to which contaminants do not adsorb/have not been subject to likely sources of contaminants
the discharge site is adjacent to the extraction site and subject to the same sources of contaminants, and materials at the two sites are substantially similar.
constraints are available to reduce contamination to acceptable levels, and the applicant is willing and able to implement such constraints.

Mitigation/Alternatives:

The following is a summary of the mitigation sequence as required by the February 7, 1990 Memorandum of Agreement by the EPA and the Corps as it pertains to the proposal and, if applicable, its alternatives.

Avoidance.

We have determined that there will not be more than minimal damage as a result of the discharge. Therefore, avoidance of the discharge would not be a less damaging practicable alternative delete the rest of this alternatives section.

We have not identified any alternatives that would avoid discharges and would not have other significant adverse environmental consequences.

We have independently determined that there is no practicable way to avoid discharges and fulfill the overall project purpose.

We have determined that the overall project purpose could be fulfilled and discharges could be avoided by the alternative of /. However, we have determined that this alternative would not be discernibly less damaging than the current proposal avoid minor impacts on the aquatic environment at the cost of substantial impacts to other natural environmental values as detailed above Therefore, there is no less damaging practicable alternative delete the rest of this alternatives section\

We initially determined that the potential impact of the discharge on the aquatic environment would be more than minimal, and directed the applicant to address the alternative of /, which would avoid discharges (Encl. /) The applicant responded ((Encl. /). He stated that /Fully and fairly summarize the rebuttal points\

We agree that this avoidance alternative would not be practicable for him based upon cost/logistics/technology relative to the overall project purpose. Therefore, there is no less damaging practicable alternative that would avoid a discharge.

We do not agree with the applicant that the avoidance alternative would not be practicable, because /. Therefore, there is a less damaging practicable alternative that avoids a discharge.

Minimization.

As described in the sections above, we have identified modification/conditions consisting of /. We have determined that the these steps are appropriate because there will be discernable differences in the magnitude and nature of these aquatic impacts as detailed above. not appropriate because they would minimize impacts on the aquatic environment at the cost of substantial impacts to other natural environmental values as detailed above.

We initially determined that the potential impact of the discharge on the aquatic environment would be more than minimal, and directed the applicant to address the alternative of /, which would minimize impacts (Encl. /) The applicant responded ((Encl. /). He stated that /Fully and fairly summarize the rebuttal points

We agree that this minimization alternative would not be practicable for him based upon cost/logistics/technology relative to the overall project purpose. Therefore, there is no less damaging practicable alternative.

We do not agree with the applicant that the minimization steps would not be practicable, because /. Therefore, there is a less damaging practicable alternative.

The following is for use only with special aquatic sites where we have made preliminary determination of major adverse impacts individually or cumulatively. For cumulative impact, you should have already documented in this evaluation that the project involves high value aquatic resources in a watershed or other identified area that has or would be subjected to additional substantial development, and therefore should be subject to rigorous evaluation of alternatives. The proposed discharge would occur in a special aquatic site, a wetland/riffle and pool complex/vegetated shallows/mudflat. The fundamental, essential, or irreducible activity or use to which the special aquatic site will be put after discharging dredged or fill material and construction ("basic purpose") is /. /, per se, does not require access or proximity to or siting within wetlands/riffle and pool complexes/vegetated shallows/mudflats to take place. Therefore, we must presume that there are practicable alternatives to achieve the overall project purpose that do not involve special aquatic sites, and that all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site have less adverse impact on the

aquatic ecosystem.

There were readily apparent less damaging practicable alternatives of / which we directed the applicant to address (Encl. /)

There were not any readily apparent alternatives, and we directed the applicant to attempt to overcome the presumption that less damaging practicable alternatives exist (Encl. /).

The applicant responded ((Encl. /). He stated that /Fully and fairly summarize the rebuttal points

We agree that minimization alternatives would not be practicable for him based upon cost/logistics/technology relative to the overall project purpose. Therefore, there is no less damaging practicable alternative.

We do not agree with the applicant that minimization steps would not be practicable, because /. Therefore, there is a less damaging practicable alternative.

Compensation.

As described in the sections above we have identified steps to achieve functional replacement of unavoidable loss of aquatic resources through creation or restoration of /. We have determined that these steps are/not appropriate for the reasons specified in those sections.

We have determined that these steps are/not practicable for the following reasons:

Section 404(b)(1) compliance summary matrix.

P = Proposal. **D** = No action (denial). A1 = /. A2 = /. briefly summarize or label a specific alternative that you fleshed out in the course of our evaluation above.

Where only a **P** is shown, it indicates that all alternatives meet compliance criteria for that item. An unknown is a noncompliance; this will be designated with a **U** in the DOES NOT COMPLY column. Switch "insert" mode to "overstrike" now.

	MEETS CRITERIA	DOES NOT COMPLY
1. The applicant must overcome the presumption that a practicable, less environmentally damaging alternative site, outside special aquatic sites, exists. If the project is water dependent, OR is not in a special aquatic site, enter only N/A (not applicable).		
2. There must be no alternative that is practicable, is less damaging to the aquatic ecosystem, and has no other significant, adverse environmental effects.		
3. The discharge must not violate state water quality standards or Clean Water Act Section 307 toxic effluent standards or bans.		
4. The project must not jeopardize the continued existence of an endangered species.		
5. The project must not cause or contribute to significant adverse effects on municipal water supplies, plankton, fish, shellfish, wildlife, special aquatic sites, or other aspects of human health or welfare.		
6. The project must not cause or contribute to significant adverse effects on life stages of aquatic life and other wildlife dependent on aquatic ecosystems.		
7. The project must not cause or contribute to significant adverse effects on ecosystem diversity, productivity, or stability.		

8. The project must not cause or contribute to significant* adverse effects on recreational, aesthetic or economic values.		
9. All appropriate and practicable steps, to minimize potential adverse effects of the discharge on the aquatic ecosystem, must be taken.		

*If project does not comply due to this, explain if this determination differs from conclusion regarding an EIS, Section IV. above.

Section 404(b)(1) Compliance/Non-Compliance Determination

Choose one of the following three statements.

The proposed discharge complies with the Guidelines.

The proposed discharge complies with the requirements of the Guidelines, with the inclusion of appropriate and practicable discharge conditions to minimize pollution or adverse effects to the affected aquatic ecosystems.

The proposed discharge fails to comply with the 404(b)(1) Guidelines because: f proposal fails to comply, select one or more of the following:

There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, and the alternative does not have other significant adverse environmental consequences.

The proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem.

The proposed discharge will result in significant degradation of the aquatic ecosystem under 230.10(b) or (c).

There does not exist sufficient information to make a reasonable judgement as to whether the proposed discharge will comply with the Guidelines.##

#PM_SIGNATURE_LADDER#

Prepared by:

#PM_ROLE_SIGNATURE_BLOCK#

Date: /

Enclosures

1. Presently proposed plan dtd. /

Reference Materials used in Compiling this Assessment include:

USGS topo quad for

NOAA Chart No.

Endangered Species List

National Register of Historical Places
USDA aerial photography dated
USDA soil survey for #FOLDER_COUNTY# County, #FOLDER_STATE#, dated
COE aerial photography ##AIRPH## , dated
USGS Water Resources Data for the State of #FOLDER_STATE#, Water Year 19XX
Federal Flood Insurance Report for
COE Navigability Study for the
If location State is Michigan## Michigan State Atlas ##
Site Investigation
Ground Photography
Register of Natural Landmarks
Wild and Scenic Rivers Act
404(b)(1) Guidelines
Fish and Wildlife Service Wetland Inventory Maps
Census Data
Department of the Interior National River Inventory
If location State is Michigan##COE Final EIS for
Wetland Evaluation Technique Volume I: Literature Review
and Evaluation Rationale##
If location State is Indiana##Hydrology of Indiana Lakes
COE Final EIS for
Drainage Areas of Indiana Streams
The Indiana Water Resource: Availability, Uses, and Needs
Wetland Evaluation Technique Volume I: Literature Review
and Evaluation Rationale##