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October 26, 2023

VIA E-MAIL

Paul Ruesch  
On-Scene Coordinator  
United States Environmental Protection Agency Region 5  
77 West Jackson Boulevard (SE-5J)  
Chicago, Illinois 60604-3590

Dear Paul Ruesch:

SUBJECT: Michigan Department of Environment, Great Lakes, and Energy (EGLE) and Michigan Department of Natural Resources (MDNR) detailed comments on the Area 4 Time Critical Removal Action (TCRA) Removal Work Plan Part 1, Draft (Draft RWP Par1), dated October 4, 2023, Operable Unit (OU) 5 Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site (Site).

By way of this correspondence, EGLE formally submits this cover letter and detailed comments (attached) on the subject documents for inclusion in the Administrative Record for the Site.

EGLE and MDNR staff (collectively, the State of Michigan [SOM]) have reviewed the subject removal work plan (RWP). An expedited review and comment period was requested for the Draft RWP Part 1. Comments from the review team have been compiled into a single comment matrix (attached). However, due to the request for expedited review, standalone submittals with comments from other reviewers may have already been provided to the United States Environmental Protection Agency (U.S. EPA) under separate emails or cover letters, and those comments may or may not be fully captured in the comment matrix. All comments provided by the SOM review team members to the U.S. EPA should be compiled to collectively represent the SOM review team comments.

The SOM review team has reviewed and authored comments on several design packages and work plans that have been provided by GEI/NCR. Most recently, the SOM review team provided comments on the Revised Design Package that was submitted in August and September 2022 that was supposed to address comments provided on the 60% Design Package that was provided in September 2021. General and detailed comments on the Revised Design Package were transmitted to the U.S. EPA in September and December of 2022, respectively.

The September 2022 cover letter and comment matrix included a total of 37 general comments, which were placed into 5 categories: General Design/Stability Concerns, Sediment Related Concerns, Hydrologic/Hydraulic Concerns, Public Safety/Use Concerns, Biological/Ecological Concerns, and Compliance with Applicable or Relevant and Appropriate Requirements/State Law Concerns. The approach of developing and submitting overarching and general comments was requested by the US EPA.

The December 2022 cover letter and comment matrix included a total of 60 detailed comments that formed the basis of and provided technical support for the 37 general comments that were previously submitted. The detailed comments document the rigorous technical review that was completed by the SOM review team and contained the level of detail that must be reviewed when considering how to edit and revise the design. For completeness, the 37 general comments that were submitted in September 2022 also included in the attachment to the December 2022 cover letter.

In January 2023, the U.S. EPA issued a response to EGLE on the detailed and general comments provided by the SOM review team on the Revised Design Package. The response attempted to identify and place comments into 4 general categories ('bins') that closely matched the comments authored by the U.S. EPA. The 4 bins developed included: the instability of restored banks over a half-mile reach, the quantity and quality of sediment proposed to be mobilized, the placement (disposal) of dredged material on State property, and data discrepancies in the dredge footprint. Of the 97 total comments that were provided, approximately 50 comments did not fit cleanly into the 4 bins that were organized by the U.S. EPA. For approximately 50 of the 97 comments that were provided, a similar response was authored and generally states, "U.S. EPA will consider & discuss with potentially responsible party (PRP)."

Overall, the Draft RWP Part 1 that was provided is "thin" and does not contain details needed to adequately review the work that will be conducted. The Draft RWP Part 1 includes citations to previously submitted design documents and work plans, including the 60% Design Package from September 2021 that required major revisions and the follow-up Revised Design Package from August and September 2022 that was not approved by the U.S. EPA in December 2022. As of the date on this letter, revised design plans have not been provided and it is still not clear how the comments authored on the most recent design package will be incorporated into the design, including comments that did not fit nicely into one of the 4 comment bins and comments where a noncommittal response was provided. Revised design plans are expected to be delivered in the coming weeks, but the schedule for delivery of other work plans that are referenced in the Draft RWP Part 1 is unknown. Therefore, any approval of the Draft RWP Part 1 must acknowledge that, prior to work commencing, comments provided on previously submitted documents that are still relevant must be adequately addressed and work plans and design documents that haven't been provided will need to be submitted for review and approval. The delivery of underdeveloped

designs and/or incomplete design packages has been an issue throughout the design process and a consistent theme in the comments and cover letters provided by SOM review team.

As previously stated, a collaborative review process provides the best hope for the group to reach a consensus on how to address key, lingering technical issues, understand the range of outcomes that are possible based on uncertainties in the proposed design, and evaluate ways to maximize outcomes and minimize resource impacts. The SOM review team is willing and committed to working collaboratively with the technical work group to resolve key, technical issues.

The SOM review team appreciates the opportunity to review and comment on the OU5 Area 4 Draft RWP Part 1, and other relevant documents. The SOM review team looks forward to working with the U.S. EPA to resolve lingering issues with the design. If you have any questions, please contact Daniel Peabody, Environmental Quality Analyst, Remediation and Redevelopment Division at 517-285-3924; PeabodyD@Michigan.gov; or EGLE, P.O. Box 30426, Lansing, Michigan 48909-7926, or you may contact Mark Mills, Southwest Region Manager, Wildlife Division at 269-967-5367; MillsM@Michigan.gov; or MDNR, 621 10<sup>th</sup> Street, Plainwell, Michigan 49080.

Sincerely,



Daniel Peabody  
Environmental Quality Analyst  
517-285-3924



Mark Mills  
Southwest Region Manager  
269-967-5367

cc/att: Jim Saric, U.S. EPA  
Lisa Williams, United States Fish and Wildlife Service  
Megen Miller, Michigan Department of Attorney General  
Keegan Roberts, CDM Smith  
Matt Diana, MDNR  
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ITEM NO.	REVIEWER	REFERENCE TO GEI SUBMITTAL (i.e., Section X.X, Page XX)	COMMENT (+ reference(s) to support)	SUGGESTION / RECOMMENDATION	GEI Response to Comments (date)
1		<b>General Comment - Duration/Sequencing</b>	The State Of Michigan (SOM) review team is concerned with the duration of the proposed work considering later phases and workplans that have not been approved. Impacts to biota are expected from the initial installation of turbidity curtains. The longer these curtains stay in place, the more extended the impact will be. The potential for additional impacts exist through the risk of dam failure, turbidity control failure, and mobilization of sediments that will occur as the project continues. Timely implementation of subsequent phases is required to reduce risk, but designs have not been approved and major impasses have not been addressed. The longer the duration of construction, the greater impacts to recruitment, survival, and habitat for aquatic organisms will compound. The length of time for recovery of the ecology of the project area extends with each year of impact, coupled with potential downstream impacts to biota which will result in longer delays to recovery. Project and Area of Concern goals are closely linked to biological recovery of the waterway.		
2		<b>General Comment - Risk of Dam Failure/Sequencing</b>	The Michigan Department of Natural Resources (MDNR) made modifications to the Trowbridge Dam in 2019 to expand spillway capacity. The anticipated service life of those repairs was 3 years. Because NCR/GEI did not incorporate comments from the United States Environmental Protection Agency (U.S. EPA) and the SOM review team into their 60% Design and Revised 60% Design, the time critical removal action (TCRA) has been stalled and the dam has remained in place longer than expected. The 2023 inspection completed by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) indicated that the Trowbridge Dam is in poor condition. In the Draft RWP Part 1, the sediment upstream of the auxiliary spillway structure (Beaver Island) is identified as the main constraint in installing the temporary water control structure (WCS). However, this sediment is not addressed until Stage 5 of the General Sequency of Work. This area could be addressed earlier in the dredging plan allowing for the WCS to be constructed earlier in sequencing. Such an approach would reduce the risk of dam failure.	Adjust sequencing to move up construction of the WCS. If this is not possible, provide justification as to why it is not possible to adjust the sequencing.	
3		<b>General Comment - Incorporation of Comments Previously Provided</b>	The detailed and general comments that were provided by the State review team on the Revised 60% Design Package that was provided in August and September 2022 are still relevant and must be addressed.	Address comments previously provided prior to submission of a revised design package. Revise and submit a comprehensive set of designs and work plans.	
4		<b>General Comment - Work Scope</b>	<p>Details on the scope of work in the Draft RWP Part 1 that were developed based on from the August 4, 2023, letter from the U.S. EPA to NCR are provided in Section 3.1. The first and second paragraph provide details on the scope of the Draft RWP Part 1 and state, "The Part 1 TCRA scope of work as detailed in the August 2023 U.S. EPA Letter (U.S. EPA, 2023) is limited to the following: 1. Installation of a temporary water control structure. 2. Dredging and off-site disposal of polychlorinated biphenyl (PCB)-impacted sediments (i.e., in-stream sediment exhibiting PCB concentrations of ≥1.0 milligrams per kilogram [mg/kg]). 3. Installation of temporary riverbank stabilization measures in necessary subareas to prevent erosion of PCB-impacted floodplain and bank soils/near bank sediments into the sediment dredge footprint."</p> <p>The RWP that was provided with the 60% Design Package in August and September 2022 included a figure (Figure 1) that showed locations for bank excavation. The Revised RWP includes a figure (Figure 6) that shows locations for bank protections (i.e., sheet pile and turbidity curtain). When comparing the two figures it is clear that the locations where bank protections are proposed does not overlap with the locations where bank excavation during the TCRA is anticipated, so it is not clear how locations for stabilization were selected. The placement of the turbidity screen, which is oriented parallel to the riverbank, is laterally discontinuous and typically only present on one side of the river. Additionally, the locations where turbidity screen are proposed do not appear to overlap with locations where samples and interpolations show PCB contamination exists in the banks and floodplain, so it is not clear how the locations were selected. Placement of sheet pile wall is limited to the stretch from RM 45.7 to just downstream of RM45.3 and placement of the sheet pile wall is generally confined to one side of the river.</p> <p>The August 4, 2023, letter states, "The work plan EPA requests at this time is for the implementation of a portion of the Area 4 Removal Response Action described in the Consent Decree. The work plan must have the following elements: 1) Installation of the temporary water control structure; 2) Dredging and off-site disposal of PCB-contaminated sediments; and 3) Installation of temporary riverbank stabilization measures in all sub-areas to prevent erosion of PCB-contaminated floodplain and bank soils/near bank sediments into the sediment dredge footprint described in element 2."</p> <p>The Draft RWP Part 1 does not include the elements detailed in the August 4, 2023, letter from the U.S. EPA to NCR. It does not propose any strategies to prevent erosion (and mobilization) of contaminated floodplain and bank soils/near bank sediments into the sediment dredge footprint and it does not include the installation of stabilization measures in all sub-areas.</p>	Revise the document so that it includes the installation of temporary riverbank stabilization measures in all sub-areas, and add measures to prevent the erosion of soils/sediments into the dredge footprint. Revise language in Section 3.1 (and throughout the document) to match the requirements of the August 4, 2023, letter. Provide justification for locations where stabilization measures are not proposed.	
5		<b>Cover Letter and Section 1.3.1 Transition to Part 2 Work</b>	We disagree that the successful transition from Part 1 to Part 2 relies solely on the U.S. EPA description on the aspects of Part 2 design and timely approval. It also relies on GEI/NCR to successfully address concerns that led to disapproval of the August 2022 design and produce a design that accommodates requirements outlined by the U.S. EPA. Failure to produce an approvable design is a major hurdle to transitioning from Part 1 to Part 2.	Provide complete plans. Adequately address comments on previous plans.	
6		<b>Section 1.3 Project Schedule and 1.3.1 Transition to Part 2 Work</b>	<p>Text in Section 1.3.1 states, "Significant design work has been done on the next phase of work, Part 2, including submission of a work plan in August 2022 that covered both parts of the TCRA work. Following EPA's disapproval of that work plan, technical memoranda were submitted to EPA containing proposals for key aspects of the Part 2 work, most notably management of post-dredge sediments and requirements for channel stability after TCRA completion," and, "If EPA decisions are not provided in a timely manner, delays may be experienced in contractor selection, material procurement, and work implementation in the field. These time delays would also cause additional costs for items such as material procurement, additional field mobilizations, and maintenance of temporary controls installed as part of Part 1 of the TCRA as well as other costs that are unrealized at this time."</p> <p>It is worth noting that the 60% Design Package was disapproved in December 2022. The design work that was completed and submitted requires significant revisions, and there is no mention of completing revisions to the design work that will be necessary to complete the TCRA. After reviewing the RWP it is evident that the document contains significantly less information and detail than was provided in the 60% Design. Revised designs have not yet been provided. Furthermore, it is still unclear how the comments on the 60% Design package are being incorporated into the project. Though the SOM review team strives to provide expedited review and critique of project designs, sampling strategies and workplans, it becomes difficult when submissions do not contain sufficient detail for thorough review. When will the revisions to the various work plans and attachments that were requested at the 60% Design stage be completed? When will a revised design package with final details need to support Part 1 (and Part 2) be provided for review and approval? When will supplementary work plans and documents that are necessary to complete the TCRA and cited in the Part 1 RWP be submitted for review and approval?</p>	Perform required revisions. Provide additional work plans and designs.	
7		<b>Section 2.1 Location and Current Site Description</b>	<p>Text in Section 2.1 states:</p> <p>"Area 4 is divided into the following eight sediment Subareas (Fig. 2):</p> <ol style="list-style-type: none"><li>1. Subarea A extends from the former Otsego Dam downstream to approximately RM 48.35, which is near the upstream extent of the historical impoundment of the Trowbridge Dam.</li><li>2. Subarea B extends from Subarea A (RM 48.35) downstream to approximately RM 47.25, which is the approximate upstream extent of the current Trowbridge Dam impoundment.</li><li>3. Subarea C extends from Subarea B (RM 47.25) downstream to approximately RM 46.65, which is just upstream of the mouth of the Schnable Brook tributary.</li><li>4. Subarea D extends from Subarea C (RM 46.65) downstream to approximately RM 45.70, where a change in sediment PCB concentration patterns was observed based on historical sampling data (Amec Foster Wheeler, 2018).</li><li>5. Subarea E extends from Subarea D (RM 45.70) downstream to the Trowbridge Dam (RM 44.9).</li><li>6. Subarea F includes the side channel south of Subarea E.</li><li>7. Subarea G includes the backwater area on the eastern floodplain north of Subarea E.</li><li>8. Subarea H includes the areas of inundation along Schnable Brook east of Subarea D.</li></ol> <p>Part 1 TCRA work will be limited to Subareas C, D, E, and portions of G, as detailed in Section 3."</p> <p>All of these items are taken directly from the Area 4 Supplemental Remedial Investigation (SRI) Report Section 4.1.1., except for item #7.</p>	<p>Comments for each item are provided below in the order they are provided in the text.</p> <ol style="list-style-type: none"><li>1. When it was at it's maximum elevation, the Trowbridge dam impounded water up to the former Otsego Township dam, as shown in several historic aerial images that are available in the SRI Report (i.e., 1938, 1960, 1967). Revisit the text accordingly.</li><li>2. Given that the Area 4 TCRA pre-design investigation (PDI) determined that the extent of the current Trowbridge Dam impoundment extends to Subarea B, which is further upstream than the TCRA boundary, contaminated sediments and banks soils in the upstream Subarea(s) could be subject to erosion. How will potential recontamination of the current TCRA footprint and exacerbation of existing conditions be avoided? How will upstream locations be monitored? Edit the last paragraph to include "...evaluation of conditions up to the current extent of the Trowbridge Dam impoundment."</li><li>3. No change.</li><li>4. Section 2.1 is titled Location and Current Site Description. However, item #4 references a section of Wood's 2018 SRI Report discussing a "change in sediment PCB concentration patterns". In general, the Area 4 SRI (Table 4-2) shows this "change" is a significant and progressive increase in the total PCB surface area weighted average concentration (SWAC) in surface sediments, and this increase occurs across all depth intervals for all Subareas downstream of Subarea D (Subareas E, F &amp; G). Revise the text to state, "...where a significant increase in sediment PCB concentration patterns was observed based on SRI sampling data (Amec Foster Wheeler, 2018)."</li><li>5. No change.</li><li>6. No change.</li><li>7. All of these items are taken directly from the Area 4 SRI Report Section 4.1.1., except for item #7. Revise the text to be state, "Subarea G includes the inundated area on the right floodplain north of Subarea E (Amec Foster Wheeler, 2018)."</li><li>8. No change.</li></ol> <p>The Draft RWP Part 1 includes the installation of sheet pile in Subarea F. Operation, Maintenance, and Monitoring Plan (OM &amp; M) and bank protection will be required for all subareas. Revise the last paragraph so that it states, "Part 1 TCRA work requires the installation of temporary riverbank stabilization measures and completion of OM &amp; M in all sub-areas."</p>	
8		<b>Section 3.1 Part 1 TCRA Scope and Figure 3</b>	The 30%, 60%, and final draft design plans are referenced including hydraulic, geotechnical, and structural analysis. These plans were not approved in part due to unresolved issues in each of these analyses and design plans. Comments authored and issues identified have not been addressed.	If these plans are to be used, reviewer comments and issues with the analyses and design plans must be addressed. Revise and submit design plans and analyses.	
9		<b>Section 3.1 Part 1 TCRA Scope</b>	<p>The last paragraph in Section 3.1 states, "To achieve the tasks discussed above, GEI collected additional soil and sediment PCB data; completed hydraulic, geotechnical, and structural analyses; and developed plans and specifications to support the 30%, 60%, and final draft designs for contractor procurement for the Area 4 TCRA as described in the following sections."</p> <p>The U.S. EPA and EGLE have provided comments on the "30%" and "60%" design packages. The "60% Draft Design" and all attachments contained there-in were submitted in August and September 2022 and disapproved by the U.S. EPA in December 2022. A "final draft design" has not been provided, so it is unclear what document the text is referencing. The Draft RWP Part 1 also references submittals and design packages that have not yet been provided or reviewed and approved.</p>	Address comments provided on the Revised 60% Design Package and other work plans. Submit a revised design package to support "Part 1". Submit documents that are referenced in the Draft RWP Part 1 that have not been provided.	
10		<b>Section 3.1 Part 1 TCRA Scope</b>	Text in the fifth paragraph in Section 3.1 states, "Following water level lowering and Trowbridge Dam removal in Part 2 to complete the TCRA, it is anticipated that portions of Subareas F and G that are at present routinely inundated will drain and revert to upland floodplain. Impacts within these areas will be addressed during future floodplain work."	<p>How and when will these areas be evaluated to determine whether or not they have reverted to "upland floodplain"? The derivation of and distinction between soil and sediment criteria is detailed in the Human Health Risk Assessment (HHRA) and the process for applying soil and sediment criteria was further addressed during a Dispute Resolution process that occurred in 2004. Both of these documents can be readily accessed and are available online, and EGLE has cited and shared these documents in our previous submittals.</p> <p>Under the terms of the Dispute Resolution and based on text in the HHRA, the assumption that discrete areas will revert to "upland floodplain" is not an adequate line of evidence to support the application of and boundary between "soil" and "sediment" criteria. The schedule and design provided by GEI/NCR has significantly extended duration of the TCRA which will provide sufficient time and opportunity to resolve "soil" and "sediment" boundaries prior to completion of the TCRA. Future wetland delineations and stability surveys will be needed to evaluate the use of alternate criteria, which requires the consideration of risk-based factors including (but not limited to) the frequency and time of inundation, and the potential for material to migrate in-stream due to ongoing erosion or flooding. Revise the text to include discussions surrounding the application and resolution of soil and sediment boundaries prior to completion of the TCRA.</p>	
11		<b>Section 4.0 PDI</b>	<p>Section 4.0 includes a list of tasks and objectives. Item number one (#1) states, "1. Refining the horizontal and vertical extent of PCBs in bank soils and near-bank sediments in Subareas C, D, and E with PCB concentrations equal to or greater than the cleanup standards of 5.0 mg/kg and 1.0 mg/kg, respectively. These data were used in coordination with historical data (as applicable) to define the bank segments requiring removal to meet the TCRA cleanup standards. Historical data were included except for bank areas showing signs of recent erosion."</p> <p>Item number two (#2) in that list states, "2. Refining the horizontal and vertical extent of PCBs in current in-stream sediments in Subareas E, F, and G with PCB concentrations equal to or greater than the cleanup standards of 1.0 mg/kg. These data were used to define the dredge prisms requiring removal to meet the cleanup standards intended to achieve the post-removal surface-area weighted average concentration (SWAC) standard. Historical sediment data were used for sampling design purposes only because older sediment data were unlikely to be representative of sediment conditions at the time of the PDI."</p>	<p>The data handling approach described under #1 is inappropriate. The available Global Positioning System (GPS) data for "historical data" and PDI data and documentation of the current condition and edge of bank at those locations should provide a good indication if a significant quantity of material has eroded such that the "historical" sample no longer exists. Provide an explanation for how "historical data" was used when bank areas were showing "signs of recent erosion". If historical data were not included because banks were suspected to have eroded, were additional samples collected to evaluate the current nature and extent of contamination on the bank? Were samples collected from the toe of bank to determine if the eroded bank materials had deposited and remained along the edge of the bank in the river channel? In locations where active erosion can be documented, were proximal floodplain samples considered?</p> <p>The approach for data usage described in #2 is confusing. If historical data are unlikely to be representative of sediment conditions at the time of the PDI then how and why was the historical data used to determine where samples would (and would not) be collected during the PDI? How can pre-removal SWACs be calculated if data are no longer representative and newer samples haven't been collected? What analysis has been done showing that the removal action, as planned, will achieve a post-removal SWAC of 0.33 mg/kg?</p>	

DOCUMENT NAME: Removal Work Plan (RWP) Part 1 version October 4, 2023 (Draft RWP Part 1)

ITEM NO.	REVIEWER	REFERENCE TO GEI SUBMITTAL (i.e., Section X.X, Page XX)	COMMENT (+ reference(s) to support)	SUGGESTION / RECOMMENDATION	GEI Response to Comments (date)
12		Section 5.0 TCRA Part 1 Tasks	What is the goal of riverbank stabilization measures?  Text in Section 5.0 states, "As shown in the sequence of work drawings, temporary riverbank stabilization measures will be installed before dredging to help mitigate migration of remaining PCB-impacted material into the main river channel both during and following dredging."  This language is inconsistent with the August 4, 2023, letter from the U.S. EPA to NCR.  The August 4, 2023, letter states, "The work plan EPA requests at this time is for the implementation of a portion of the Area 4 Removal Response Action described in the Consent Decree. The work plan must have the following elements: 1) Installation of the temporary water control structure; 2) Dredging and off-site disposal of PCB-contaminated sediments; and 3) Installation of temporary riverbank stabilization measures in all sub-areas to prevent erosion of PCB-contaminated floodplain and bank soils/near bank sediments into the sediment dredge footprint described in element 2."	Revise the document so that it includes the installation of temporary riverbank stabilization measures in all sub-areas, and add measures to prevent the erosion of soils/sediments into the dredge footprint. Revise language in Section 5.0 (and throughout the document) to match the requirements of the August 4, 2023, letter. Provide justification for locations where stabilization measures are not proposed.	
13		Section 5.0 TCRA Part 1 Tasks	Text in Section 5.0 states, "Dredge footprints have been established for delineated impacts ≥50 mg/kg and ≥1 mg/kg PCBs, and for Beaver Island. As stated in Stage 5 of the sequence of work drawings, Beaver Island and its surrounding area will be dredged/excavated and stockpiled with the intention of reuse within the site boundary. A similar path for reuse of non-PCB-impacted soil for the left descending bank soil adjacent to the primary spillway is planned for Part 2."  Reuse is not defined. The destination and PCB and non PCB contaminant load are critical for evaluating the appropriateness of reuse.	The Draft RWP Part 1 identified at least two locations where GEI anticipates harvesting "clean" soil for use in bank buffer ("Beaver Island" and the left descending bank [LDB] embankment at the dam). The Revised 60% Design Package included harvesting "clean" soil from the "Osgood spit", but reuse of that material is not described in this version of the RWP.  During conversations with the Work Group while planning the Phase 3 PDI, no desire to harvest and reuse materials outside where the pilot channel would be dredged was expressed. The Phase 3 PDI did not propose characterizing materials in "Beaver Island", the "Osgood spit" or the "LDB embankment at the dam". Therefore, these materials cannot be beneficially reused without first taking steps to appropriately characterize them. If analytical information for these areas exists please provide it, along with design drawings showing excavation plans. Provide additional data and define "reuse" or delete references to reusing these materials.	
14		Section 5.1.4 Access Road and Staging Area Construction	It is worth noting that most of the staging that is proposed is outside of the boundary of the TCRA and/or Superfund Site, and those locations are being used with permission from MDNR.	Permission from MDNR will be required to use the proposed staging locations and those areas will be used and restored in accordance with MDNR direction, and with support from the On-Scene Coordinator.	
15		Section 5.1.5 Turbidity Controls	Text in Section 5.1.5 states, "Temporary turbidity controls will be evaluated as means of controlling sediment transport during in-stream sediment dredging. Turbidity curtains, turbidity screens, and temporary steel sheet pile cofferdams, as appropriate, will be evaluated as means of isolating impacted material and preventing redistribution of impacted material following dredging. To minimize downstream impacts during dredging, a series of turbidity controls will be installed to manage the active dredge work."  There is no detail regarding planned turbidity controls or dredging best management practices (BMPs) that will be implemented. The Draft RWP Part 1 states that different options will be evaluated, as appropriate. There was discussion of a sediment trap in Revised Design Package from August and September 2022, but there is no mention here. A Turbidity Monitoring Plan was previously submitted, but is not referenced in this Section or elsewhere in the document.	Revise the text to state, "Temporary turbidity controls and best management practices (BMPs) will be utilized for controlling sediment transport during in-stream sediment dredging and bank excavation. Turbidity curtains, turbidity screens, and temporary steel sheet pile cofferdams, will be evaluated as means of isolating impacted material and preventing redistribution of impacted material following dredging. BMPs To minimize downstream impacts during dredging, a series of turbidity controls will be installed to manage the active dredge work.  Define specific sediment controls, locations and defend the appropriateness of the proposed technique. Describe how trapped sediment will be handled.  Clarify if the Turbidity Monitoring Plan previously provided is going to be utilized. If it will be used, address comments previously provided on the Turbidity Monitoring Plan. If it will not be used, develop and submit a new Turbidity Monitoring Plan. A separate work plan that details turbidity controls and BMPs that will be used during in-stream sediment dredging and bank excavation will need to be developed and submitted.	
16		Section 5.2.2 Turbidity Monitoring	Turbidity monitoring is proposed, but not for the duration of the project or for all flows and river conditions (e.g. ice). The turbidity plan does not define thresholds or response action is turbidity exceeds criteria.  Turbidity monitoring is a good indicator of increased suspended sediment loads resulting from the project. However, it may not be a good indicator of increased bedloads occurring from mobilization of coarser sediments and bank materials in the project area.	Turbidity monitoring should be conducted throughout the duration of the project. Monitoring should continue during high flow events as this is when potential for erosion will be the highest. Include discussion of turbidity thresholds and responsive actions to be taken if thresholds are exceeded.  If erosion is observed or suspected, additional assessment and/or survey work will be necessary to identify areas of erosion and deposition that would not necessarily be captured by turbidity monitoring alone.	
17		Section 5.3 Stormwater Controls	Stormwater controls are proposed to facilitate movement of upland runoff to the stream, but no treatment or prevention of sediment associated with the runoff is defined.	Stormwater and contact water will need to be captured and treated to prevent contaminated sediment mobilization from upland to the river.	
18		Section 5.4 Water Control Structure	Last sentence first paragraph: GEI submitted plans and specifications detailing the installation and phasing of the WCS on September 1, 2022 in the "Supplemental Design Submission." Final plans, specifications, and basis of design have not been reviewed and approved by EGLE.	Provide final design plans, specifications, and basis of design for review and approval.	
19		Section 5.5.1 Dredging	Sampling of sediments for PCB and non-PCB contaminants has indicated several exceedances of ecological screening criteria exist throughout the project area. No biotoxicity sampling results have been provided for review. The SOM will not support any dredging, handling, disposal, exposure, or mobilization of sediments within the project area until those sediments have been shown to be non-toxic and impacts are fully understood.	Provide biotoxicity sampling/test results that representative of sediment to be dredged, handled, disposed, exposed, or mobilized by the proposed project. Provide sediment management plan for review and approval.	
20		Section 5.6 Riverbank Temporary Erosion Control	Only unstable banks above 5 mg/kg are proposed to be protected. If banks adjacent to PCB banks erode, it will create potential for erosion to move into protected banks as well as potential for mass soil movement and bank failures. Uncontrolled erosion of banks with potential non PCB contamination or PCB contamination above risk-based thresholds will result in damages to the public trust.	Revise the document so that it includes the installation of temporary riverbank stabilization measures in all sub-areas, and add measures to prevent the erosion of soils/sediments into the dredge footprint. Revise language in Section 3.1 (and throughout the document) to match the requirements of the August 4, 2023, letter. Provide justification for locations where stabilization measures are not proposed.	
21		Section 5.6 Riverbank Temporary Erosion Control	The SOM review team is concerned with the efficacy of turbidity screens to capture materials that would be mobilized by bank erosion, sloughing, etc. Turbidity curtains do not stabilize banks, rather they capture some portion of the sediment erosion. Turbidity screens are effective for temporarily capturing suspended sediment loads and reducing turbidity of water passing through/around the screens, but are less effective for containing coarser bedload materials or any significant build up of sediment behind the screens. Curtains will not prevent erosion during high flow or movement of sediment over flooded substrates into adjacent bank areas for discharge. No description of bank stabilization in addition to controlling released sediment was discussed.	Revise the document so that it includes the installation of temporary riverbank stabilization measures in all sub-areas, and add measures to prevent the erosion of soils/sediments into the dredge footprint. Revise language in Section 3.1 (and throughout the document) to match the requirements of the August 4, 2023, letter. Provide justification for locations where stabilization measures are not proposed.  The OM & M Plan needs to demonstrate effective capture and containment of mobilized bank soils. If shown to be ineffective to mitigate against mobilization of bank materials, more substantial bank stabilization will be necessary.	
22		Section 5.6 Riverbank Temporary Erosion Control	Text in section 5.6 states, "Monitoring and maintenance of temporary turbidity screens will be performed monthly or after each storm event. Monitoring will consist of a visual inspection of the bank to document stability and state of erosion. If the bank demonstrates signs of erosion, the inspection team will verify if the sediment is captured between the bank and screen. If eroded material is observed to be beyond the turbidity screen, the material will be removed and staged in the Trowbridge staging area for transport and disposal. The turbidity screen will be adjusted or repaired as necessary. Inspections from the water are anticipated but will be dependent on weather. Alternative access methods may be employed. This turbidity screen monitoring and maintenance will continue until Part 2 of the work is completed as discussed in Section 5.10."  Visual inspection of banks is subjective and not adequate. Only sediment that makes it past curtains is proposed for removal. This allows for contaminated sediment to sit behind turbidity curtains and poses a risk for release as curtains fill/fail. Monitoring and maintenance of turbidity screens and banks will need to be included in the OM & M Plan.	Define "storm event".  Utilize and enhance the existing erosion pin network or utilize other survey techniques to identify changes to existing bank locations as part of the OM & M Plan. This would allow for quantification of sediment lost and inform subsequent removal to determine how much of the sediment was removed through maintenance activities. Remove material from behind the sediment screen when known erosion is observed. Material behind turbidity screens within the river is not stable and will require excavation through time as screens fill/fail.	
23		Section 5.10 Post-Removal Monitoring and Maintenance	The first paragraph in Section 5.10 states, "After Part 1 TCRA completion, post-removal maintenance and monitoring of physical site infrastructure (access roads, dredge pad staging area, sheet pile, riverbank temporary containment, temporary upland erosion controls) will continue for a period as determined in consultation with EPA."  The term "post-removal" is not appropriate here since post-removal activities won't begin until "the work" is completed. However, operations, monitoring and maintenance will be required during and after Part 1 (and Part 2).	Revise the text to state, "During and after Part 1 TCRA completion, an OM & M Plan will be implemented and will be updated, as necessary, to include monitoring and maintenance during and after completion of Part 2. OM&M will continue until the site transitions into post-removal site control, which will occur when the action is completed."  An OM & M Plan will be required to provide details on the monitoring and maintenance that will be done during and after the completion of Part 1 and Part 2. A post-removal site control plan (PRSCP) will be required to document monitoring and maintenance after completion of "the work". See comments related to Section 8 Planning Documents and Section 8.12 PRSCP. When will the OM & M Plan be provided for review and approval?  Text the third paragraph references a Long-Term Monitoring Plan (LTMP) and a PRSCP. Are the LTMP and the OM & M Plan the same document? Provide additional information on the content of the LTMP and how this is different than the OM & M Plan and PRSCP.	
24		Section 5.10 Post-Removal Monitoring and Maintenance	Text in the third paragraph of Section 5.10 states, "After completion of the Area 4 TCRA maintenance and monitoring phase, a final report will be compiled and submitted to the EPA."	Revise the sentence to state, "After completion of the Area 4 TCRA maintenance and monitoring phase, a final report will be compiled and submitted to the EPA and EGLE."	
25		Section 6 Permitting	The last sentence of Section 6 states, "However, to the extent practicable within the scope of work defined in the CD, meeting the substantive State and local requirements will be demonstrated in consultation with EPA."  Are Federal requirements being considered?  Documentation of compliance with (Federal?), State and local requirements will be necessary.	Clarify how Federal requirements are being addressed.  Revise the text to include consultation and documentation with the U.S. EPA and the State.	

ITEM NO.	REVIEWER	REFERENCE TO GEI SUBMITTAL (i.e., Section X.X, Page XX)	COMMENT (+ reference(s) to support)	SUGGESTION / RECOMMENDATION	GEI Response to Comments (date)
26		Section 8 Planning Documents	A OM & M Plan is not included in this list but will be required.  A LTMP was cited earlier in the text but that document is not included in this list.  A Turbidity and Water Quality Monitoring plan was already developed and submitted but that document is not included in this list.  A plan that guides restoration will be required but is not included in this list.  A plan that guides the completion of dredging/excavation activities will be required but is not included in this list.  A plan that guides the decontamination of materials and equipment will be required but is not included in this list.	Update Section 8 to include all work plans at were previously provided. Update Section 8 to include delivery of additional plans that were not identified.	
27		Section 8.12 PRSCP	Text in Section 8.12 states, "This plan will describe the measures that will be undertaken to ensure the establishment of erosion controls, vegetation maintenance and replacement (where necessary), and maintenance of engineering controls."  The list of elements for the PRSCP that is provided is limited and it may not include all the elements that will be required as part of the PRSCP.	Revise the text so that it is consistent with language Action Memorandum (Step 6 in the Description of the Proposed Action) and states, "This plan will describe the monitoring and maintenance both during and for a defined time period, to be determine in coordination with the State, after completion of the work."  It is important to note that the Action Memorandum requires completion of "the work" before post-removal site control begins and "the work" is outlined in Steps 1-5 in the Description of the Proposed Action.	
28		Table 2	Table 2 lists Site-specific total toxic equivalency quotient (TEQ) thresholds for soil (PRGs) for each receptor (mammalian, avian, and recreationalist). PRGs for TEQs have not been established, although a range of risk-based soil concentrations (RBCsoil) was developed for each receptor as part of the risk assessment process.	Delete the individual values from Table 2 as site-specific PRGs for these receptors have not been established, and insert the range of RBCsoil for each receptor so that the reader has an understanding of the range of TEQ concentrations for RBCsoil. Ranges for RBCsoil are provided below:  Mammalian receptors: 91 nanograms/kilograms (ng/kg) to 55,402 ng/kg Avian receptors: 181 ng/kg to 114,300 ng/kg Recreationalists: recreational carcinogenic risk at 1x10 <sup>-6</sup> risk: 350 ng/kg / non-carcinogenic at HI=1: 1,330 ng/kg.  EGLE has repeatedly voiced concerns about the level of protectiveness of the HHRA and the terrestrial baseline ecological risk assessment that was completed for TEQs.	
29		Figure 7 Proposed Access Roads	Access roads are planned for areas within and outside of the TCRA footprint.	Sampling for PCBs and TEQs in the footprints for the proposed staging areas and haul/access road should be completed prior to installing any of these features, especially if they will remain in-place until the remedial action is implemented.	
30		Figure 7 Proposed Access Roads	Note from plan sheet: "Haul roads to be built based on contractor's needs for WCS and Osgood Spit remediation" - no analysis of wetland, stream, floodplain impacts is provided.	Provide assessment of wetland, stream, floodplain impacts along with restoration and mitigation plans, as appropriate.	
31		Work Sequence Plan Sheet 1 of 4 (GE-007)	Note 9: "Complete installation of the WCS (See Sheet TD-10 for dam removal sequence steps)." This plan set has not been provided or review/approved.	Provide final design plans, specifications, and basis of design for dam removal and WCS installation for review and approval.	
32		Work Sequence Plan Sheet 1 of 4 (GE-007)	This figure shows turbidity curtains only proposed for downstream of the dam. No near dredge curtains are depicted. No controls upstream of the dam are present. Curtains angle downstream and would release sediment rather than trap.	What type of turbidity controls will be used in the dredge areas or to capture sediment in the project area? Sediment deposition in the plunge pool will require excavation. Turbidity curtains deployed in herring bone fashion generally need to angle upstream to retain sediment. Revise the document accordingly.	
33		Work Sequence Plan Sheet 1 of 4 (GE-007) Step 2A	Intermittent turbidity curtains on outside bends demonstrate the potential for adjacent bank erosion that could undermine turbidity curtain controls in adjacent banks.	Extend turbidity curtains or alternative erosion control methods along the entire outside bend to prevent flanking.  Take active measures to prevent erosion of contaminated materials. Revise the document so that it meets the requirements of the August 4, 2023, letter from the U.S. EPA to NCR and includes the installation of temporary riverbank stabilization measures in all sub-areas to prevent erosion of PCB-contaminated floodplain and bank soils/near bank sediments into the sediment dredge footprint. Develop and submit a robust, quantitative OM & M Plan for Part 1 (and Part 2) activities.	
34		Work Sequence Plan Sheet 3 of 4 (GE-009)	Dredging in Subarea E is proposed to be completed during Stage 4 and it will progress in an upstream to downstream manner from approximately RM 45.7 to the Osgood Spit and includes dredging across nearly the entire channel width. Protections for Osgood Spit and the sediments downstream and along the left descending bank, which contain high levels (~50 parts per million PCBs) are not proposed to be installed until Stage 6. Given the elevated concentrations of PCBs in this location and the planned work throughout the channel prior to Stage 6, sediments and soils in this will likely be susceptible to mobilization as river dynamics are altered and dredging and bank protection is installed.	Take active measures to prevent erosion of contaminated materials. Revise the document so that it meets the requirements of the August 4, 2023, letter from the U.S. EPA to NCR and includes the installation of temporary riverbank stabilization measures in all sub-areas to prevent erosion of PCB-contaminated floodplain and bank soils/near bank sediments into the sediment dredge footprint.	
35		Work Sequence Plan Sheet 4 of 4 (GE-010)	Note 9: "Complete installation of the WCS (See Sheet TD-10 for dam removal sequence steps)." This plan set has not been provided or review/approved.	Provide final design plans, specifications, and basis of design for dam removal and WCS installation for review and approval.	