

DATE: April 3, 2020 FILE REF: BRRTS # 02-16-000484

TO: Crawford Creek Project Coordination Team (PCT) – EPA/Jacobs & Beazer/Arcadis/Anchor

FROM: Joe Graham, John Sager, & Chris Saari – DNR Remediation & Redevelopment

SUBJECT: Crawford Creek Great Lakes Legacy Act (GLLA) – Focused Feasibility Study (FFS)
DNR Comments on Various Draft FFS Documents Provided by the PCT in February 2020

The purpose of this memo is to provide DNR comments on the draft reports, tables, figures, and sections of text prepared for the FFS by EPA contractor Jacobs and the contractors for Beazer, Arcadis and Anchor. DNR received these documents in various emails sent in February 2020. The items we received and reviewed are summarized in Table 1. Contractors for Beazer and EPA shared comments for some items throughout March 2020. Where possible, DNR used the file containing these contractor markups in our review.

DNR comments on the draft documents are summarized in Table 2 and, where applicable, also shown as markups in the companion Microsoft Word files that accompany the email transmittal of this memo. We hope that providing comments in this format will facilitate a similar response to comments from the PCT. Thank you for inviting us to participate in the PCT and this opportunity to provide feedback.

Table 1 Draft Documents Reviewed by DNR

Document Reviewed	Document Abbr.	Primary Author	Name of File Reviewed
Wetland Delineation Report	WD	Arcadis	Wetland and Waterbody Delineation Report_Crawford Creek-Tributary_Superior WI (DRAFT_2020-02-26).pdf
Conceptual Site Model, Figures A to D	CSM	Arcadis	Crawford Creek_Trib Conceptual Site Model Figures (DRAFT_2020-02-18).pdf
Focused Feasibility Study Sections-1,2,8,11	FFS-Jacobs	Jacobs	2020_02_28_CrawfordCreek_DRAFT_FFS S12811 (Beazer comments_2020-03-20).docx
Tables 8-1 to 8-4	Tables	Jacobs	Tables 8-1 to 8-4 Technology Screening (Beazer comments_2020-03-20).pdf
Focused Feasibility Study Section 3	FFS-Arcadis	Arcadis	FFS Section 3 - Site Description Land Use and History (DRAFT_2020-02-28) JSS.docx
Figures 1 to 3	Figures	Arcadis	FFS Figures 1-3 (DRAFT_2020-02-28) JSS.pdf

Table 2 DNR Comments on Draft Documents Reviewed

ID	Document	Page(s)	Section	Comment
1	WD	All	na	DNR regulatory programs will provide any official agency review of the wetland delineation report (3/20/2020 Graham email to Dave Bessingpass). Wetland delineations have a shelf-life. The field work was done in 2018 and it is 2020.

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2	CSM	All	Figures A to D	The conceptual site model needs to show the Ordinary High-Water Mark (OHWM). Risk receptors need to be protected both above and below the OHWM under Wisconsin Statutes Ch. 292. Under this law, the OHWM serves as the boundary between soil and sediment. The OHWM is used to determine the applicable environmental laws and standards under NR 722.09 (i.e., ARARs). For example, floodplain soils need to be restored in compliance with NR 720. DNR has the authority to determine the OHWM for regulated sites; consultants and surveyors can show the approximate boundary on maps and figures.
3	CSM	All	Figures A to D	The CSM figures do not include graphic representations of potential receptors. The addition of graphics will improve the utility of these figures for community outreach efforts and could negate the need for additional or duplicative efforts later in the project. Consider adding graphics to illustrate exposure pathways. For example, show invertebrates, fish, birds, voles, amphibians, people walking, people trapping, and others interacting with the model.
4	CSM	All	General	The presence of NAPL blebs and sheen is de-facto evidence of principal threat waste in surface water and therefore, under the NCP, presumed to be unacceptable risk and require active remediation.
5	CSM	All	Figures A to D	In the figures add labels with arrow indicating: NAPL blebs, sheen, dissolved COCs, suspended sediment COCs in water
6	CSM	1	Figure A	Change label for "Surficial bank materials with COCs" to "COC Contaminated Soil"
7	CSM	1	Figure A	Add label for "COC Contaminated Soil" (surficial floodplain material)
8	CSM	1 & 2	Figures B & C	Does the "Black stained layer" really extend across the full cross section of the subareas; has the extent of the black layer been defined? Update the CSM figures to show the defined extent of the black stained layer.
9	CSM	1 to 3	Figures A to C	Creosote in clay fractures is not highlighted or shown consistently in figures. Highlight creosote-like product in all figures as done in Figure C.
10	CSM	4	Figure D	Is it true that there is no black stained layer or creosote-like product in clay fractures within the floodplain in area D? Verify the basis for this label. Note - Sheen/NAPL was observed in the inlet to the wetland during the 2014 GLNPO sampling, see photos in Jacobs 2014 report.
11	CSM	3	Figure C	Delete the word "thin" from the description of sand seams. The term is subjective and a 9-inch sand seam though clay is rather "thick", especially if it is full of creosote.

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12	CSM	All	Figures A to D	COPCs - Spell out pentachlorophenol, don't abbreviate as Penta
13	CSM	All	Figures A to D	Potential Transport Mechanisms, add: Surface water NAPL blebs, non-dissolved phase sheen
14	CSM	All	Figures A to D	Potential Receptors, Human, add: Landowner/Residents Construction/landscaper/logger
15	CSM	All	Figures A to D	Potential Receptors, Ecological, add: Terrestrial Invertebrates Amphibians
16	CSM	All	Figures A to D	Potential Exposure Pathways, Humans, add: Incidental ingestion of water
17	CSM	1 to 3	Figures A, B, & C	Figures A, B, & C list the "Product observed" distance from the channel. The word "observed" is ambiguous in that it can mean visually observed or measured by analytical chemistry. This should be clarified on the CSM figures. Also, revise CSM figures to describe the approximate distance from the creek channel that exceedances of human or ecological risk thresholds have been measured or inferred by the observation of product.
18	CSM	4	Figure D	Figure D should be labeled to show the approximate distance of risk exceedances.
19	FFS-Jacobs	Word p. 1	Cover Page	Add: "WDNR BRRTS Case # 02-16-000484" to cover page. Comment - Including the BRRTS case number is important for tracking documentation that will be needed for site closure under Wisconsin regulations.
20	FFS-Jacobs	1-1	1. Introduction	First paragraph, after the last sentence, add: "The Site is impacted by hazardous substance discharges from the former Koppers Inc Wood-Treating Facility. The Wisconsin Department of Natural Resources (WDNR) lists the site as an open case in its database of sites where environmental contamination has been reported (otherwise known as the Bureau of Remediation and Redevelopment Tracking System (BRRTS)) under BRRTS Case # 02-16-000484." Comment - If the project will seek concurrence or approvals from DNR under the NR 700 series it will be important to reference the BRRTS case.
21	FFS-Jacobs	1-1	1. Introduction	Second paragraph, make edits to text to reflect that DNR was invited to be part of the PCT.

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22	FFS-Jacobs	1-1	1. Introduction	<p>Third paragraph, see text edits in Word doc, (1) CH2M did 2014 characterization on behalf of GLNPO. (2) delete text indicating that the data gaps work plan was agreed upon by the PCT.</p> <p>Comment - DNR's ability to provide input on data gaps was limited by the fact that a combined database of all previous site investigation work and associated interactive GIS mapping were not available and shared with the PCT at the time.</p>
23	FFS-Jacobs	1-1	1. Introduction	<p>Fourth paragraph, Comment - The text, "technologies and alternatives that are known to be successful" is subjective. Provide references and documentation for successful use of a given technology at other wood-treating sites, and agency approvals, as an appendix of the FFS.</p>
24	FFS-Jacobs	1-2	1. Introduction	<p>FFS sections should also evaluate restoration technologies. Agree with Beazer Global Change "remedial/restoration".</p>
25	FFS-Jacobs	2-1	2. Purpose and Objectives	<p>EE Overall Comment on RAOs: FFS – Section 2 – "Purpose and Objectives" – the RAOs listed in the document are apparently the ones included in the PA, but they lack adequate specificity. RAOs should be specifically linked to reducing risk to different kinds of receptors. Also, the wording is vague – what does it mean to "address" an impact? These could be rephrased as "reduce or remove impacts or risk..."</p>
26	FFS-Jacobs	2-1	2. Purpose and Objectives	<p>Add Footnote. Footnote text to add, "For concurrence by WDNR on the remedy selected under this FFS, a consensus remedy means a remedial action options report (RAOR) approved by WDNR under Wis. Admin. Code § NR 722.15. WDNR has indicated they will consider this FFS report to be the equivalent of a RAOR, provided the requirements in Wis. Admin. Code § NR 722.13 are met."</p> <p>Comment 1 - Contamination at this site is regulated under a state lead. All work under the PA must ensure compliance with Wisconsin regulations.</p> <p>Comment 2 - Design, implementation, operation, maintenance and monitoring to be done under Wis. Adm. Code Ch. NR 724.</p>
27	FFS-Jacobs	2-1	2. Purpose and Objectives	<p>RAOs, First Bullet, COCs , Global Change - DNR prefers the use of COCs over COPCs throughout all documents prepared for this project.</p>
28	FFS-Jacobs	2-1	2. Purpose and Objectives	<p>RAOs, Second Bullet, DNAPL, Global Change - Change DNAPL to NAPL throughout FFS text, tables, and figures.</p>

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29	FFS-Jacobs	2-1	2. Purpose and Objectives	Second to last paragraph - See DNR edits in Word file. Also add text: "Beazer will then submit the FFS for review and a response from DNR under Wis. Admin. Code Chapter NR 722. DNR will review the FFS as provided in § NR 722.15(2) and may request additional information, require revisions, approve, conditionally approve, or disapprove of the report. Under Wis. Admin. Code § NR 722.15 (2) (d), DNR may only approve the FFS where implementation of the selected remedy will adequately protect human health, safety, and the environment."
30	FFS-Jacobs	5-1	5. Conceptual Site Model Summary	See comments on CSM figures prepared by Arcadis
31	FFS-Jacobs	8-1	8. Screening of Candidate Remedial Technologies	<p>First Paragraph, Comment 1 – Note: Wis. Admin. Code § NR 722.07 requires responsible parties to identify and evaluate an appropriate range of remedial action options.</p> <p>Comment 2 - Documentation of successful use at other wood treating sites as well as agency approval should be provided in appendices to the FFS.</p>
32	FFS-Jacobs	8-1	8.1 Development of Technology Types and Process Options	<p>First paragraph - See DNR edits in Word file. DNR prefers use of COC rather than COPC. Institutional Controls -</p> <p>Comment 1 - Note: The FCMS anticipated that institutional controls would be established through the WDNR Site Closure process (NR 726). DNR will decide on any continuing obligations for this site during its review and response to the RAOR under NR 722.</p> <p>Comment 2: WDNR utilizes its BRRTS database, not deed restrictions to record institutional controls and impose continuing obligations on a site.</p>
33	FFS-Jacobs	8-2	8.1 Development of Technology Types and Process Options	Disposal - Comment: Disposal reduces the volume of in-situ contaminated media at the site. When source control is achieved, removal and disposal are effective in the long-term.

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34	FFS-Jacobs	8-2	8.2 Technology Screening	<p>Fourth paragraph, Comment: In addition, NR 722.07(2) requires the initial screening of remedial technologies that are reasonably likely to be feasible based on the hazardous substances present, media contaminated and site characteristics, and to comply with NR 722.09.</p> <p>Fifth paragraph, Comment: Agree with Beazer comment on tables 8-1 to 8-4. Please consolidate the technology screening tables into a single table with a column designating the applicable sub-areas for each.</p>
35	FFS-Jacobs	8-2	8.2 Technology Screening	<p>First bullet in last bulleted group - Application of technologies at similar sites.</p> <p>Comment: Include documentation of these similar sites including agency approval and current status.</p>
36	FFS-Jacobs	8-2	8.2 Technology Screening	<p>First Paragraph - Delete the word "general." The remedial action, and process to get there for this site needs to follow NR 700 to 754.</p> <p>Edits required to be consistent with NR 722.</p>
37	FFS-Jacobs	8-3	8.2 Technology Screening	<p>The Site as described in this document consists of property outside of the actual Koppers facility property, but our understanding is that a CAMU, if constructed, would be built on the facility property. This same comment applies to Sub-Areas B, C and D.</p>
38	FFS-Jacobs	11-1	11 Identification and Description of Evaluation Criteria	<p>First paragraph - See DNR edits in Word file. Also, add footnote, "Under Wis. Stats Chapter 292 (Wisconsin's spills law) and Wis. Adm. Code Ch. 722, WDNR has authority to review a remedial action options report (RAOR) and may request additional information, require revisions, approve, conditionally approve, or disapprove of the report."</p>

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39	FFS-Jacobs	11-1	11 Identification and Description of Evaluation Criteria	<p>Add criterion: Overall Protection of Human Health and the Environment. We recognize that the Overall Protection of Human Health and the Environment is not explicitly listed among the evaluation criteria in § NR 722.07(4) and understand that this is implied by and referenced throughout the DNR code. However, it is critical to consider the overall protectiveness of an alternative before evaluating technical and economic feasibility. Under the NCP, the Overall Protection of Human Health and the Environment is a threshold criterion. Alternatives that do not meet threshold criteria are excluded from further consideration. Without this criterion, DNR is concerned that alternatives that are not adequately protective for this site would be carried forward in the evaluation process and rank above the most protective options. The FFS for this site should include Overall Protection of Human Health and the Environment as a criterion and alternatives should be scored for this on a pass/fail basis. Alternatives that pass can then be evaluated based on long-term effectiveness and the other evaluation criteria.</p> <p>Note: DNR has the authority under § NR 722.07(5)(c), to specify additional requirements for evaluation due to the complexity of a site, persistence of certain compounds, or impacts.</p>
40	FFS-Jacobs	11-1	11 Identification and Description of Evaluation Criteria	<p>Add criterion Resiliency: Given the use of public funding being considered for this site, the resiliency of the remedial action/restoration elements should be evaluated independently from long-term effectiveness. Evaluation of resiliency to include the extent to which the alternative:</p> <ul style="list-style-type: none"> · Maintains the connection between the stream, stream bank, and floodplain. · Maintains a natural channel as close as possible in form and dimensions to the existing channel. · Allows the channel to meander within the floodplain · Is effective and protective under a range of expected flow conditions (e.g., low flow, flooding, ice conditions). <p>Add criterion: Institutional Controls - This merits consideration on its own. Evaluate the extent to which the alternative relies on institutional controls or land use restrictions.</p> <p>Move Sustainability criterion to bottom of the list.</p>

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41	FFS-Jacobs	11-1	11.1 Long-Term Effectiveness	See DNR edits to text. Comment: To ensure these items are given adequate consideration they need to be evaluated separately from long-term effectiveness. Move the items shown in strikeouts to the “Resiliency” criterion above. Also, allowing the channel to meander to within the floodplain was proposed by DNR in 2016 and has been excluded from this FFS. Add it to resiliency above.
42	FFS-Jacobs	11-2	11.2 Short-Term Effectiveness	Edits required for consistency with NR 722.07(4)(a)2.
43	FFS-Jacobs	11-2	11.3 Implementability	Edits required for consistency with NR 722.07(4)(a)3.
44	FFS-Jacobs	11-3	11.4 Restoration Time Frame	<p>Comment 1: Are the qualitative criteria listed in NR 722.07(4)(a)4 applicable here? If not, please explain why.</p> <p>Comment 2: The expectations for consideration of the time needed for the restoration of trees, wetlands, or other habitat needs further clarification. The quality of the wetlands and reestablishing similar species or functions on the site following implementation would seem more appropriate. The time required to restore individual specimens of the same size or age to those currently found at the site is not relevant for cutting done to provide access necessary to effectuate the protection of public health, safety, or the environment.</p>
45	FFS-Jacobs	11-3	11.5 Economic Feasibility	Edits required to improve consistency with language in NR 722.07(4)(b). Also, costs associated with potential future liability need to be considered per this section.
46	FFS-Jacobs	11-3	11.6 Compliance with Enviro Laws, Stds., and Permitting	<p>Comment: In addition to environmental laws and standards, NR 722.09(2) covers additional standards of performance, landfill disposal of untreated material, and continuing obligations. These are not addressed in the current FFS text. Also note the code reference below.</p> <p>§ NR 722.09(5) Continuing Obligations. All legal and administrative mechanisms that establish property-specific responsibilities shall be selected consistent with the provisions of ch. 292, Stats, ch. NR 726, and this chapter and are protective of public health, safety, and the environment.</p>

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47	FFS-Jacobs	11-3	11.7 Sustainability	<p>Note – This only applies after the remedial action has been selected, see § NR 722.09(2m), “Once the remedial action has been selected, the responsible party shall evaluate all of the following criteria, as appropriate for the selected remedial action.”</p> <p>First paragraph - This list does not match the evaluation criteria in § NR 722.09(2m) – missing (f) optimizing sustainable practices during long-term care and stewardship.</p>
48	FFS-Jacobs	11-3	11.7 Sustainability	Last paragraph - Saari Comment: Similar comment to what I provided in Sec. 8.2 above.
49	FFS-Jacobs	11-4	11.8 Stakeholder Acceptance	<p>Comment: The State is also a stakeholder for this site.</p> <p>Change criterion to State and Community Acceptance to be consistent with the NCP. State position expected as a result of DNR review of the FFS (RAOR) under § NR 722.15. Tribal acceptance should also be included here. Could reference Section 106 of NHPA. Also need to include the general public given there are county owned lands and navigable waters in the project area.</p> <p>Comment: Stakeholder acceptance also needs to include any institutional controls/continuing obligations that would be a necessary part of the remedial technologies evaluated as part of this effort</p>
50	Tables	ALL	Tables 8-1 to 8-4	Agree with Beazer recommendation to streamline the screening evaluation in a single table with a column to indicate the applicable sub-areas.
51	Tables	pdf p. 1	Table 8-1	Institutional Controls, Monitoring, Rationale. Do not agree with Beazer deletion of the words "for use with an active remedial action (not as a stand-alone option)." Retain Jacobs original text, which reads, " Applicable for use with an active remedial action (not as a stand-alone option)." Otherwise, this is no action and CSM says NAPL and Sheen are concerns.
52	Tables	pdf p. 1	Table 8-1	Agree with Beazer recommendation to include MNR/EMNR in screening evaluation.
53	Tables	pdf p.6	Table 8-2	<p>DNR does not agree with Beazer's statements on the difficulties accessing the site. Temporary roads are common elements of construction projects that occur in wetlands/floodplains. There are existing technologies and options to manage and minimize impacts and complete construction objectives</p> <p>DNR agrees with removal of the term "easy" since this may be subjective.</p>

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54	Figures	pdf p.2	Figure 2	DNR agrees with Jacobs comments. The outline of the project area is difficult to discern on figure 2. Use a different symbol or adjust the transparency of the background photo.
55	FFS- Arcadis	Word p. 1	Section 3	First Paragraph, floodplain references – Include a figure showing FEMA floodplain boundaries or a reference to those somewhere in the FFS (assumes FEMA maps exist).
56	FFS- Arcadis	Word p.2	Section 3	First paragraph on p.2, 1989 Closure Certification Submittal - Be explicit here about what the closure certification covered. All the ponds, just certain ponds, something else?
57	FFS- Arcadis	Word p.2	Section 3	Last paragraph, p.2. - Add text, "DNR has concerns with the FCMS."