

From: Beggs, Tauren R - DNR
To: [Henderson, Dave \(Dave.Henderson@aecom.com\)](mailto:Dave.Henderson@aecom.com)
Subject: Remedial Action Options Report Revisions for Manitowoc City / Former Newton Tn Gravel Pit, BRRTS # 02-36-000268
Date: Friday, September 16, 2016 2:11:00 PM

Hi Dave,

The following are my comments/revisions for the Remedial Action Options Report (RAOR). Most comments below are for revising language in the text and incorporating more recent discussion since the RAOR was initially submitted. The most significant revisions are needed for the soil characterization and soil management from the treatment pond area:

- Page i, Executive Summary, 6th paragraph: Investigation of groundwater extent has not been completely defined yet. The shallow (in unconsolidated sand and gravel) groundwater plume is well defined, but the deep (bedrock) groundwater plume may still need some additional investigation, as previously discussed at our monthly/bi-monthly meetings.
- Page ii, Executive Summary, last paragraph; Page 34, 5.3, Proposed Schedule for Implementation of SVE and LNAPL recovery system: Regardless of the effectiveness of the groundwater treatment area, SVE and LNAPL recovery system installation is still necessary and needs to be installed to reduce contaminant mass in the source area per requirement in Wis. Admin. ch. NR 722. Needs to begin once budgeting allows for it. The source removal and down-gradient groundwater treatment serve separate purposes of remedial action. Since the release has occurred historically, groundwater contamination is already more prominent and has migrated further than it would have been if the release occurred more recently. The groundwater contamination has already caused a large impact to the surrounding area, so the treatment pond acts to cut off groundwater contamination from continuing to migrate to Silver Creek and the private water supply whereas the source remedial action is to reduce contaminants that continue to feed to the existing groundwater problem.
- Page 1, 1.1 Regulatory Status: May want to incorporate our more recent correspondence with Peter Ramanauskas-EPA on the PCBs.
- Page 7, 2.4.2.1. Western Source Area, Soil and LNAPL Impacts: Contaminated soil and LNAPL is documented along the western property boundary, clarify if there are off-site impacts on the property to the west.
- Page 8, 2.4.2.1 Western Source Area, Remediation/Redevelopment Considerations: Contaminant mass removal is required under Wis. Admin. ch. NR 722.
- Page 8, 2.4.3, Extent of Groundwater Impacts: Clarify if there are off-site impacts on the property to the west.
- Page 9, 2.4.3.2, Potable Well Target Zone; Page 16, 4.4 Potable Well Target Zone: Remediation activities include providing clean/safe drinking water at locations with impacts above an enforcement standard and long-term monitoring to ensure groundwater in the affected potable well area remains below enforcement standards.
- Page 9, 2.5 Potential Receptors: Include vapor migration pathway to residences confirmed to not be a concern and the private water supply (aquifer) receptor was impacted.
- Page 10, 3.1 Soil Remedial Action Goals: add PAHs to the vadose zone impacts. (PAHs will

be addressed by the cover, PAHs were stated earlier on in the report on page 7).

- Page 18, 5.1.1, Surface Cap, 3rd paragraph: Add in language of how containerized drums of soil will be stored and maintained on-site per Wis. Admin. § NR 718.05(4) in the interim until the IDW can be reused below the cover.
- Page 19 and Page 35, Deed Restriction: As stated in my September 9, 2016 email to you: Per the PCB One Cleanup MOA, a deed restriction will need to be filed in addition to listing the site on the GIS registry.
- Page 21, 5.1.2.3., LNAPL Recovery System: As stated in my September 9, 2016 email to you: Identify how you will be disposing of PCB containing NAPL in accordance with 761.61(b)(1) requirements. Also, how any contaminated groundwater that could potentially be generated will be disposed.
- Page 25, 5.1.4, Permits; Page 34, 5.2.4 Permits; Page 35, 5.4, Request for Approval: As stated in my September 9, 2016 email to you: Please follow up with Dave Minkey on the air permit exemption process for the SVE system and/or treatment pond.
- Page 26, 5.2.1 Engineered Treatment Pond; Page 35, 5.4, Request for Approval: Need a more specific soil management and soil characterization section with text and a figure to explain how contaminated soil will be addressed and locations of placement. Also, if any NR 718 exemptions are needed or not.
 - Soil Characterization: Waste determination/characterization is needed prior to soil being moved. Soil needs to be tested to determine if it is impacted and/or whether it is a solid or hazardous waste. Samples should be analyzed for contaminants of concern and collected from the various areas above and below the water table. As discussed, sample locations should focus on the areas of differing contaminant concentrations (i.e. P-4, P-5, and P-6 area; P-2, P-3, P-12, P-13 area; P-7, P-8, P-9, P-10, P-11 area, etc.) in order to determine where the impacted soil can be placed on-site (most contaminated material going under the cover, etc.).
 - Soil Management: It should be specifically presented in the report and figure where the soil will be relocated and how it is addressed, either under the cover, by phytoremediation, bio-pile, etc. Contaminated soil above the direct contact and/or groundwater pathway standards will need to be addressed with some type of remediation, like stated above.
 - Temporary Soil Management: How will contaminated soil be addressed temporarily after the pond is installed and soil is moved around on-site, but between the time the cover, SVE, LNAPL recovery, and phytoremediation is implemented. Based on discussions, the focus was first to install the pond
- Page 34 and 35, 5.4 Request for Approval: RAOR will not be approved as presented due to the need of the SVE and LNAPL recovery system to reduce contaminant mass at source.

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Please incorporate these comments/revisions into a RAOR Addendum for submittal. If you have any questions, please feel free to contact me. I will be out of the office on Monday but will be back in on Tuesday next week.

Thanks,

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Tauren R. Beggs

Hydrogeologist & Northeast Region Land Recycling Expert

Remediation and Redevelopment Program

Wisconsin Department of Natural Resources

2984 Shawano Ave

Green Bay, WI 54313

Phone: (920) 662-5178

Fax: (920) 662-5197

Tauren.Beggs@wisconsin.gov



dnr.wi.gov

