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September 16, 2022

Ben Caya
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Subject: Redevelopment Design Report Review
Proposed Spike Brewing Facility
4132 North Holton Street, Milwaukee, WI
BRRTS #02-41-000023, FID #241228240

Dear Mr. Caya,

The Wisconsin Department of Natural Resources (DNR) received a Redevelopment Design Report (Report), dated June 27, 2022, prepared by Endpoint Solutions (Endpoints) for the proposed Spike Brewing Facility. The Report was submitted with a technical assistance fee for coordinated review by the DNR and U.S. Environmental Protection Agency (EPA) under the One Cleanup Program Memorandum of Agreement. The Report was reviewed for compliance with the requirements of Wis. Admin. Code ch. NR 724 and Toxic Substances Control Act (TSCA) regulatory requirements. The DNR and EPA concur that the general redevelopment design plans can be implemented as proposed, however additional design details and regulatory information for managing and disposing soil and groundwater needs to be provided in an amended report before the Report will be approved and construction can be started. Additional design details, regulatory information, and revisions are discussed by section numbers of the Report.

Section 2.3.3.1 Groundwater

1. Information discussed in this section is not current or correct. The section should be identified as historical groundwater information or updated with newly installed well information and the February 2022 groundwater data.
2. This section incorrectly states groundwater contaminant concentrations greater than the Wis. Admin. Code ch. NR 140 groundwater quality enforcement standards have not migrated off-site and contradicts what is shown on Figure 4.
3. Interpretation of the groundwater investigation data to suggest natural attenuation is an effective groundwater remedy should be omitted from the Report.

Section 3.1 Current Regulatory Status

1. The description of the current regulatory status is not based on existing site conditions. The most recent reported groundwater test results were collected during February 2022.
2. Figures 4 and 5 do not show the most recent groundwater test data as stated and the newly installed piezometer locations are not shown.

Sections 3.2.2 Depth to Groundwater and 3.2.3 Groundwater Flow Direction

1. The generalized geologic cross-section shown on Figure 7 does not show existing conditions as stated. The water levels shown on the figure were recorded in 2013 from wells that have been abandoned, and only proposed wells and screen intervals are shown on Figure 7. The cross-section needs to show existing wells, screen intervals, and the most recently reported groundwater elevation data.
2. Figures 8 and 9 do not show existing conditions based on the most recent groundwater elevation data.

Section 3.3.2 CVOCs

1. More than one area of unsaturated chlorinated volatile organic compound (CVOC) contaminated soil was excavated as indicated on Figure 6. Additional areas of unsaturated and saturated CVOC contaminated soil remain at the property that may be encountered during construction activities and should be shown on a figure.

Section 4.2 Proposed Changes to Site Grades

1. The final redevelopment grade needs to be consistently shown on all figures depicting the final grade. If Sheet C3 of the Civil, Landscaping and Structural Plans depicts the final design grade, the Report figures need to be revised to consistently show the final design grade.

Section 4.3.3.1 Dry Utilities, Potable Water and Hydrant Water

1. The locations for new subsurface utilities need to be highlighted for clarity on Sheet No. C4, Proposed Utility Plan.
2. The excavated depths for each new utility constructed on the property need to be described in the Report and shown on cross-sections.
3. Provide a description for how the water main lateral will be constructed from N. Holton St. to the proposed fire hydrant in the southeast part of the property. Sheet No. C4, Proposed Utility Plan does not show a continuous line for the water main.

Section 4.3.3.3 Storm Water Connections

4. Existing manholes that will be used for new storm water sewer connections need to be described by manhole number and the numbers indicated adjacent to the referenced manholes on figures.

Section 4.4 Proposed Design of the New Structure

1. Section 4.4 states perimeter wall footings are expected to require the removal of approximately 82 cubic yards of soil from the Topsoil Cover area. Section 4.6.2 states approximately 55 cubic yards of soil will be removed from the Topsoil Cover area for the perimeter wall footings. Clarification needs to be provided for the volume of soil requiring removal for the perimeter footings.
2. Provide a discussion for excavating the column footings and whether the footings will only extend into the imported fill material or also into underlying contaminated soil. The discussion needs to include perimeter footings as well as the column footings within the interior of the building. If column footings extend into contaminated soil, the volume of soil that will be generated needs to be provided.

3. A new cross-section needs to be provided along Figure 11 transect A-A' to depict the existing grade, proposed grade, and the proposed building footings in relation to the Clay Cap area. The cross-section should be similar to those shown on Figure 12B.
4. Figure 14 needs clarification. The proposed grade should be shown on the figure and the reason for the proposed stepped footing subgrade needs to be explained.

Section 4.5 Post-Redevelopment Occupancy Risk Assessment

1. This section needs to provide the reason for how imported fill material and new cap surfaces will be able to change the TSCA risk classification from a low-occupancy area to a high-occupancy area. The term "high-occupancy" is not stated in the Report and this re-classification is important because it lowered the TSCA risk to allow the proposed redevelopment.

Section 4.6.1 Imported Engineered Fill

1. The estimated volume of engineered imported fill needs clarification. Section 4.6.1 states approximately 27,000 cubic yards of soil will need to be imported whereas Section 4.2 states approximately 20,000 cubic yards of soil will need to be imported.
2. The borrow source certification form provides options for not submitting geotechnical, environmental, and laboratory reports. Section 4.6.1 needs to explain how the ownership and historical use of the borrow source property will be determined if environmental due diligence reports are not provided. It is recommended that an explanation is provided for how it was determined that the imported fill material can be classified as "exempt soil". DNR publication RR-103 "Exempt Soil Management: A Self-Implementing Option for Soil Excavated During a Response Action Under Wis. Admin. Code chs. NR 700 though NR 750" provides guidance for determining whether fill material can be considered as "exempt soil".

Section 4.6.2 Proposed Building

1. This section needs to specify whether topsoil removal will, or will not, be required based on the topsoil's organic content prior to the placement of imported fill material across the property.
2. If topsoil is removed from the Soil Cover and Clay Cap areas, an estimated volume of topsoil to be removed needs to be specified and a soil management plan needs to be provided for stockpiling, reuse on the property, and off-site reuse or disposal.
3. If topsoil is removed from the Topsoil Cover area and stockpiled for off-site disposal, a soil management plan needs to be provided to describe measures that will be taken to ensure the stockpiled soil will not recontaminate other areas of the property.
4. Topsoil and underlying contaminated soil removed from the Topsoil Cover area needs to be tested for CVOCs in addition to the proposed polychlorinated biphenyl (PCB) testing. Off-site soil disposal needs to be based on previous confirmation soil data, and/or in-situ sampling prior to excavating.

Section 4.6.3 Utilities

1. The off-site disposal of excavated soil contaminated by PCBs and CVOCs needs to be based on the previous confirmation soil data, and/or in-situ sampling prior to excavating. In-situ soil sampling needs to include PCB and CVOC testing.

Section 5.1 Contaminated Soil

1. This section states more details will be provided for contaminated soil management and disposal in a Materials Management Plan prepared after the final site design is completed. Additionally, Endpoint's "Request Clarification Letter," dated June 2, 2022, states Material Management Plan details would be included in the Report. A Materials Management Plan and disposal details need to be provided in revisions to the Report.
2. Previous confirmation soil testing data, and/or in-situ soil testing (if previous confirmation test data is not sufficient), needs to be used to confirm excavated soil does not contain PCBs or CVOCs at concentrations that would require using a disposal facility other than the proposed Subtitle D facility.
3. In addition to marking the surveyed limits of the Clay Cap area and inputting the GPS coordinates into earthwork equipment, marking the limits of the Soil Cover area and inputting the GPS coordinates into earthwork equipment is also recommended. Field supervision and documentation (including photographs) is recommended when the imported fill material is placed over the Topsoil Cap (if not removed), Soil Cap and Clay Cap areas to ensure the integrity of the capped areas is not compromised. Additionally, field supervision and documentation (including photographs) is also recommended for the construction of subsurface features, such as footing and utility excavations, to verify subsurface conditions are as expected and to ensure appropriate measures are taken if unexpected conditions are encountered.
4. Clarification needs to be provided to explain how it will be determined that excavated PCB and CVOC contaminated soil can be direct loaded for disposal at a Subtitle D facility in order to ensure compliance with state and federal regulations regarding PCB and potential RCRA Subtitle C wastes. A waste determination needs to be performed in advance of any soil remedial action, as was done for the soil removal action previously performed at the property. Establishing the regulatory status of any soil or groundwater generated at the property is the responsibility of the generator and needs to be established prior to any work performed.

Section 5.2.1 Monitoring Wells

1. Ten monitoring wells are located on the property and not nine as stated in the Report. The Report text and table need to be revised to take into account monitoring well MW-3.
2. Provide confirmation that the responsible party conducting the groundwater investigation has agreed to the proposed monitoring well reconstruction.

Section 5.2.2 Construction Dewatering

1. The monitoring well test results do not necessarily represent groundwater contaminant conditions throughout the property. Areas of perched groundwater were encountered during previous soil removal action and may be encountered during the proposed redevelopment construction activities.
2. A contingency groundwater management plan needs to be provided in the Report in the event that shallow contaminated groundwater is encountered.
3. Construction dewatering and/or precipitation runoff water, and sediment removed from the water by filtering or settlement, needs to be tested for PCBs, in addition to the proposed CVOC testing.
4. A discussion needs to be provided for how water and sediment test data will be used to determine the regulatory requirements for possible TSCA on-site temporary storage, disposal, and sanitary sewer discharge limits.

Section 6.1 Soil Cap Area

1. The section title should be changed to Clay Cap Area.

Section 7.1 Groundwater and Vapors

1. Compacted clay or hydrated bentonite plugs need to be installed for both wet and dry utilities at the property line to prevent off-site migration of contaminated groundwater and CVOC-related vapor. As stated, the plugs will extend to the full depth of the utility excavations. See comment for Figure 18 revision.
2. Provide a description for how all utilities will connect to the proposed building. If utilities will penetrate the building concrete slab, describe how the piping/conduits will be sealed to prevent vapor migration into the building.

Section 7.2 Vapor Intrusion

1. Additional vapor mitigation system (VMS) design details and specifications need to be provided for the proposed sub-slab depressurization system.
2. The DNR recommends the VMS will be installed by a NRPP-certified firm with experience installing mitigation systems at large buildings for chemical vapor intrusion.
3. The type and specifications for the vapor barrier that will be installed need to be provided. A vapor barrier rated for chemical resistance to CVOC vapors is recommended.
4. The proposed locations for pressure field extension (PFE) measurement ports need to be shown on Figure 19. The PFE ports need to be located to demonstrate adequate sub-slab depressurization across the entire building slab.
5. If the proposed building will have sumps or a dividing footer wall between the tenant spaces, the construction details and locations need to be discussed and shown on a figure.
6. This section states two rounds of PFE testing will be conducted, one for VMS commissioning and one following commissioning. The DNR recommends conducting three rounds of PFE measurements over a period of not less than 6 months, with at least one round conducted in the heating season and during the time of an elevated water table.
7. Due to presence of trichloroethylene (TCE) in soil and groundwater, indoor air sampling is recommended for VMS commissioning and a sampling plan needs to be provided. The DNR recommends utilizing passive indoor air samplers capable of collecting samples over longer sample intervals (1-2 weeks). Indoor air samples should be collected in areas where the potential for vapor intrusion is greatest, such as near areas of higher CVOC concentrations and near potential vapor entry points, such as floor drains and other utilities.
8. This section needs to state that after VMS installation and commissioning, a construction documentation report will be submitted. The construction documentation report should include an as built of the VMS, commissioning results and an interpretation of the results, an Operation, Monitoring and Maintenance Plan (OMMP), and an inspection log. Annual VMS inspection and submittal of inspection logs will be required after commissioning of the system.
9. One or more figures need to be provided to show and describe the design details and components of the VMS and PFE ports.

Section 8.1 Ongoing Investigations

1. Data interpretation and opinions regarding the groundwater investigation that is being conducted by the responsible party should be omitted.

2. An access agreement with the responsible party needs to include a contingency to allow access to the property if active remediation is proposed as a final groundwater remedy.

Section 8.2 Barrier Maintenance

1. This section should state a cap maintenance plan will be submitted in a construction documentation report after the redevelopment construction has been completed.
2. The description of the cap or barrier needs to include not only impermeable surfaces, such as the building foundation and paved surfaces, but also storm water features and landscaped areas.
3. Cap or barrier inspections need to occur more frequently than annually until the capping materials have been established and are documented to be stable. Inspections should also occur after significant runoff events. Repair timelines need to be established for any damage observed or reported to the cap or barrier. The documentation and reporting requirements need to be outlined.

Section 8.4 Contaminated Groundwater Management

1. See comments in Section 5.2.2.

Section 8.5 Contaminated Vapors

2. See comments in Section 7.2.

Figure Revisions

The following figure revisions need to be made and included in an amended report. References to original figures should be provided on modified figures and figures obtained from other reports.

Figure No.

2. Omit the out-of-date bioretention area.
3. Omit the out-of-date bioretention area. It is not an existing feature.
4. Current shallow groundwater conditions are not shown. Update figure with the most recent groundwater data and new well locations.
5. Current piezometer groundwater conditions are not shown. Update figure with the most recent groundwater data and new well locations. Omit the out-of-date bioretention area.
6. Omit the out-of-date bioretention area. Replace with a figure that is not faded for clarity.
7. The cross-section does not depict existing conditions as stated. Wells abandoned prior to the soil removal action, proposed wells, and water levels from 2013 are shown. Update the figure with existing wells and current water level information. Indicate A and A' on the cross-section.
8. Omit the out-of-date bioretention area.
9. Omit the out-of-date bioretention area.
10. Replace with a figure that is not faded for clarity. Omit the out-of-date bioretention area.
11. The grading plan contradicts the grading plan shown on Sheet C3. Line of cross-section A-A' is located south of the line of cross-section shown in Figure 12A. Revise the figure.

12A. See comments for Figure 7.

12B. Indicate the locations for column footings on the cross-sections.

14. Refer to Section 4.4 comments.

15A. The bio-retention basin needs to be labeled.

15B. Manhole 610 indicated on the cross-section needs to be labeled on all site plan figures showing utilities.
15C. Residual contaminated soil should be shown on cross-section E-E' extending east of what is shown. Show connecting manhole and manhole number on cross-section E-E'. The manhole needs to be labeled on all site plan figures showing utilities.
16. The monitoring point indicator for PZ-6 is not provided on the figure. Miscellaneous monitoring well symbols adjacent to MW-5, MW-6 and MW-9 need to be omitted from this figure, other figures, and sheet drawings.
17. Omit the out-of-date bioretention area.
18. The clay plug needs to extend to the full depth of the trench.
19. Indicate the locations of the proposed PFE ports.
20. A 6-inch diameter pipe is described in Section 7.2 and a 3-inch diameter pipe is shown on the figure.

Next Steps

The Report needs to be revised and resubmitted to the DNR and EPA for review. The review will determine whether the soil and groundwater management plans and the vapor mitigation system comply with state and federal regulatory requirements, and whether the design plans and specifications provide adequate detail to approve the Report.

If you have questions regarding the comments in this letter or other concerns, please contact me by calling (262) 202-3921, or by email at john.moll@wisconsin.gov.

Sincerely,

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