



January 5, 2024

Roers Companies
c/o: Shane LaFave
110 Cheshire Lane, Suite 120
Minnetonka, MN 55305
Via Email Only to shane@roerscompanies.com

Subject: Technical Assistance Response – Commissioning Plan Review
Community Within the Corridor – East Block
2748 N. 32nd Street, Milwaukee, WI 53210
BRRTS #02-41-263675, FID #241025400

Dear Mr. LaFave:

On November 13, 2023, the Wisconsin Department of Natural Resources (DNR) received *Proposed Plan for 2nd Round of Commissioning of Vapor Mitigation System* prepared by K. Singh & Associates, Inc. (K. Singh) on behalf of Community Within the Corridor (CWC) for the subject site. On December 13, 2023, the DNR requested additional information to supplement the information presented in the commissioning plan. On December 18, 2023, the DNR received the requested additional information (collectively, the Report). The Report was presented with a technical assistance fee of \$700 for DNR review and response. The DNR reviewed the Report for compliance with Wisconsin Statutes (Wis. Stats.) ch. 292 and Wisconsin Administrative (Wis. Admin.) Code chs. NR 700-754. The DNR concurs with the commissioning plan, as presented in the Report, with comments and recommendations, as outlined below.

Report Overview

In summary, a commissioning event for the site's vapor mitigation system (VMS) is scheduled to occur in January 2024, and the Report proposes the following commissioning plan:

- Perform building preparations that include sealing the building for 24 hours prior to indoor air sampling, inspecting cracks and joints in the building with smoke testing, and sealing any additional areas in the building, as needed.
- Perform pressure field extension (PFE) testing at 53 vapor pins to demonstrate a pressure of at least -0.01 inches H₂O under the entire ground floor slab.
- Perform indoor air sampling at 130 locations using the portable gas chromatograph (GC) and at 61 locations using passive samplers to demonstrate that there are no indoor air vapor action level (VAL) exceedances.

- Measure the velocity and TCE concentration of the VMS blower exhaust to demonstrate system efficiency.

Report Review

The DNR provides the following comments and recommendations on the plan presented in the Report:

1. To promote the success of the commissioning process, the DNR strongly recommends that CWC conduct an extensive indoor air screening event using the portable GC unit prior to initiating the upcoming commissioning event. This would help to demonstrate whether enough ventilation has occurred, and time elapsed, for indoor air concentrations to sufficiently decrease following the ongoing remedial soil excavations. The DNR would consider the GC screening effort as part of the building preparation activities. The DNR recommends that this GC screening occur after the smoke testing and subsequent sealing activities, but before the upcoming commissioning event is initiated. This GC screening event should assess bathrooms, utility closets, brick walls in residential living spaces, wooden columns, air space near sumps, VMS piping penetrations and building penetrations, and any other locations that may act as vapor migration pathways. Once completed, evaluate the results of this screening event to determine whether any additional sealing efforts may be necessary prior to the upcoming commissioning event.

As DNR has previously informed CWC, a minimum of three successful consecutive commissioning events are necessary to demonstrate that the VMS is successfully preventing vapor intrusion and will ensure that indoor air concentrations will not exceed established VALs. If any of the upcoming commissioning events identify indoor air contamination or inadequate PFE across the building footprint, the commissioning process may need to be restarted. Therefore, the GC screening is highly recommended by the DNR, as it could promote the success of the upcoming commissioning events by helping to find and eliminate any preferential pathways for vapor intrusion that may still exist prior to initiating the commissioning process. The portable GC units provide a unique opportunity for CWC to perform this type of extensive preferential pathway investigation in a relatively timely and cost-effective manner. Additional indoor air sample locations should be added to the commissioning plan in areas where TCE may be detected in indoor air during this GC screening event.

2. The DNR recommends that the portable GC unit be used on its continuous sampling mode in residential units 1045 and 1050 within other TCE hotspot areas of Building 1B. This should occur during the upcoming commissioning event alongside the passive sampler deployment to verify that the indoor air data is representative of indoor air breathing space.
3. The DNR recommends that additional passive indoor air sample locations be added to locations on the 1st floor of the building above the TCE hotspot area where vapor intrusion is likely to occur, including, but not limited to, bathrooms, utility closets, brick walls in residential living spaces, wooden columns, air space near sumps, VMS piping penetrations and other building penetrations, etc. The DNR also recommends that additional indoor air sample locations be added in the parking garage, the central area and the southeast corner of the gym, Building 3A, and the 3rd floor of the stairwell located to the northwest of the gym.
4. In the DNR's *Column Sealing Options Report Review* letter, dated October 24, 2023, the DNR reiterated that the use of the proposed biochar sealant mixture is not recommended, and alternatively recommended that a commercially-available and proven sealant be used to seal any building features that may be acting as a preferential pathway for vapor intrusion. On December 18, 2023, K. Singh informed the DNR that

the biochar sealant mixture would be used as a part of the column sealing efforts in Building 1B. As indicated in the DNR's October 24, 2023, letter, the DNR recommends that a post-remediation indoor air assessment be performed adjacent to the columns sealed with the biochar mixture, and that this occur in two stages: one stage during each of the VMS commissioning events and the second stage once the VMS commissioning process is complete, as detailed below.

- During each VMS commissioning event, the DNR recommends that passive indoor air samples be collected within 6 - 12 inches from TCE-impacted columns to evaluate the success of CWC's selected column sealing option. These indoor air results should be evaluated to determine whether additional sealing actions may be necessary.
 - Once the commissioning process is complete, use the results of the first stage of column air assessment to develop and submit a performance evaluation process for the second stage of the column sealing option.
5. The DNR recommends that a vapor pin be added in the northwest area of the gym to measure PFE in this location.
 6. VMS operations and vapor intrusion can be influenced by a building's HVAC system, varying short- and long-term weather patterns, including changes in precipitation, temperature, atmospheric pressure, etc., and general air flow as the building's features are used under normal occupancy conditions. The purpose of VMS commissioning is to demonstrate that the system is mitigating or interrupting the vapor pathway into a building, and should occur under conditions that are representative of normal building occupancy and across varying/seasonal atmospheric conditions. On December 18, 2023, K. Singh, on behalf of CWC, informed the DNR that the HVAC system may be operational prior to the commissioning process. The DNR strongly recommends operating the HVAC system(s) under normal building occupancy conditions during the commissioning process. For example, bathroom and kitchen ventilation fans could be turned on in select residential units throughout a commissioning event to simulate occupied living conditions. Additional measures to simulate normal occupancy conditions may include, but are not limited to, operation of elevators and operation of the drying machines in laundry rooms, as may be typical during occupancy. In future commissioning report(s) provide discussion and photo documentation of any actions that may have been taken during each commissioning event to manipulate the building conditions to simulate normal occupancy conditions.

Documentation

Please provide the following documentation and revisions in future submittals, as may be applicable:

1. Include a legend for all future data tables. The legends presented with data tables should clearly indicate the units that correlate with the values presented on the tables.
2. Future submittals should use an organized, incremental figure numbering system (e.g., Figure 1, Figure 2, Figure 3, etc.).
3. The detailed engineering notes/legends present at the top of several figures in the Report appear to limit the available space to provide more relevant site data. Please remove these features from future figures and/or move them to separate page(s), as needed.

4. Update the figures displaying PFE information to show the VMS layout alongside the PFE measurement locations.
5. Label all stairwells/elevators on future maps with a distinct number or title.
6. The site-wide maps showing PFE measurements and indoor air data should be displayed on the same base map so that these data points can be accurately compared and reviewed.

Next Steps

In consideration of administrative code requirements, the DNR is requesting the implementation of the following schedule:

- Per Wis. Admin. Code § NR 716.14, CWC must submit all sampling results within 10 business days of receiving laboratory data.
- Per Wis. Admin. Code § NR 724.15, submit a construction documentation or as-built report within 60 days after the date that construction of all interim remedial actions is completed. The as-built report should include the VMS commissioning summary report, or be provided prior to CWC requesting DNR's approval of the VMS commissioning summary report.
 - Submit an interim operating, maintenance, and monitoring (OM&M) plan for all VMS components that includes the information specified in Wis. Admin. Code §§ NR 724.13(2) and 724.17, as applicable. CWC's OM&M plan should be submitted as part of the as-built report.
 - Wisconsin Admin. Code § 724.13(1)(d) provides that “[v]apor mitigation systems and remedial actions designed to address vapor migration shall be monitored at a frequency determined by the department, to measure whether the action taken has been effective in meeting the vapor action level.” In consideration of the site-specific conditions present at the site, including high levels of TCE in the soil beneath the building, short term exposure health risks of TCE, complexity of the building structure and VMSs, and documented exceedances of the VAL for TCE in residential buildings, the DNR has determined that CWC must monitor the VMSs on a continuous basis, as was outlined in the DNR's May 8, 2023, *Technical Assistance Provided – Review of Emergency Corrective Action Plan* letter. Please determine and document how continuous monitoring will be achieved. It is strongly recommended that continuous monitoring of the VMSs includes audible alarms to alert building occupants of system failures as well as instrumentation, such as telemetry, to allow immediate notification of a person directly responsible for arranging repairs in the event of a system malfunction. Per Wis. Admin. Code § NR 724.13(2)(c), include a contingency plan in the OM&M plan for anticipated or potential operation and maintenance problems, including a plan for how CWC will address a loss of electrical power to the system. It is strongly recommended that a backup power system is considered for the VMS to address this potential situation.
 - As outlined in the DNR's *Remedial Action Options Report Review* letter, dated December 11, 2023, include a detailed narrative and supporting photo documentation on the sealing efforts that are performed for various building features, such as columns, walls, floors, and other building features. This report should also include operation and discharge information for the sumps at the site. The interim OM&M plan included in this report should discuss how the sealing efforts will be inspected and maintained.

The DNR appreciates the actions you are taking to restore the environment at this site. If you have any questions regarding this site or this letter, please contact me, the DNR Project Manager, at (414) 435-8021 or jane.pfeiffer@wisconsin.gov.

Sincerely,



Jane K. Pfeiffer
Project Manager – Hydrogeologist
Remediation & Redevelopment Program

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