



June 8, 2021

Roers Companies
c/o: Mr. Shane LaFave
110 Cheshire Lane
Suite 120
Minnetonka, MN 55305

Subject: Review of Updated Remedial Action Design Report
Community Within the Corridor – East Block
2748 N 32nd Street, Milwaukee, WI 53208
BRRTS #: 02-41-263675, FID #: 241025400

Dear Mr. LaFave:

On May 10, 2021, the Wisconsin Department of Natural Resources (DNR) received *Proposed Modification of Vapor Mitigation / Extraction System* (the Report) prepared on your behalf by K. Singh & Associates, Inc. for the above-referenced site. The Report was submitted in response to the DNR's *Review of Remedial Action Design Report* letter, dated April 9, 2021. The Report was presented with a Technical Assistance fee of \$700 for DNR review and response. The DNR reviewed the Report for regulatory compliance with Wis. Admin. Code chs. NR 722 and NR 724, and grants a conceptual approval of the remedial action design plan and provides you with recommendations and feedback pertaining to the plan, as detailed below.

Summary of Updated Remedial Action

The Report presents additional information and revisions in response to the remedial action review portion of the April 9, 2021, DNR letter. More specifically, the Report includes an expanded vapor mitigation system (VMS) design to include the entire building footprint. The purpose of the VMS is to mitigate vapors and remediate the vapors in the building through soil vapor extraction (SVE). Additionally, the Report presents a plan to perform a remedial soil excavation to reduce the mass and concentration of the identified contamination. The excavation will remove approximately 320 tons of soil in the area of sample locations SS-20 and SS-25, which are the locations that have the highest known concentrations of trichloroethylene (TCE) in sub-slab vapors at the site. The Report indicates that the soil will be excavated to approximately 6 inches below ground surface and will be replaced with granular fill, which may help to accentuate SVE.

Review of Updated Remedial Action

Based on the DNR's review of the updated remedial action design plan, as presented in the Report, the DNR provides the following recommendations and feedback:

- I. Soil – remedial action
 - A. The DNR recommends expanding the area of remedial soil excavation to include all areas under building 1B where residential units are planned to be located directly on top of the building slab.

This action may accentuate the SVE under the residential units. Additionally, the DNR recommends that the excavation be expanded vertically, as this will increase the likelihood that a greater amount of mass and concentration of contamination is removed.

- B. As indicated in the DNR's *Site Investigation Work Plan Review* letter dated May 18, 2021, the DNR recommends that confirmation samples be collected during the remedial soil excavation to more thoroughly investigate the potential source areas at this site and to help to define the nature, extent and degree of soil contamination.

II. Vapor – remedial action

- A. The DNR does not recommend the use of a photoionization detector (PID) for gathering and developing data that will be used to calculate mass and concentration of contamination removed and/or discharge rates from the SVE exhaust. Moreover, PID monitoring may be useful for qualitative evaluation of the SVE operation, but lab analysis of the SVE exhaust samples is necessary to quantitatively estimate the emissions and to develop mass and concentration calculations. Generally, PID readings can be coupled with sample collection and lab analysis but should not be exclusively used for quantitative data collection. The DNR recommends that K. Singh develop a plan for quantitative sampling during the early operation period of the SVE system and then at select times during the long-term operation and monitoring.
- B. In the Report, K. Singh indicates that, once no detection of TCE is identified in the SVE exhaust, the VMS will be shut off for three weeks and then turned back on to determine whether residual vapors exist below the building. The DNR does not recommend that the system be shut off while the building is occupied, as this action could expose the future occupants of the building to harmful TCE vapors. As previously indicated, TCE poses an acute health risk in indoor air at concentrations that exceed its applicable vapor risk screening level (VRSL) and TCE contamination has been identified at this site at concentrations exceeding each of the residential, small-commercial and industrial VRSLs.
- C. In the Report, K. Singh proposes to install a 10-mil plastic vapor barrier in the area of the soil excavation prior to the placement of the new concrete floor. The DNR recommends that K. Singh install a more protective barrier than what is proposed. More advanced vapor barrier technology (i.e., thicker barrier, etc.) must be considered at this site given the high concentrations of TCE in the sub-slab vapors that exists directly beneath the planned residential units. Additionally, the vapor barrier should be sealed to the foundation features, any utility piercing, and all elevator or stairwell pits or sumps of the building to promote the effectiveness of the barrier. All seals should be tested in an appropriate manner to assure seals are properly performing.
- D. Regarding the SVE system, the DNR recommends installing a valve in the remedial soil excavation area to allow for more control/isolation of the system. Following the excavation, this area will contain a layer of granular fill directly beneath the concrete slab, which may allow for the application of a reduced vacuum capacity (i.e., inches H₂O) in the remedial soil excavation area. A reduced vacuum may also limit the possibility of the SVE system drawing contaminants into the layer of more permeable granular fill.

III. Vapor mitigation

- A. The DNR concurs with K. Singh that a pre-pilot scale test should be performed as an initial test to determine the zone of influence for the system, as outlined in the Report.
- B. The DNR recommends that additional vacuum measurement points be placed in between the VMS piping runs to evaluate the effectiveness of the VMS in areas of the building that are located further from the system to gauge whether the VMS will adequately depressurize the entire building footprint. More specifically, the DNR recommends that additional vacuum measurement points be placed in the gym area and western section of building 1B.

IV. Vapor - Preferential routes for migration of contamination

- A. Evaluate whether the VMS testing is positioned to assess the stairwells in the building, as stairwells can be a migration pathway for vapor contamination. Consider whether contamination exists under the stairwells. Revise the testing plan as needed. Evaluate the PFE and indoor air sample data to determine whether the stairwells are acting as preferential routes for vapor migration to upper levels of the building. Propose a solution, if necessary.
- B. The Report indicates that the sumps in the site building have been inactive and that this could be a cause for the perched water conditions identified near SS-4 and SS-40. In the next applicable report, provide the location of the sump(s) on an applicable figure and provide details on how the sump(s) will be or have been sealed prior to building occupancy.
- C. Considering the age of the building, the DNR recommends that the elevator shafts be sealed prior to passive air sampling to help to prevent the elevator shafts from acting as a potential pathway for migration.

Review of Hazardous Waste Determination

On May 11, 2021, the DNR received *Contained Out Determination for Proposed Modification of Vapor Mitigation / Extraction System* prepared by K. Singh on your behalf as an addendum to the Report (the Addendum). The Addendum requests DNR concurrence that the soil from Community Within the Corridor – East block that is proposed for remedial excavation is not characteristic of hazardous waste and can be disposed of as special waste. The DNR has reviewed the Addendum along with previously submitted reports and analytical data for this site for regulatory compliance with Wis. Admin. Code § NR 662.011 and has concluded that the soil presented for evaluation in the Addendum can be classified as a non-hazardous waste, based on the following information:

- I. Based on their investigations to-date, K. Singh has concluded that because the source of TCE contamination and the date of discharge to the soil are not known, the soil located in the remedial excavation area does not meet the definition of a “listed” waste under state and federal regulations.
- II. Upon excavation, any soil that exhibits a characteristic of hazardous waste (i.e., toxicity) would be considered a hazardous waste. The toxicity characteristic leaching procedure (TCLP) is used to test whether contaminated soil exceeds regulatory limits, thereby considered hazardous for disposal. The listed TCLP toxicity regulatory limit for TCE, under RCRA, is 0.5 ppm.

K. Singh performed a TCLP for TCE at soil sample locations VE-4, EB-IB-2 and EB-IB-3, which are located in the area of proposed remedial soil excavation and the general area of the site exhibiting the highest known concentration of TCE in the soil, and found that the TCLP results (0.06 ppm, 0.085 ppm, and 0.18 ppm, respectively) were all below 0.5 ppm. Therefore, the soil analyzed using TCLP in the area of remedial excavation does not exhibit a hazardous waste characteristic and is not considered a characteristic hazardous waste.

A “contained out” request does not apply to the TCE contaminated soil within this remedial excavation area, because K. Singh has determined that the soil was not contaminated with a “listed” waste and did not exhibit a hazardous characteristic. Therefore, the DNR reviewed the Addendum as a request for waste determination concurrence, not as a request for a “contained out” determination. Furthermore, the DNR’s concurrence with this waste determination does not negate the generator’s responsibility for correctly classifying a solid waste under Wis. Admin. Code § NR 662.011 and properly managing soils.

Next Steps

The DNR requests that an updated schedule be submitted that includes the details applicable to the site investigation and remediation in consideration of the strict timeline for redevelopment. This schedule can be presented in a standalone email or report and should be submitted at your next earliest convenience. The DNR recommends that frequent status update reports and schedules be presented as often as applicable as this project moves forward in the remediation and redevelopment process. Additionally, the Report indicates that an indoor air sampling plan will be submitted to the DNR for approval in the Fall of 2021. The DNR requests that the pilot test results for the VMS be submitted before the indoor air sampling plan.

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

- Per Wis. Admin. Code § NR 716.14, submit all sampling results within 10 days (on appropriately formatted tables) of receiving laboratory data.
- Per Wis. Admin. Code § NR 724.13, submit an operation and maintenance plan following the implementation of the remedial actions.
- Per Wis. Admin. Code § NR 724.15, submit a construction documentation or as—built report within 60 days after the date that construction of the remedial action is completed or determined to be essentially complete by the DNR. This report should include documentation of the commissioning of the system. You may reference RR-800, *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin*, for commissioning guidelines. The DNR recommends that frequent status updates be submitted throughout the commissioning process.

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

Sincerely,

A handwritten signature in black ink that reads "Jane Pfeiffer". The signature is written in a cursive style with a large initial "J".

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

cc: Mr. Que El-Amin, Scott Crawford, Inc., que@scott-crawford.com – electronic copy
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