

May 26, 2023

Ms. Jane Pfeiffer  
Remediation and Redevelopment Program  
Wisconsin Department of Natural Resources  
1027 West St. Paul Avenue  
Milwaukee, WI 53233

**Project # 40441B**

**Subject: Response to Technical Assistance Review of Emergency Corrective Action Plan  
Community Within the Corridor – East Block  
2748 N. 32<sup>nd</sup> Street, Milwaukee, WI 53210  
BRRTS #: 02-41-263675, FID #: 241025400**

Dear Ms. Pfeiffer:

On behalf of the Community Within the Corridor Limited Partnership (CWC), K. Singh & Associates, Inc. (KSingh) has reviewed the Wisconsin Department of Natural Resource's (DNR) Technical Assistance Review of the Emergency Corrective Action Plan for the Community Within the Corridor – East Block project on May 8, 2023. KSingh has prepared a brief response to the key items noted in the technical review.

### **Schedule**

KSingh prepared a schedule for these goals indicating a June 30, 2023 date for completion of corrective action tasks. Please note that CWC and KSingh recognize that VMS commissioning is an iterative process and plans to submit a more detailed plan of commissioning once desired vacuum has been achieved for the Vapor Mitigation System. A schedule for commissioning will be provided in an updated Commissioning Plan submittal to DNR.

### **Plan Review by DNR**

DNR provided the following feedback pertaining to CWC's Emergency Corrective Action Plan. Please see below for DNR feedback and responses prepared by CWC and KSingh:

1. Removal of water from the VMS
  - a. Consider whether the utilities beneath the building may be acting as preferential pathways for vapor intrusion. In addition to the proposed televising event within the storm sewer downspouts and their outlet(s), CWC could consider performing smoke and/or dye testing to help to evaluate these features as preferential pathways for vapor migration.

*Response: This is in progress. KSingh has conducted smoke testing and televising of underground utilities. Sumps have been installed and dewatering has taken place. Water has been successfully removed from the system and current steps are being taken for the purpose of preventing future infiltration. KSingh is in the process of isolating sections of the piping where there is not enough vacuum. Smoke testing was conducted and indicated that the utilities under the building had structural integrity although further investigation is being directed towards the fill in the existing utility trenches.*

### 3. Sealing of entry points

- a. CWC's Plan does not specifically discuss the wood columns in the site building that may be acting as preferential pathways for vapor intrusion. Supplement the Plan with information about how these preferential pathway(s) will be assessed, eliminated, or mitigated. Evaluate the wood columns as a preferential pathway and address them accordingly.
- b. Figure 7 – Potential Areas of Surface Sealing, shows areas of the first floor where floor sealing activities may occur. The floor sealing area should be expanded to include the fitness room and east-adjacent women's locker room.
- c. Evaluate the wall with the plumbing conduits in the laundry room to determine whether it should be included during the sealing efforts.
- d. CWC's Plan indicates that the brick wall separating units 1045 and 1050 may be sealed and that the same brick wall may be sealed on levels two and three of the site building. Consider whether other brick walls are acting as a preferential pathway for vapor intrusion. Consider sealing additional brick walls, where appropriate.

*Response: Sealing efforts have been underway and significant sealing has been completed. CWC and KSingh are working with a contractor to explore opportunities for Retro-Coat sealing of more areas, including wood columns and walls, however the primary focus of the Emergency Corrective Action Plan remains removing water from the VMS piping, preventing water from entering the sub-slab, and restoring depressurization beneath Buildings 1B-SW, 1B-W, and the northern Mechanical Room. Sealing efforts will continue as needed in conjunction with depressurization restoration in an iterative process based on data that is gathered as additional blowers are installed.*

### 4. VMS Monitoring

- a. 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.” Based on 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 vapor action level (VAL) for TCE in residential buildings, the DNR has determined that CWC must monitor the VMSs on a continuous basis. Please determine how continuous monitoring will be achieved and, in accordance with Wis. Admin. Code § 724.13(2), submit an interim operation, maintenance, and monitoring (OM&M) plan for all VMS components. 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 to address this potential situation.

*Response: KSingh will develop an Interim O&M Plan once minimum vacuum is maintained within the sub-slab depressurization system. KSingh plans to include a plan for audible alarms and electrical backup as a part of the O&M Plan.*

*CWC has been in the process of installing three additional sumps. In addition, in order to televise the VMS piping system beneath the slab, thirteen access points were installed. Once these areas have been sealed with a vapor barrier and the concrete surface is restored, KSingh will conduct continuous monitoring and will provide data in the Weekly Report submittals to DNR.*

5. Other

- a. As outlined in the Update to Post Closure Modification Request / Remedial Action Plan, dated March 19, 2021, and submitted to the DNR on March 23, 2021, the original purpose of the VMS was not only to mitigate vapors beneath the sub-slab, but also to serve as a remedial action through soil vapor extraction (SVE). The DNR conceptually approved this as a remedial action in the Review of Updated Remedial Action Design Report letter, dated June 8, 2021. CWC's Plan does not mention the SVE component of the VMS. Evaluation and adjustment of the SVE component of the VMS should be considered as you implement your Plan.
- b. As a reminder, per Wis. Admin. Code § NR 726.05(8)(b)(1), when sub-slab vapors exceed their applicable vapor risk screening level, remedial action(s) to reduce the mass and concentration of volatile compounds must be completed to the extent practicable prior to case closure. To-date, soil excavation and SVE are the planned remedial actions for this site. The past soil sample results and the concentrations of trichloroethylene (TCE) in indoor air identified to-date show that additional remedial action may be necessary to reduce the mass and concentration of TCE in addition to previous soil excavation and the conceptually approved SVE component of the VMS. Consider implementing supplemental remedial actions. Remedial actions to consider include, but are not limited to, targeted SVE with dewatering for observed conditions, additional soil excavation, or injections in the area(s) of highest soil contamination.
- c. For each component of the VMS, consider adding instruments that will measure the environmental media (i.e., vapor, water, etc.) removed to estimate discharge rates and any mass removal that may occur.
- d. The integrity and safety of the VMS components (e.g., sumps, inspection ports, etc.) should be demonstrated. If any system components are within residential living spaces or are otherwise accessible, CWC should ensure that these components are tamper proof by including appropriate safety features.
- e. It is recommended that CWC work with state and local health authorities to ensure compliance with any applicable requirements and protocols for worker safety.

*Response:*

*The SVE component is being addressed by measuring the emissions of TCE in the exhaust samples. KSingh is measuring TCE in exhaust and has also begun to collect anemometer data to assess exhaust quality and quantity. KSingh will be able to estimate TCE reduction through SVE on a quarterly basis and will submit this data to DNR. As the corrective actions are accomplished, we will be further able to assess the rate of SVE reduction.*

*Source removal is being accomplished by installation of access points and sumps. Additional source removal will be considered if sufficient vacuum is not achieved through the installation of additional blowers. KSingh has contacted a private supplier to install a VOC fan with a 900 cfm capacity. In addition, KSingh has contacted a private supplier to discuss TCE source reduction chemical injections and their effectiveness in clay soils. Further source removal options will be evaluated in the coming weeks.*

*CWC will ensure that any VMS components installed in residential units are sealed and tamper proof. These safety features will be coordinated upon installation. One of the options that will be considered will be to place the fan on the roof so that the only component in the residential unit is the vapor extraction pipe.*

### **Next Steps**

It is our understanding that CWC has been in compliance with statutory and administrative code requirements as well as the Emergency Order that was issued by the DNR for this site on March 31, 2023. Our response to the “Next Steps” as issued in the Technical Assistance Response provided by DNR are as follows:

- CWC has been submitted Weekly Reports which include discrete sampling and vacuum measurement data that has been collected daily. In addition, as per DNR’s request, KSingh will continue to submit the Microsoft Excel spreadsheet tabulating this data. CWC requests that data continue to be submitted as a part of the Weekly Reports.
- KSingh has attempted to prepare a figure showing sample locations and data collected per location. However, a figure of this nature is difficult to prepare considering the volume of data collected per location and the number of locations where samples are being taken. KSingh recommends that we continue to provide this data via comprehensive spreadsheets along with figures showing trends.
- At this time, air quality data is being collected and tested onsite via a portable GC. CWC requests that data continue to be submitted as a part of the Weekly Reports.
- Updated as-built drawings that include the new sumps, access points, and additional blowers will be submitted to DNR within 60 days of completion.
- A new commissioning plan will be submitted to DNR along with a technical assistance request and fee once the VMS is maintaining sufficient negative pressure.
- This commissioning plan is intended to demonstrate redundancy for the VMS system should back-up be needed. Alternatively, a generator back up will be considered as a permanent part of the overall VMS.
- CWC will submit an Interim O&M Plan to DNR as a part of the new commissioning plan.

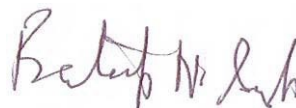
Should you have any questions regarding this submittal, please contact us. We look forward to your continued support and appreciate the DNR’s guidance on this project.

Sincerely,

K. SINGH & ASSOCIATES, INC.



Robert T. Reineke, P.E.  
Project Manager



Pratap N. Singh, Ph.D., P.E.  
Principal Engineer

cc: Shane LaFave / Roers Companies  
Que El-Amin / Scott Crawford, Inc.  
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