

December 3, 2020

Mr. David Hanson  
Senior Waste Management Specialist  
Department of Natural Resources  
2300 N. Dr. Martin Luther King Dr.  
Milwaukee, WI 53212-3128

**Project # 40420**

**Subject: Response to WDNR Review of Sub-Slab Vapor Investigation Work Plan for the Community Within the Corridor, Limited Partnership, located at 2748 N. 32nd Street, 3212 West Center Street, 2727 N. 32nd Street, 2758 N. 33rd Street, and 2784 N. 32nd Street, in Milwaukee, WI  
BRRTS #02-41-263675, FID #241025400**

Dear Mr. Hanson:

K. Singh & Associates, Inc. (KSingh) is pleased to respond to WDNR's letter of December 2, 2020 providing review of the Sub-Slab Vapor Investigation Work Plan for the referenced facility. DNR's review of the Work Plan concurred with the proposed work but requested several modifications and response. KSingh has addressed the DNR's proposed modifications as follows.

1. *"The vapor sampling was proposed to be completed in two stages, with 38 samples collected during the first stage, and up to 12 samples collected in the second stage. We generally agree with the proposed subslab vapor sample locations, but we recommend collecting all 50 samples in one stage as the extent of vapor migration needs to be thoroughly defined since the proposed use is changing to residential, migration pathways and subsurface utilities are unknown at this time, and potential source areas are unknown within the building."*

KSingh will sample the 50 sub-slab vapor probes in one stage as requested.

2. *"Only four sub-slab samples (SS-21, SS-22, SS-23, SS-48) were proposed in the gym. Collect one additional sample in the center of the gym for a total of five samples."*

KSingh will add one sub-slab vapor probe, SS-51, to the center of the gym.

3. *"The VIWP states that the existing sub-slab depressurization system (SSDS) will be shut off for a minimum of 48 hours prior to the proposed sub-slab vapor sampling activities. The DNR requests that the existing SSDS be turned off for a minimum of two weeks prior to the start of any sub-slab vapor sampling to allow adequate time for sub-slab vapor conditions to stabilize."*

KSingh shut off the SSDS on Thursday, November 19, 2020. No subslab sampling has been performed in the fourteen (14) days after shutdown of the system.

4. *“Information regarding utilities at the site was not included in the VIWP. The DNR requests that you conduct an assessment to determine whether utilities are acting as preferential migration pathways at the site. The locations of utilities in relation to known areas of contamination should be considered when conducting this assessment. The utility assessment may identify the need for additional sampling locations. The utility assessment, including a figure showing the location of all utilities will be required to be submitted with the investigation report.”*

KSingh will review utilities as part of the Subslab Investigation and provide that information with the results of sampling. An assessment will be included, along with figures, and recommendations will be made for further work, if necessary, at that time.

5. *“The DNR understands that four elevator shafts currently exist within the building. Collect a sub-slab vapor sample near each elevator pit. Additionally, the DNR recommends collecting an indoor air sample within each elevator pit utilizing a passive sampler over a sampling period of two weeks. Because passive samples can be collected over a longer duration than active samples, they can average out the variability of indoor air. This may be useful in evaluating chronic exposure in residential settings. Elevators are considered discrete entry points and can act like a syringe that draws in sub-slab vapors and carries them to overlying occupied spaces of the building so it’s important to thoroughly investigate each elevator for vapor mitigation. Construction documentation for each elevator pit should be submitted with the investigation report.”*

KSingh proposes to move sub-slab vapor probes SS-4, SS-19, SS-25, and SS-37 closer to nearest elevator pits in order to acquire the requested sub-slab vapor samples. All of the points are within 25 feet of the elevator pits and additional subslab vapor sampling points are expected to render the already proposed points redundant.

KSingh asks for more specific information on what WDNR is requesting for passive indoor air sampling of the elevator pits. The guidance in RR-800 is general for TO-17 sampling using passive absorbent media. In addition, we do not know if sub-slab vapor sampling is going to identify areas of concern near the elevator pits. KSingh proposes that any indoor air sampling be performed after the results of sub-slab vapor sampling is known.

KSingh will provide information regarding the construction of the elevators. Currently, the elevators are cable drawn freight elevators and do not penetrate below the elevator pit bottom. KSingh will provide photographs of the elevators and gather additional information as part of their construction which will be provided as part of the vapor intrusion investigation.

6. *“The VIWP states the sub-slab vapor samples will be analyzed for chlorinated volatile organic compounds (CVOCs). The vapor samples should be analyzed for all volatile contaminants of concern at the site, including but not limited to CVOCs, naphthalene, and benzene.”*

KSingh will request that samples be analyzed for the full range of VOCs by the laboratory.

7. *“The VIWP does not mention whether the vapor probes will remain in place after the samples are collected. We recommend you leave the probes in place for future sampling events. The DNR recommends a minimum of one additional round of sub-slab vapor sampling after redevelopment is complete, HVAC systems are installed and operating, and the building is under standard operating conditions.”*

KSingh will preserve the vapor probes that can be preserved, but construction activities will likely require abandonment of a significant number of vapor probes. In addition, final improvements, such as the wooden basketball courts, will not be compatible with the existing vapor probes and KSingh will want to avoid damaging new floor coverings in areas of occupancy or public use. To that end, KSingh will propose a plan for a second round of sampling following the receipt of the first round of sub-slab vapor sampling. In addition, KSingh recommends that any second round of sampling be performed prior to occupancy of the building.

8. *“The VIWP states that radius of influence measurements will be collected in the vicinity of the operating vapor mitigation system. The DNR agrees with the proposal to collect radius of influence measurements. Final mitigation system commissioning, including radius of influence measurements will be required after the building redevelopment is complete and HVAC systems are operating under standard HVAC settings. The HVAC systems must be operating while these measurements are collected as HVAC systems influence the movement of vapors into the building.”*

KSingh will collect radius of influence measurements as part of the final commissioning of vapor mitigation systems, as necessary. However, preliminary measurements will be taken currently to assist in vapor mitigation system evaluation and design.

9. *“The VIWP and the document ‘Additional Information re: Decommissioning of Current Sub-Slab Depressurization System and Implementation of Parking Garage Ventilation at Community Within the Corridor,’ dated September 15, 2020, propose to replace the existing western vapor mitigation system with a parking garage ventilation system during redevelopment. The DNR cannot concur with this proposal at this time. Based on previous vapor risk screening level exceedances of CVOCs, an active subslab depressurization system appears to be needed in this area. A parking garage ventilation system is not as protective as a sub-slab depressurization system at sites with residual CVOCs. Further analysis of whether and how to incorporate the parking garage ventilation into the site vapor mitigation strategy should be conducted after the planned vapor investigation is completed.”*

KSingh will evaluate the need for vapor mitigation systems based on the findings of the subslab vapor investigation.

10. *“After your consultant completes the first phase of the investigation, they should submit a report with the results in a table and on a map. The report should include their evaluation of the results and recommendations for next steps.”*

Following the receipt of all test results and investigation activities, KSingh will submit a report evaluating the results and making recommendations for further actions.

Should you have any questions or require any additional information, please feel free to contact us at 262-821-1171.

Sincerely,

**K. SINGH & ASSOCIATES, INC.**



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Staff Geologist



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cc: Pamela A. Mylotta, NR Region Program Manager / Wisconsin Department of Natural Resources  
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