From: Grittner, Paul V - DNR
Sent: Tuesday, February 04, 2020 4:29 PM
To: 'bob@endpointcorporation.com'
Subject: Klinke - Fox Run meeting

SUBJECT: Klinke Cleaners Fox Run, 2346 W St. Paul Avenue, Waukesha, WI
WDNR BRRTS Activity #: 02-68-535535
FID #: 268188910

Bob,

Thank you for taking the time yesterday to discuss outstanding items needed to complete this project. To summarize what was discussed:

The extent of soil contamination needs to be defined.

- A considerable number of samples have been collected north of the building.
- Additional sampling is needed to define the extent of contamination outside of the treatment area located in the northern portion of the former dry-cleaner.
- All soil analytical data will need to be compiled to demonstrate that the extent of contamination has been defined.

The extent of groundwater contamination needs to be defined; stable or receding groundwater plumes need to be demonstrated. At a minimum, this will likely requiring the following.

- Additional groundwater sampling at MW-10 to demonstrate concentrations at that location are stable or declining.
- Collecting a groundwater sample from both MW-1 and MW-4 would be useful to confirm vertical migration.
- Confirm that MW-7 and MW-8 were abandoned. If not abandoned an addition sample from each well would be useful to confirm that groundwater contamination remains within the property boundaries.
- Provide an explanation why the groundwater plume stops at the property line. Consider hydrogeologic conditions, geologic changes in the subsurface, potential preferential pathways, and any other factors that affect groundwater migration in this area. Cross section figures may be helpful to demonstrate conditions.

The DNR has concluded that the relatively high concentrations of PCE detected in soil and soil vapor samples collected under the existing slab is sufficient evidence to support requiring vapor mitigation at the two residential buildings proposed to be constructed nearby.

- Ventilation systems for underground parking may be used as a means to mitigate the vapor intrusion risk. DNR guidance RR-800 should be consulted to ensure that the systems will be properly designed, operated, and commissioned for this purpose.

Information regarding the sewer line that ran behind the mall should be provided. The DNR is interested if this feature is acting as a preferential pathway for contaminant migration.

- Will it still be used after the development.
- Is further investigation needed to determine if the sewer backfill, or potentially the sewer pipe itself, is acting (or could act) as preferential pathway for contaminant migration.

- Do steps need to be taken to prevent this feature from acting as a conduit for contaminant migration.

The potential for new utilities to be constructed within or near the contaminant plume to facilitate contaminant migration should be assessed.

- Installing clay plugs to block vapor migration through utility backfill is generally an acceptable means to interrupt this pathway.
- Consider whether the line itself could become a conduit if damaged in future (will the line be above the water table, is it separated from soil plume, etc.).

Assess whether further remediation or capping will be needed to address risks posed by residual contamination once the site investigation is complete.

- The need for conducting a remedial action will depend on the extent and concentrations of residual soil contamination, the future use of the nearby Waukesha supply well, the potential for residual contamination to migrate further, and the risks posed by residual contamination.
- An impervious cap may need to be maintained over soil contamination if removing existing pavement would lead to an expansion of the groundwater plume. This may need to be assessed through groundwater sampling after development.
- The need for a cap to be maintained to address a direct contact will also need to be assessed.

Submitting a cost estimate under the DERF program would be a means of receiving feedback from the department about proposed field activities.

Closure can be considered once the site investigation and remediation is complete, any caps are in place, vapor mitigation has been shown to be effective, and steps taken to remove preferential contaminant migration pathways.

- Closure will likely require the regular inspection and operation of the garage ventilation systems and any barriers needed to prevent infiltration or direct contact.
- Any future construction in the area will require that the potential for vapor intrusion issues be considered.

Contaminated soil that is excavated during this or future development projects not disposed of at a licensed facility will need to be managed under an exemption through NR 718.

Other actions than those listed above may be needed to meet closure requirements. Please let me know if you have any questions regarding this site or any of the items listed above.

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Paul Grittner
Hydrogeologist - Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
Phone: (262) 574-2166
paul.grittner@wisconsin.gov