

Mulcahy, Connor P - DNR

From: Travis W. Peterson <tpeterson@kapurinc.com>
Sent: Friday, March 15, 2024 7:58 AM
To: Mulcahy, Connor P - DNR
Cc: robert3bach@gmail.com
Subject: RE: Mercury Marine Plant No. 1 (02-46-588930) Update
Attachments: Investigative Work Plan.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

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Good morning Connor.

Please find attached the investigative work plan for the former Mercury Marine Plant No. 1.



Travis W. Peterson

Associate / Economic Development Manager

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From: Mulcahy, Connor P - DNR <connor.mulcahy@wisconsin.gov>
Sent: Wednesday, March 13, 2024 11:07 AM
To: Travis W. Peterson <tpeterson@kapurinc.com>
Cc: robert3bach@gmail.com
Subject: RE: Mercury Marine Plant No. 1 (02-46-588930) Update

Travis,

Thank you - this email summary is helpful. Do you intend to submit a vapor work plan to the DNR by March 15, 2024, as requested in my March 5, 2024 email?

Thanks,
Connor

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Connor P. Mulcahy

Hydrogeologist – Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
Phone: 414-704-4348
connor.mulcahy@wisconsin.gov



From: Travis W. Peterson <tpeterson@kapurinc.com>
Sent: Wednesday, March 13, 2024 6:20 AM
To: Mulcahy, Connor P - DNR <connor.mulcahy@wisconsin.gov>
Cc: robert3bach@gmail.com
Subject: Mercury Marine Plant No. 1 (02-46-588930) Update

**CAUTION: This email originated from outside the organization.
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Good morning Connor.

I wanted to provide you an update on where we are at regarding continued testing for potential vapor intrusion and a preliminary schedule moving forward.

As of today, there have been 4 PFET events conducted at designated Bldg and Unit Nos. (see attached) along with two rounds of Indoor Air sampling (24 hr. regulated canister) completed with buildings where a sub-slab VRSL had been exceeded (see data table also attached). Again, please note that Trichloroethene (TCE), the contaminant of concern, has not been detected in any of the indoor sampling complete to date.

Active sub-slab depressurization systems are in operation and functioning as designed in **Bldg E** (north 61-unit apartment complex), **Bldg. D** (south 90-unit apartment complex) in the area of the north elevator and **Bldg. #3** (though no exceedance of the sub-slab VRSL was detected, based upon our discussions we understand the DNR would like to have the system activated in Bldg. 3). **Bld. #5** is planned to come online within the next few days and we again, will perform some further PFET in that unit as well as others as needed prior to the planned occupancy date of June 1, 2024. The remaining planned Bldg. occupancy schedule is detailed below and, as we have discussed, we will perform further indoor air sampling (24 hr. regulated canister) as needed based on an assessment of units that may 'screen in' per the departments RR800 guidance document.

The current proposed occupancy schedule for the development is:

Townhomes

- Bldg. #3** Occupancy date: 3-15-24
- Bldg. #4** Occupancy date: 4-1-24
- Bldg. #5** Occupancy date: 6-1-24
- Bldg. #6** Occupancy date: 7-1-24
- Bldg. #7** Occupancy date: 7-1-24
- Bldg. #8** Occupancy date: 8-1-24
- Bldg. #9** Occupancy date: 8-15-24
- Bldg. #10** Occupancy date: 9-1-24

Apartments

South 99 Unit Building Occupancy date: 6-1-24

Again, based upon the scheduled occupancy dates we will, as site conditions warrant, complete further PFET and/or indoor air testing to verify any VI concerns that may be present.



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March 14, 2024

Mr. Connor P. Mulcahy
Hydrogeologist – Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
Phone: 414-704-4348
connor.mulcahy@wisconsin.gov

RE: Vapor Work Plan Addendum for the Fox Run Redevelopment Site located at N49W6337 Western Road in Cedarburg, Wisconsin. BRRTS Numbers: ERP 02-46-588930 & LUST 03-46-590482

Dear Mr. Mulcahy:

Thank you for reaching out regarding the status of the vapor intrusion investigation and evaluation efforts at the Fox Run Redevelopment site located in Cedarburg, Wisconsin. As you are aware, a January 25, 2022 Site Investigation Work Plan was previously submitted and this WDNR-requested "addendum" serves to provide the Department with an updated work plan that primarily focuses upon our continuing investigation and evaluation of the vapor intrusion pathway.

The proposed scope of work contained in the 2022 Site Investigation work plan included an evaluation of the site with regard to all applicable requirements outlined in NR 700 to 726, Wis. Adm. Code. As the Department is aware, a preliminary evaluation of the potential for vapor intrusion at all contaminated sites is required in the State of Wisconsin under the NR 700 series of Wisconsin Administrative Codes. Specifically, NR 716.11 (5) "Field Investigation," states that an evaluation of potential pathways for migration of contamination including drainage improvements, utility corridors, bedrock and permeable material or soil along which vapors, free product or contaminated water may flow must be conducted. NR 716.11 (5) (g) states that an evaluation of the presence and concentration of sub-slab vapors, when investigation of soil, soil gas or groundwater indicates that vapors may migrate to the foundation of an occupied building, shall be conducted.

The WDNR guidance document titled "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin, *Wis. Stat. ch. 292; Wis. Admin. Code ch. NR 700* (PUB-RR-800, dated January 2018) provides specific guidelines to evaluate the potential for vapor intrusion and where vapor investigation is recommended. The RR-800 Guidance was reviewed prior to the submittal of the 2022 SIWP and as a result, the potential presence of a "Vapor Encroachment Condition" was referenced on Page 3 and Page 6 called for additional investigation and evaluation of the identified presence of trichloroethylene (TCE) across the central portion of the proposed redevelopment site.





ADDENDUM PURPOSE

The purpose of this addendum is to generally outline the work conducted to date and identify anticipated future work that may be undertaken at the site to address the potential for vapor intrusion from the identified presence of the chlorinated volatile organic compound TCE. The work conducted to date and planned for the future is intended to:

- Determine if subsurface concentrations pose a risk for vapor intrusion, and, if so then:
- Delineate the extent of vapor migration, and,
- Evaluate if vapor intrusion is currently impacting indoor air of occupied buildings.

This addendum also provides information regarding the implementation of several WDNR-recommended strategies to address potential vapor intrusion within specific buildings located at the redevelopment site.

SITE REGULATORY INFORMATION

There are two Bureau of Remediation and Redevelopment Tracking System (BRRTS) numbers that have been assigned to the Fox Run Redevelopment Site property (which JB Properties 8, LLC owns). The Environmental Repair Program (ERP) site has been assigned BRRTS #02-46-588930 and identified within BRRTS as the Mercury Marine Plant No 1 Fmr and the Leaking Underground Storage Tank (LUST) site has been assigned BRRTS #03-46-590482 and identified as the Mercury Marine Plant No 1 UST.

The ERP site is associated with the historic release of chlorinated solvents as a result of the former manufacturing activities conducted at the site (which included the machining and painting and assembly of outboard motors as well as the manufacturing and assembly of commercial water pumps and other materials). Historic investigation of the ERP site by WDNR's hired consultants (over 25 years ago or so) and subsequent investigation by others indicated a likely release from two solvent degreasers formerly utilized at the site. While we understand based on the file information that responsibility for that apparent release had been/was contested, it is our understanding based on available file information and communication with others that a nearby water supply well (operated by Cedarburg Light & Water Utilities) was equipped with treatment equipment as part of a remedial activity following the discovery of chlorinated solvent impacts within the municipal well. We understand that the remedial equipment installed by Cedarburg Light & Water Utilities remains in place and is operating as was intended to protect the municipal water supply system from any future migration of contaminants towards that supply well.

The current owner of the Fox Run Redevelopment Site property (JB Properties 8, LLC) acquired this brownfield site in May 2022 for the purpose of completing a residential redevelopment of the site so as to prevent further deterioration and blighting influence associated with this site. The proposed brownfield redevelopment of the site and the extension of Hanover Avenue was supported by the City





of Cedarburg and the City's Community Development Authority as the primary tenant of this aging industrial complex had announced relocation plans.

HISTORICAL SITE INFORMATION

Prior to its acquisition of the property, JB Properties 8, LLC's consultant conducted a Phase I Environmental Site Assessment (ESA) and Phase II ESA. These studies (along with the documents from the WDNR's investigative activities decades ago) documented the presence of soil and groundwater impacts at the site (which were generally localized to the areas where the former degreasers were situated) as well as the presence of soil gas vapor at adjoining and/or nearby properties studied by the WDNR's consultant. Available information indicates that the vapor degreasing machines at the site were removed several decades ago (possibly in the 1980's) by others. The Phase I ESA identified a potential vapor encroachment condition (VEC) at the site due to the presence of the former degreasers and potential off-site sources and the previously submitted January 2022 Site Investigation Work Plan referenced the potential VEC.

In the summer of 2022 (during the site demolition and footing removal activities), an unregistered underground storage tank (UST) was identified to the east of the southern vapor degreaser location (the vapor degreaser locations are shown in the figures that were provided previously to the former WDNR project manager). The unregistered UST appeared to have historically been used for the storage of gasoline (leaded and/or unleaded) considering its age and location near a former shipping/receiving area. Following the discovery of the UST and confirmation of a release of petroleum-related compounds in the vicinity of the tank location, notification to the WDNR of a release from the UST was provided and the LUST BRRTS #03-46-590487 was assigned to this petroleum-release area.

In accordance with the redevelopment plans that had previously been provided to the WDNR, throughout the summer/fall/winter of 2022 the planned redevelopment, continued demolition and new construction activities proceeded. Arrangements were made with the WDNR to implement interim actions (consisting of the hot-spot excavation of contaminated soils from the locations near the two former degreasing areas and the petroleum UST release area located to the east of the southern former degreasing area). These arrangements were based on recommendations contained within RR-800 and were designed to "reduce the mass and concentration of the vapor source to the extent practicable (NR 726.08)" and was based on the Department's stated position that "remediation of the vapor source is the most effective way to eliminate the long-term risks of vapor intrusion...(RR-800 Section 7.3)."

During the fall of 2022 and winter season of 2022/2023, interim activities consisting of the hot-spot excavation of contaminated soils was conducted. As it relates to the hot-spot soils removed from the vicinity of the former north and south solvent degreaser locations, a total of 1,263.02 tons of soils exhibiting hazardous waste characteristics were excavated and transported to a licensed out-of-state





hazardous waste disposal facility in Michigan and 2,035.42 tons of lesser contaminated soil was excavated and transported to an in-state disposal facility in accordance with the approvals provided by the former WDNR project manager. With regard to the interim action consisting of the excavation of the hot-spot contaminated soils near the former UST, a total of 4,188.83 tons of soil were excavated and transported for management/disposal at a licensed in-state landfill biopile.

FRAMEWORK FOR ASSESSING VAPOR INTRUSION PATHWAY

With the understanding that vapor intrusion can remain a potential concern long after a redevelopment project is complete, Kapur utilizes the underlined framework to adequately address known sources of contamination and undertake measures to aid in protecting people from exposure to current levels of contamination and into the future. The general framework consists of the following and the process is understood to be an iterative process:

Vapor Screening – conduct an evaluation of site conditions and contaminants of concern as data becomes available in an effort to rule out the possibility of vapor intrusion (the “screening” process outlined in RR-800 forms the basis for this procedure).

Vapor Investigation – if the possibility of vapor intrusion cannot be ruled out through the screening process described above, sub-slab sampling and/or soil gas sampling may be warranted to evaluate type, concentration and extent of subsurface vapor migration; when subsurface concentrations meet or exceed vapor screening levels, indoor air sampling should be performed.

Mitigation of Exposure to Vapor Intrusion – when sub-slab vapor samples are at or over vapor risk screening levels, then interruption or mitigation of the vapor exposure pathway should be performed.

Remediation of the Vapor Source – if subsurface vapors are at or over vapor risk screening levels, remedial action should be considered to reduce the mass and/or concentration of the vapor source to the extent practicable.

Long -Term Protection from Vapor Intrusion – in the event vapor mitigation strategies are implemented, a long-term operation, monitoring and maintenance (OM&M) plan should be prepared and the owner should be directed to follow the OM&M plan.

Outreach and Communication – goal is to protect people from exposure to vapor intrusion.

Due to the iterative nature of the investigation of the vapor intrusion pathway, it is anticipated that the steps above may need to be repeated, can be omitted and/or may occur out of sequence at any given site.





VAPOR ASSESSMENT TECHNIQUES

Historically, most vapor investigation methodologies typically employed the use of sterilized vacuum canisters designed to collect samples via regulators which reflected either immediate (grab) or time-weighted average results. Several state regulatory agencies, including the Wisconsin have evaluated the potential for use of other vapor assessment techniques which are outlined in RR-800.

While there are advantages and disadvantages to each type of collection method, the use of vacuum canisters providing time-weighted average results based on collection intervals of 30 minutes, 8 hours and 24 hours have been the primary instrument utilized at this site and are anticipated to continue to be utilized for such purposes (due in part to their historical reliability and generally accepted industry-wide usage). In the event that conditions or situations warrant, consideration will be given to switching the collection method(s).

For the purpose of the vapor intrusion evaluation and investigation as covered by this addendum, EPA Method TO-15 will be utilized as the laboratory analytical method and the collection of vapor samples will generally correspond with the procedures for the use of vacuum canisters outlined in RR-800 and other Departmental publications.

SITE SPECIFIC ACTIONS/CONDITIONS

Due to the potential for vapor intrusion from on-site and potential off-site sources, vapor mitigation measures and strategies have been incorporated into the planning and construction of the new buildings at the site and these proposed measures and strategies were discussed with the previous WDNR project manager prior to their implementation. Two of the onsite buildings (Buildings D & E) were constructed with a parking garage located below the first-floor residential units. The remainder of the buildings (townhomes, duplexes and single-family units) were (or will be) constructed without basements to reduce the potential for vapor intrusion. All of the buildings at the 12+ acre redevelopment site have been (or will be) constructed with a passive ventilation system to further reduce the potential for vapor intrusion.

During a recent telephone discussion between representatives from Kapur, the Developer, City of Cedarburg, WDNR and the Wisconsin Department of Health, certain site-specific risk-exposure minimization recommendations were made and as discussed with the WDNR, the Developer has "activated" the vapor collection systems ("vapor control technologies") underlying Building 3 and Buildings D & E prior to permitting occupancy and will also activate the vapor collection system underlying Building 5 prior to permitting occupancy per the WDNR's request. The activation of the vapor collection systems underlying these buildings was conducted primarily as a further precautionary effort to prevent vapor intrusion into these buildings, as the results of the indoor air sampling within these buildings demonstrated that any measurable TCE concentrations were below all regulatory levels.





Because the passive vapor collection systems underlying Buildings 3 & 5 and Buildings D & E have been made active (or will be made active in the case of Building 5), a long-term O&MM plan for these buildings will be prepared in the future and any continuing obligations requirements (as outlined in Section 11 of RR-800) will need to be met. Documentation of the performance verification and baseline conditions evaluations in accordance with NR 724.11(7) and NR 724.15 will be submitted to the Department upon conclusion of the system commissioning efforts. In the event that any modifications to the system(s) are needed to satisfy performance criteria, such modifications will be described in the commissioning report.

With regard to the activated systems underlying Buildings 3 & 5 and Buildings D & E, a site-specific operation, monitoring and maintenance (OM&M) plan will be prepared for the Fox Run property. The OM&M plan will include a summary of the baseline conditions, operation and maintenance plan and a long-term maintenance plan in accordance with NR 724 requirements.

It is anticipated that long-term OM&M of the active vapor mitigation system will be required until interruption of the vapor intrusion pathway is no longer needed/required per NR 724 and NR 727. It is anticipated that future decommissioning and any post-closure modifications would only occur based on the following:

- Documentation via sampling demonstrating that sub-slab concentrations are below applicable VRSLs
- Or re-evaluating risk based on future updates to applicable VRSLs

It should be noted that the continued operation and/or maintenance of the active systems underlying these buildings may be desirable as it may have the effect of reducing exposure to radon gas in a building.

With regard to the status of the commissioning evaluation underway at the site, extensive pressure field extension testing with a digital manometer has indicated that a recordable differential negative pressure has been established at nearly all of the locations analyzed underlying Buildings 1-10 and D & E through the construction of passive vapor collection systems and additional testing at selected buildings where active systems have been emplaced have resulted in increased negative pressure readings.

ANTICIPATED FUTURE VAPOR SAMPLING ACTIVITY AND PROJECTED OCCUPANCY

Consistent with past practice, the vapor assessment and investigation activities currently planned and/or accomplished for the site consist of the collection of sub-slab samples for each of the ten town-home building locations (with the exception of townhome Buildings 3 and 5 that were previously discussed) and the future collection of select sub-slab samples from the proposed duplex and single family unit building locations nearest Building 3 & 5 will occur first. In the event that none of the duplex or single-family locations closest to Building 3 & 5 exhibit concentrations above the VRSL, additional testing of locations further away may not be necessary.





The selected sub-slab sample concentrations will be compared to the applicable TCE VRSL (or any revised updates to the VRSL). In the event the sub-slab TCE sample concentrations do not exceed the TCE VRSL, no further indoor air sampling or vapor intrusion assessment will be conducted. If the sub-slab TCE sample concentrations exceed the VRSL, an indoor-air sample will be collected from that building and compared to the applicable regulatory level. The results of such testing will be provided to the WDNR and if necessary, additional testing and/or activation of the passive ventilation system may occur.

Indoor air sampling is anticipated to occur within Building D within the next week. A 24-hour indoor air sampling duration will be utilized for this event. Initial indoor air sampling for Building D (30-minute time-weighted average test with canister located at the northern end of the building near sub-slab VRSL exceedance) indicated no TCE indoor air concentration greater than regulatory level.

As to the projected occupancy of the remainder of the townhomes and Building D, we'd anticipate the following schedule:

Townhome 4: 4/1/24 (sub-slab result <VRSL; passive system installed during construction)

Townhome 5: 6/1/24 (passive system to be activated before occupancy)

Building D (99 Unit building with parking garage): 6/1/24 (passive system to be activated before occupancy)

Townhomes 6 & 7: 7/1/24 (sub-slab results <VRSL; passive system installed during construction)

Townhome 8, 9 & 10: Potential 8/1/24 occupancies (sub-slab results <VRSL; passive system installed)

FUTURE SAMPLING AND VAPOR ASSESSMENT ACTIVITIES

Upon receipt of a finalized access agreement from the adjoining western property owner (WE Energies), we anticipate conducting additional soil gas vapor investigation to further define the extent of potential vapor impacts to the west of the former vapor degreaser locations.

We would also anticipate conducting further assessment of potential sources of vapor impacts onto the Fox Run redevelopment site upon receipt of the WDNR file information pertaining to the historical soil vapor sampling which occurred to the north of the Fox Run site and which documented the historical presence of soil gas vapor which is likely attributable to an off-site source or sources (possibly a former dry-cleaner located north of Western Avenue and/or a manufacturing site with documented soil and groundwater TCE contamination). We would appreciate receipt of any such additional information the Department have relating to those release sites as soon as possible.





We look forward to working with you towards achieving eventual site closure at this brownfield site. If you have any questions regarding this addendum, or our efforts to achieve compliance with applicable requirements outlined in the NR 700 regulations, please contact us.

Regards,

Travis W. Peterson

Associate, Economic Development Manager

