**Cold Regions Research and Engineering Laboratory Restoration Advisory Board Meeting Minutes**

**September 21, 2022, 1600 HRS**

Held Virtually, via Microsoft Teams

Harry Hendler (USACE)

Scott Calkin (WSP)

Jack Besse (WSP)

Stephen Potts (USACE)

Kristine McDevitt (Community Member)

**Attending:**

Wolfgang Calicchio (WSP)

Amy Rosenstein (USACE)

Stephanie Monette (NH DES)

Martin McMillan (Hanover Fire/Rescue)

Terry Harwood (CRREL)

Bree Carlson (Dartmouth)

Dan Groher (USACE)

Steven Lamb (GZA)

Marc Cicalese (RSJV)

Katherine Miller (USACE)

Richard Spiese (VT DEC) Amy Quintin (WSP) Sally Rigione (USACE)

Harry Hendler of the USACE-NAE called the meeting to order at 16:03 on September 21st, 2022. He welcomed everyone to the meeting and handed the presentation to Scott Calkin of WSP.

Scott Calkin noted to the RAB that Jeff Pickett, the former Wood/WSP project manager has retired, and that Mr. Calkin has taken over as PM, with Jack Besse and Wolfgang Calicchio as assistants. He also noted that the project team is no longer a part of Wood, and has been purchased by WSP. Scott also noted that the HAPSITE Monitoring at CRREL has been taken over by Mateo Rivera.

Mr. Calkin reviewed the agenda for the meeting and discussed which members of the project team will be presenting. He then provided introductions to the project team and members of the RAB and regulatory agencies.

Martin McMillan motioned to approve the January 2022 RAB minutes, seconded by Mr. Hendler, approved unanimously. Mr. Hendler motioned to approve the May 2022 RAB minutes, 2nd by Kristine McDevitt, motion approved unanimously.

Mr. Calkin provided an update on the status of current CERCLA documents. NHDES is providing comments on the on-site Feasibility Study (FS) regarding ARARs, and an FS addendum is likely to follow. Draft and Final Proposed Plan and Record of Decision will follow. The Groundwater treatment plant 100% design tabled, but the 65% design will restart soon.

Amy Rosenstein provided an update, as requested by the RAB at the previous meeting, on the Rivercrest soil vapor investigation. She stated that based on the latest Rivercrest soil vapor data (2021 and 2022) there are no risks to construction workers in shallow excavations, but there are potential risks for future potential residences on the property. She stated that the estimate of potential future risk for buildings constructed at Rivercrest used conservative assumptions. For example, directly using the soil gas concentration data (rather than applying attenuation factors to soil gas concentrations, as is usually done, to estimate indoor air concentrations) from all depths below Rivercrest (while deeper depths are unlikely to contribute to vapor intrusion) to estimate indoor air concentrations in the future.

Ms. Rosenstein provided recommendations based on the risk evaluation, including mitigation measures such as vapor barriers for future buildings on the property, and said that a more focused sampling plan may be warranted when an approved construction plan is available. She also stated that future implementation of the full-scale on-site remedy after the CRREL ROD is implemented would be expected to be reduce TCE concentrations in soil gas beneath the Rivercrest property even further during and after implementation.

Mr. Calkin showed data indicating soil gas concentration reductions on-and off-site following the past implementation of soil vapor extraction (SVE) pilot remediation system on-site, supporting the statement that similar future soil gas remediation systems on-site will continue to reduce potential risks off-site by reducing soil gas concentrations at the Rivercrest property at the same time.

Steven Lamb commented that the FS expected a 5-7 years SVE remedy implementation time with the primary target of remediating soil vapor to protect groundwater, but that there was no commitment to remediate soil vapor directly to mitigate vapor intrusion.

Ms. McDevitt inquired about the allowable depth of future construction. Mr. Calkin noted that SVE would be limited to on-site locations, but that this remedy would also remediate the adjacent property’s soil vapor. Ms. McDevitt responded that the town’s master plan has the property as dense residential space. She queried whether these problems would be an unsurpassable barrier to development and how the project team and Dartmouth would assess that. Mr. Calkin responded that we would likely need to see details of the proposed construction before any answers can be offered. Mr. Hendler commented that specific construction plans are necessary before any mitigation steps can be recommended by the CRREL project team. Mr. Hendler also represented that the Army has no authority regarding development of adjacent private property.

Mr. McMillan offered that building type and foundation depth would have very large impacts on what kind of measures might be necessary. Mr. Hendler commented that no SVE systems are currently running, and that if SVE was running, the nature of the risks would change for construction. Dan Groher stated that protection of buildings from vapor intrusion is relatively cheap compared to other construction costs and would very likely be affordable for development – a vapor barrier or a system similar to a radon vent system would be sufficient, and easily implementable. Ms. McDevitt offered that the town previously believed that digging at all in the Rivercrest area was inherently unsafe due to TCE in soil gas.

Brie Carlson offered that the college is evaluating plans for Rivercrest development, beginning with the north end of the property. Ms. Carlson also offered that Dartmouth would take a risk-averse approach to development and doesn’t want to assume that one group’s risk assessment would match theirs. Mr. Hendler asked that Dartmouth share geotechnical plans with the CRREL project team prior to work to help manage the risk.

Mr. Calkin updated the team on the Connecticut River RI, and requested any comments or thoughts on the report from RAB members. He stated that the regulators will be providing comments by mid-October and requested the RAB members offer their comments in that timeline if possible. A CT River FS is under draft and will be available for USACE-NAE review in the coming weeks.

Mr. Calkin then discussed the CRREL groundwater management zone, which approximately matches the property boundary of CRREL. He detailed that the groundwater wells within the zone are sampled quarterly per an agreement with NHDES. He discussed the recent exceedances of the NH AGQS at boundary wells MW-14-103B and CECRL-07. He stated that in response to the exceedances, the team conducted additional vapor monitoring of the soil gas around the northeast corner of the property and indoor air in a nearby guard shack and began evaluating hydraulic data in the CT River. He discussed the potential reasons for these exceedances, including GWTP operations and Wilder Dam/CT river behavior. Stephanie Monette stated that the levels detected at CECRL-07 were over the GW-2 standard, which indicates potential for VI. She stated that NHDES is expecting recommendations on corrective actions in the annual groundwater report due in late October month.

Mr. Calkin updated the group on the status of the various remedial and mitigation systems at CRREL, stating that the SVE Pilot systems have been off since Fall 2021, and rebound sampling is continuing to monitor SV concentrations in the AOC 2 and AOC 9 areas. Healthmate air purifiers and plenum space air purifying units continue to operate.

Mr. Calkin stated that HAPSITE work will continue at the site daily, including periodic SSDS and SV monitoring, and that boundary GW wells will continue to be monitored. The on-site FS/PP/ROD will continue to be developed, with the Draft PP due following receipt of ARAR comments from NH DES on the FS. The CR River RI/FS will continue toward finalization and draft status, respectively.

Mr. Hendler concluded the meeting by asking meeting attendees to confirm whether they had any further thoughts or comments before the meeting is adjourned.

Ms. Monette offered that NH DES OneStop has most of the new documents produced by the project available to the public as another source of information beyond the project administrative record.

Mr. Hendler adjourned the meeting at 1650.