Marine Corps Base Camp Lejeune (MCB Camp Lejeune) Restoration Advisory Board (RAB) Meeting Minutes

MEETING DATE:	February 28, 2018	
LOCATION:	Coastal Carolina Community College, Business Technology Building, Jacksonville, North Carolina	
ATTENDEES:	Dave Cleland/NAVFAC Mid-Atlantic Charity Delaney/MCB Camp Lejeune Thomas Richard/MCB Camp Lejeune Randy McElveen/NCDEQ Laura Bader/RAB Co-Chair	Thomas Mattison/RAB Member Brian Wheat/RAB Member Betsy Collins/CH2M Dan Hockett/CH2M Matt Louth/CH2M
FROM:	Betsy Collins/CH2M	
DATE:	March 22, 2018	

I. Welcome and Introductions

Ms. Delaney began the meeting and reviewed the agenda.

II. Site 88 Building HP57 Sewer Ventilation Pilot Study Update

Objective: The purpose of this agenda item is to provide an update on the Site 88 Building HP57 Sewer Ventilation Pilot Study Update.

Overview: A presentation was reviewed by Mr. Louth. Site 88 is a former dry cleaning facility (Former Building 25), and the contaminants of concern at the site include volatile organic compounds (VOCs) in groundwater and soil gas. A feasibility study (FS) was prepared in 2017 presenting several remedial alternatives including in situ chemical oxidation (ISCO), enhanced reductive dechlorination (ERD), vapor intrusion mitigation systems (VIMS), long-term monitoring, and land use controls. The proposed plan is currently being prepared.

Building HP57 is located upgradient of Site 88 groundwater/soil gas source area; however, sewer utilities connect to the Site 88 source area. Historically, trichloroethene (TCE) was periodically detected in indoor air above North Carolina Vapor Intrusion Screening Levels (NC VISLs) and the Region 9 Accelerated Response Level. However, sampling data indicated a potential indoor air source, based on concurrent soil gas sampling data. A HAPSITE was used to check barracks rooms on the ground floor of Building HP57 to determine the source of TCE and identified an uncapped pipe (connected to the sewer) in the wall space of the mechanical room in the southwest area of Building HP57 (Southwest [SW] HVAC room). The investigation concluded that the TCE detections were isolated to the SW HVAC room from the sewer line, and the line was capped and sealed in December 2014.

The sewer ventilation pilot study was initiated in 2016 to assess whether ventilation can reduce VOC concentrations in the sewer line to below NC VISLs and reverse the flow of vapor away from Building HP57. In July 2016, results from confirmation samples collected from manhole locations confirmed that the source is likely related to the Site 88 source area and venting successfully reduced VOC

concentrations in the sewer line. In September 2016, a ventilation and sample port was installed in a manhole. In October 2016, baseline samples confirmed the presence of VOCs in the sewer line and Building HP57 plumbing with the highest sewer line concentrations observed at the manhole located closest to the Site 88 source area. VOCs were not detected in indoor air above screening levels during baseline or post-startup monitoring conducted 36 hours after startup.

Pressure cycling was also conducted in October 2016 in the southwest HVAC room with the plumbing uncapped to assess the effectiveness of the system under an extreme building depressurization event. Results through December 2017 indicate that the sewer venting study has been successful and TCE concentrations in indoor air remained low throughout the study. Results will be presented in a summary technical memorandum. The system will continue operation with monthly system operational checks, semiannual sampling to verify system effectiveness, and annual blower preventative maintenance, and will be incorporated into the Site 88 remedy.

III. Per- and Polyfluorinated Alkyl Substances Investigation Update

Objective: The purpose of this agenda item was to provide an update on the per- and polyfluorinated alkyl substances (PFAS) Investigation.

Overview: A presentation was reviewed by Mr. Louth. PFAS are human made substances used to make carpets, clothing, furniture fabric, as well as used in firefighting (a component of aqueous film-forming foam [AFFF]). PFAS is persistent in the environment and resistant to typical degradation processes. It is water-soluble and migrates from soil to groundwater, and can migrate long distances.

EPA identified perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) as emerging contaminants and set a lifetime health advisory limit for individual or combined of 70 parts per trillion (ppt). The North Carolina Interim Maximum Allowable Concentrations (NC IMAC) in groundwater was established for PFOA at 2,000 ppt.

MCB Camp Lejeune uses AFFF to extinguish fires and support firefighting training exercises. Four sites were identified for evaluation based on potential releases of AFFF to the environment: Site 9, Site 54, Site 86, and Phoenix Landing Zone, where an aircraft crash occurred. The drinking water system at MCB Camp Lejeune has been sampled for PFOS and PFOA and results were below standards. No public water supply wells exist within one mile of Sites 9, 86, or Phoenix Landing Zone. One public water supply well was identified within one mile of Site 54 but this well is sidegradient of Site 54 and there was no detection of PFOS or PFOA in a sample collected January 2018.

The objective of the PFAS investigation is to identify the presence or absence of PFAS in shallow groundwater underlying each site and compare results to lifetime health advisory limit and NC IMAC. The site history, investigation activities, and results were reviewed as follows:

- Site 54 – From the 1950s to 1999, Site 54 was used for firefighting training exercises. Unlined until 1975, AFFF was likely used during past training exercises. In 2000, the site was converted to a training area that used clean-burning fuels with operational and engineering controls. In 2001, a concrete-lined fire training area and two 1,000-gallon aboveground propane tanks were constructed. In 2015, the majority of the area was paved for MCAS New River operations. Four shallow groundwater monitoring wells were installed and groundwater samples were collected and analyzed for PFAS. Each sample had exceedances of the lifetime health advisory limit and NC IMAC. The highest concentrations were detected downgradient from former activities.
- Site 9 – From the early 1960s to present, this site was used for firefighting training exercises. The pit was unlined until 1981 and AFFF was likely used during past training exercises. Three shallow groundwater monitoring wells were installed and groundwater samples were collected from the three new wells and one existing well and analyzed for PFAS. Each sample had exceedances of the

lifetime health advisory limit and one of four samples exceeded the NC IMAC. The highest concentrations were detected downgradient from former activities.

- Site 86 – Five potential release areas, where AFFF was stored or used, were identified for investigation at Site 86. Nine existing shallow groundwater monitoring wells were sampled and analyzed for PFAS. Each sample had exceedances of the lifetime health advisory, but no exceedances of the NC IMAC. The highest concentrations were detected near/downgradient from the Fire Station and Former Crash Crew Station.
- Phoenix Landing Zone – In 2006, a V-22 aircraft crashed creating a fire which was suppressed using AFFF. In 2008, soil was removed due to carbon fiber and oil releases. Seven shallow groundwater monitoring wells were installed and groundwater samples were collected and analyzed for PFAS. No samples had exceedances.

A report will be prepared documenting these data and a basewide Preliminary Assessment and Site Investigation will be conducted in 2018/2019.

IV. Update on Castle Hayne Aquifer Investigations

Objective: The purpose of this agenda item was to provide an update on investigations in the Castle Hayne aquifer.

Overview: This presentation was given by Mr. Hockett. At the last RAB, a RAB member asked for more information about contamination in the Castle Hayne aquifer. An interactive GIS map was reviewed to show sites with contamination in the Castle Hayne aquifer. This map showed the extent of chemicals detected at concentrations that exceeded their respective cleanup levels and the depth in the Castle Hayne aquifer at each site.

A RAB member asked if they could access this tool. Charity responded that at this time there is no public access to this tool.

V. RAB Business

Copies of the Final Fiscal Year 2018 Site Management Plan were distributed. The next RAB meeting will be scheduled for May or June 2018.