



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON
4551 LLEWELLYN AVENUE, SUITE 5000
FORT GEORGE G. MEADE, MARYLAND 20755-5000

IMND-MEA-PWE

January 6, 2014

MEMORANDUM FOR Restoration Advisory Board Members

SUBJECT: Minutes for the November 21, 2013, Restoration Advisory Board Meeting

1. The Restoration Advisory Board (RAB) meeting was held on November 21, 2013, at 7:00 p.m. at the Holiday Inn Express located at 7481 Ridge Road, Hanover, Maryland, 21076. The next RAB meeting will be **Thursday, January 16, 7 p.m.**, at the Holiday Inn Express, 7481 Ridge Road, Hanover, Maryland, 21076.

2. The following RAB members were present:

Mr. John Burchette, U.S. Environmental Protection Agency
Mr. Mick Butler, Fort Meade Co-Chair
Mr. Wayne Dixon, Community Member
Mr. Paul Fluck, Fort Meade Restoration Manager
Mr. Martin Madera, Community Member
Mr. David Tibbetts, Community Co-Chair
Ms. Kerry Topovski, Anne Arundel County Health Dept.
Mr. Fred Tutman, Community Member

3. Members not present:

Mr. Rusty Bristow, Community Member
Ms. Kellyann Few, Provisional Community Member
Ms. Laura Ann Hutchinson, Provisional Community Member
Mr. Harry Neal, Community Member
Mr. Howard Nicholson, Community Member
Mr. Kurt Riegel, Community Member

4. Others present were:

Mr. Steve Cardon	Versar, BRAC Program
Mr. Walt Chahanovich	Fort Meade, Office of SJA
Mr. John Cherry	ARCADIS
Mr. Brian Chew	Anne Arundel County Health Dept.
Ms. Elisabeth Green	Maryland Department of the Environment
Ms. Katrina Harris	Bridge Consulting Corp.
Ms. Erin McKinley	Fort Meade Environmental Division (Osage of Virginia, Inc.)

Mr. Mark Magress	CFS/CBI
Mr. Jeff Parks	AMEC
Mr. Alex Smith	CBI
Mr. Jim Styers	Architect of the Capitol
Ms. Denise Tegtmeier	Fort Meade Environmental Division (Osage of Virginia, Inc.)

5. Announcements and Minutes:

- a. Mr. Paul Fluck welcomed everyone, and Mr. David Tibbetts called the meeting to order. Mr. Fluck invited all present to introduce themselves and sign in.
- b. Mr. Tibbetts made a motion to approve the September 19, 2013 meeting minutes. The motion was seconded and unanimously adopted to approve the September 19, 2013 minutes.
- c. Mr. Fluck introduced Ms. Erin McKinley of Osage of Virginia, Inc., a new member of the Fort Meade environmental restoration team. Ms. McKinney gave a brief overview of her environmental experience.

6. Outstanding Items:

- a. Mr. Fluck reminded the Board it was time for the annual election of a community co-chair which had been postponed because of low attendance at the September meeting. He stated an online poll had been conducted to see who might be interested in the position, and Mr. Tibbetts was the only community member who expressed interest. Mr. Fluck asked how the Board would like to conduct the vote, and the Board agreed to vote by the raising of hands. Mr. Fluck opened the floor for nominations, and no additional nominations were offered. A motion was made, seconded and unanimously passed to have Mr. Tibbetts continue as the community co-chair for an additional one-year term.

7. Update on Operable Unit 4:

- a. Mr. Fluck introduced Mr. John Cherry of ARCADIS, a contractor to Fort Meade's environmental program, to provide an update on the interim measures for Operable Unit 4.
- b. Mr. Cherry stated he had presented last at the March meeting and had discussed the off-site well installation and groundwater sampling being conducted and had given a preview of some of the remedies being developed with the Army and regulators. Mr. Cherry said they are now implementing those remedies, and he would be providing an update. He noted there are three areas where remedies are being implemented - Buildings 2276/2286 (Area 1), Building 2250 (Area 2), and the Lower Patapsco Aquifer (Area 3).
- c. Mr. Cherry showed a map of the location of the three areas. He stated Area 1 and Area 2 (the former Post Laundry) are both considered source areas, areas where there are high concentrations of volatile organic compounds (mainly tetrachloroethene or PCE) in the groundwater. Mr. Cherry displayed a map showing where the higher concentrations of PCE are

located in groundwater; he noted the concentrations are in the 1,000 parts per billion range compared to the standard of five parts per billion. Mr. Cherry noted the plume of PCE in the groundwater is migrating in a southeasterly direction.

d. Mr. Cherry displayed a map showing where carbon tetrachloride or CCl₄ has been detected in the groundwater. He advised the concentrations of carbon tetrachloride are in the hundreds of parts per billion compared to the standard of five parts per billion. Mr. Cherry pointed out the locations of the four new wells installed in March at the foot of the plume. He said these new wells were sampled, and the results showed detections around the drinking water standard.

e. Mr. Cherry reviewed the timeline for the interim action remedy. He reiterated the topic had been discussed at the March Board meeting, along with providing a copy of the Engineering Evaluation/Cost Analysis (EE/CA) which assessed different alternatives for each of the three areas for interim remedial action. Mr. Cherry displayed a copy of the public notice which announced the availability of the EE/CA and the public comment period and was published in the local newspaper in September. He advised no comments were received during the 30-day public comment period. Mr. Cherry said a work plan was then prepared and submitted to the regulators for review; he noted the final work plan should be distributed soon.

f. Mr. Cherry stated the interim remedy for Area 1 is active source treatment using in-situ chemical oxidation. He explained an oxidant will be injected into the ground through a network of injection wells that will target the areas of the plume with the highest concentrations (greater than 1,000 parts per billion). He displayed a figure showing the network of wells. He also showed photographs from a pilot test conducted in June where an injection well and a downgradient monitoring well were installed. He said 4,000 gallons of the oxidant were injected and monitored for radius of influence and other parameters and to track groundwater concentrations. Mr. Cherry said this test was coupled with the laboratory treatability study where site soil and groundwater were collected and analyzed in ARCADIS' laboratory in North Carolina. He said the laboratory was able to run some experiments which will help with ramping up from the pilot scale to the full-scale remedial action.

g. Mr. Cherry noted recently completed activities include drilling 15 new wells for injection and/or monitoring down to 35 or 40 feet deep which is where the contaminants are located. He stated there are still a few more wells to be installed; he said they are coordinating with the Army Corps of Engineers on the timing of these wells since they need to be located near an ongoing construction project. Mr. Cherry showed some photographs of the test activities.

h. Ms. Kerry Topovski asked what oxidant is being used. Mr. Cherry responded the oxidant is sodium persulfate.

i. Mr. Cherry explained the action will involve injecting about 9,000 gallons of the oxidant per well approximately every nine months over three years beginning in January or February of 2014. He said monitoring will be conducted to monitor the effectiveness. He noted

the objective is to reduce the high levels of contaminants so the source area is removed from the plume which is migrating off-post.

j. Mr. Cherry next discussed Area 2, Building 2250, the former Post Laundry Facility. He stated an air-sparge and soil vapor extraction system is being installed. He advised a large industrial dry cleaning operation was formerly at this site which resulted in fairly high concentrations of PCE in the groundwater. Mr. Cherry said the building sits on the Mid-Patapsco clay which outcrops in this area. He noted there is a thin layer of sands above the clay layer. Mr. Cherry explained groundwater sampling detected concentrations in the 1,000 parts per billion range of PCE. He stated sub-slab gas sampling found concentrations of PCE gas above screening criteria in the foundation materials beneath the building. Mr. Cherry explained the dual remedial action approach is designed to address both the groundwater and the sub-slab gas vapors.

k. Mr. Cherry displayed a map showing the network of points which have been installed. He advised the trenching is being installed currently, along with putting in the PVC piping. He explained the air-sparge wells are about 15 feet deep and will inject air at about 13 feet below ground surface. He continued explaining that it will bubble air up through the groundwater and coupled with the vapor extraction system so as the air sparges through the sub-surface the volatile organic compounds will be stripped off and pulled out with the soil vapor points which are shallower, 10 feet deep with five foot screens. He said it is pulled out under vacuum and run through the equipment compound.

l. Mr. Cherry displayed current photographs of the site and noted the design and build-out of the system trailer had been completed and had recently been delivered and put in place at the site. He noted the trailer includes a telemetry system to communicate how the system is operating and to issue notifications if there are any alarms. He advised the system is expected to run for about a year to pull out the vapors and sparge the groundwater.

m. Mr. Cherry advised there are a few connections to finish, as well as the trenches. He said the expectation is that the system will begin operating early in 2014.

n. Mr. Fluck asked Mr. Cherry to explain what happens after the contaminants are extracted from the ground. Mr. Cherry explained the system can treat the volatile organic compounds with carbon if needed. He said the concentrations are very low so no treatment is required based on the State's air emission requirements. He said the extractions will be run through carbon initially during the start-up phase and there will be ongoing monitoring. Mr. Cherry said the levels do not pose a risk to any nearby people.

o. Mr. Cherry next discussed the planned action for Area 3, the Lower Patuxent Aquifer, which is a hydraulic containment system. He said the system will address the groundwater at 150 feet or deeper which is heading off in a southeasterly direction.

p. Mr. Cherry explained the system is an extraction/injection system. He stated a network of six extraction wells, downgradient of the known source areas, will pump the

groundwater at about 180 gallons per minute, about 30 gallons per well. He said the objective is not to create a large area of influence or a significant cone of depression but to simply capture the groundwater as it moves in this direction. He said the groundwater will be extracted, treated, and the clean water re-injected through a network of downgradient injection wells and through a surface water discharge area/retention pond. He said it is a long-term remedy, but it is a proven, effective way to treat low concentrations over a large area. Mr. Cherry advised that coupled with the source area treatment, it is estimated the groundwater cleanup will take about 25 years; however, a cut-off zone will be created so the contaminants will no longer migrate off the installation. Mr. Cherry reminded the Board there are nearby private wells off-post that have been sampled and found to not have any contaminants in excess of drinking water standards. Mr. Cherry said the 25 years is an estimate and will be contingent on the treatment effectiveness.

q. Ms. Topovski asked if wells further downgradient than the injection wells will be monitored. Mr. Cherry stated these actions are interim remedial actions, and the final remedy which will be formalized through a Record of Decision will detail the long-term monitoring requirements, land use restrictions, and engineering controls. Mr. Cherry said the Army and ARCADIS will be working closely with the County and State on these details as there are a number of considerations such as the monitoring of new private well installations.

r. Mr. Cherry said much of the work for the Area 3 system is completed, including thousands of feet of trenching and piping. He noted horizontal directional drilling had been used to install the piping to avoid electrical lines, wetland areas and traffic disruptions. Ms. Denise Tegtmeier showed a video of the drilling process. Mr. Cherry advised the installation of lines and trenches will be completed in the next couple weeks.

s. Mr. Cherry discussed the building that will house the system and explained it is a specially designed building that was assembled off-site and delivered to the site. Ms. Tegtmeier showed a video of the building being delivered and placed at the site. Mr. Cherry explained there are four carbon tanks in the buildings, sets of two in parallel, and the groundwater will run through the system and back out to the injection wells or the surface water discharge area. He stated the system includes the ability to monitor remotely and to send notifications if there is a problem. Mr. Cherry said the timeline is for the system to begin operating in early January.

t. Mr. Cherry reiterated these are interim remedial actions, and the full remedial investigation/feasibility study is ongoing and nearly complete for all of Operable Unit 4. He said comments on the internal draft report by the Army are being addressed, and then the report will be sent to the regulators. He noted a Record of Decision is anticipated in October or November of 2014.

u. Mr. Butler said the Army faced many challenges in getting the project to this point. He stated the challenges included new construction on the site, indoor air issues, and new storm water rules. He expressed his appreciation to ARCADIS and Ms. Tegtmeier for their ability to adapt to new information which has been critical in moving the project along.

8. Update on the Nevada Avenue Investigation:

a. Mr. Fluck introduced Ms. Denise Tegtmeier.

b. Ms. Tegtmeier displayed 12 months of sampling data through August 2013 for the three houses on Nevada Avenue. She also displayed the data on a graph. Ms. Tegtmeier pointed out all three of the properties had gone down to zero one month and the following month the PCE detections went to 4 parts per billion which is still below the maximum contaminant level of 5 parts per billion. She stated the most recent data shows the results to be back on trend. She explained the low numbers occurred when the off-post monitoring wells were being installed, with the high numbers occurring after the installed wells were developed and a lot of water is pumped through the well so more contamination could have been pulled into the wells. She said the wells then seemed to return to the previous levels. Ms. Tegtmeier said the monitoring wells were sampled in September, so the data will be presented at the next Board meeting and will provide information on whether the trend continues.

c. Ms. Tegtmeier reviewed the project schedule and noted the drilling activities occurred in May and June and included wells at the boundary of Fort Meade as well as off-post along Nevada Avenue and Blue Water Boulevard. She reiterated the sampling was performed in July and then 60 days later in September. She noted a draft report will be issued after the results are received and validated for the second round of sampling, probably in the November or December timeframe.

d. Ms. Tegtmeier showed a map indicating the new well locations, pointing out the shallow and deep well installed on Nevada Avenue near the properties. She advised two upgradient wells were installed off-post to try and determine the source of the contamination, as well as the two wells along Fort Meade's boundary.

e. Mr. Tibbetts asked about the impact of a proposed development on Nevada Avenue. Mr. Brian Chew from Anne Arundel County indicated the properties would probably be on public water.

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11. Open Discussion/New Business:

- a. Mr. Wayne Dixon mention the town of Odenton is going to be running a new water main and there will also be much new development. He suggested ensuring there was early communication so any issues can be mitigated.
- b. Mr. Fluck inquired about topics for the next Board meeting and invited Board members to email him with any suggestions.
- c. The meeting was adjourned at 8:28 p.m.



for

MICHAEL P. BUTLER
Chief, Environmental Division

CF:
RAB MEMBERS
FGGM GARRISON COMMANDER
PUBLIC AFFAIRS OFFICE