



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

REPLY TO
ATTENTION OF:

IMND-MEA-PWE

February 5, 2014

MEMORANDUM FOR Restoration Advisory Board Members

SUBJECT: Minutes for the January 16, 2014 Restoration Advisory Board Meeting

1. The Restoration Advisory Board (RAB) meeting was held on January 16, 2014, 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, March 20, 7 p.m.**, at the Holiday Inn Express, 7481 Ridge Road, Hanover, Maryland, 21076.

2. The following RAB members were present:

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

3. Members not present:

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:

Ms. Holly Brown	URS Inc.
Mr. Steve Cardon	Versar, BRAC Program
Mr. Walt Chahanovich	Fort Meade, Office of Staff Judge Advocate
Ms. Sarah Gettier	URS Inc.
Ms. Elisabeth Green	Maryland Department of the Environment
Ms. Katrina Harris	Bridge Consulting Corp.
Mr. Jerry Kashatus	URS Inc.

Mr. George Knight	Fort Meade Environmental Division
Mr. Tim Llewellyn	ARCADIS
Ms. Erin McKinley	Fort Meade Environmental Division (Osage of Virginia)
Mr. Mark Magness	CBI
Ms. Denise Tegtmeier	Fort Meade Environmental Division (Osage of Virginia)

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 November 21, 2013, meeting minutes. The motion was seconded and unanimously adopted to approve the November 21, 2013, minutes.

c. Mr. Tibbetts asked for an update on targeted recruitment efforts for new members. Mr. Fluck noted Ms. Few was a new member [provisional] and was present at the meeting. Mr. Fluck said meeting announcements include solicitation of community members who might be interested in becoming a Board member so there is continuous recruitment. Mr. Tibbetts asked if a woman he had referred to Mr. Fluck had been in contact, and Mr. Fluck advised he had not heard from her since an initial conversation during which she indicated she needed to clear her application with her government ethics officer.

6. Update on Former Pesticide Shop:

a. Mr. Fluck introduced Mr. Tim Llewellyn of ARCADIS, a contractor to Fort Meade's environmental program, to give an update on the final remedy being put in place for the Former Pesticide Shop. Mr. Fluck noted the issues at the site had been discussed at many past meetings, and he was pleased to now be able to present the implementation of the final remedy.

b. Mr. Llewellyn stated it had been a year since the site was last discussed and at that time the Army had been asking for input on the remedy selection. He reminded the Board the selected remedy was a removal of pesticide-contaminated soil and in-situ bioremediation for the solvents in the groundwater. Mr. Llewellyn said his presentation would focus on activities over the past year and beginning the implementation of the remedy.

c. Mr. Llewellyn displayed a list of the key phases of the Comprehensive Environmental Restoration, Compensation and Liability Act (CERCLA) process and noted the site was in the Remedial Action phase and will be completed soon. Mr. Llewellyn said the Army will continue to monitor the site through the long-term management phase.

d. Mr. Llewellyn reviewed the site's background, noting the site was used as a pesticide storage and maintenance facility for 20 years from 1958 through 1978. He said it is believed that solvents were used in the formulation of the pesticides and probably some spillage of pesticides

occurred which has left residual contamination in the soils. Mr. Llewellyn advised the building was demolished in 1996.

e. Mr. Llewellyn displayed a map showing the location of the site. He also displayed several aerial photographs of the site. He stated it was just under an acre in size. He pointed out the footprint of the former building.

f. Mr. Llewellyn presented a brief overview of the field investigations. He stated the work conducted under the remedial investigation was done between 1997 and 2010 with the results showing impacts to the soil primarily from pesticides (chlordane and heptachlor epoxide) and some impact from arsenic. He advised the arsenic contamination was co-located with the pesticides, so he would just be referring to the pesticide-contaminated soil during the balance of the presentation. Mr. Llewellyn said the investigations also found groundwater impacted by solvents used in the mixing of the pesticides. He explained both the soil and groundwater impacts were limited to the general vicinity of the Former Pesticide Shop.

g. Mr. Llewellyn showed a graphic depicting the soil contamination and the remedy presented in the Record of Decision (ROD). He pointed out the location of the former building and advised the contamination tends to be in the center of the building footprint/courtyard area. Mr. Llewellyn said the investigation found impacts down to about eight feet with minimal impact below that level.

h. Mr. Llewellyn discussed the investigations that had been conducted since the ROD was signed. He noted the intent of the more recent investigations was to better understand the distribution of the contaminants, ideally within five feet, so the limits of the excavation could be more closely defined. He stated another objective is to characterize the waste that will be excavated and determine approximate quantities of hazardous versus non-hazardous waste. Mr. Llewellyn said the plans called for any hazardous waste to be taken to Canada and for non-hazardous waste to be taken to a permitted landfill in Virginia.

i. Mr. Llewellyn advised three rounds of vertical and horizontal soil sampling were conducted using Geoprobe™ equipment in November 2012, January 2013, and June 2013. He said he would next discuss the results from those rounds of sampling which guided the soil removal.

j. Mr. Llewellyn displayed a graphic of the sampling grids, 10 feet by 10 feet, set-up over the footprint of the former building. He pointed out the areas where the pesticides were above and below the cleanup level. He noted the sampling was conducted down to a depth of 14 feet; however, most of the contamination was found close to the surface as pesticides are not very mobile as they are generally persistent and stick to the surface soil.

k. Mr. Llewellyn showed the designations of the three types of waste: non-hazardous, hazardous and needing some treatment as concentrations were less than 50 parts per million, and hazardous with concentrations exceeding 50 parts million and thus requiring different treatment (thermal oxidation). [Both hazardous waste streams will be treated in Canadian facilities] Mr.

Llewellyn offered to obtain additional information on the thermal oxidation treatment process, and Mr. Tibbetts stated he would be interested in more information. [After the meeting, Mr. Bob of ARCADIS provided the following information. "In general, there are two hazardous waste streams that originate from the Pesticide Shop:

1. Hazardous soil with a total chlordane concentration above 50 parts per million which are disposed of at the Bennett Environmental Facility located in Canada; and,
2. Hazardous soil with a total chlordane concentration below 50 parts per million which are disposed of at the Stablex Treatment facility also located in Canada.

The Bennett Environmental treatment process involves thermal processes that use heat to separate and destroy contaminants in soil. Contaminated soil is fed into the rotary kiln where propane or butane fired burners heat the material to approximately 650-750° C. Chlordane is separated from the soil and enters the gas stream. Treated soil is discharged from the kiln and stored until analysis determines it is clean.

The contaminated gas stream which results from the primary rotary kiln then enters the secondary chamber operating at over 1000°C in a highly turbulent environment. The high temperatures break molecular bonds and organic contaminants are oxidized and destroyed. Hot gases from the secondary chamber are directed to the remaining components of the system for treatment and filtering to ensure that no contaminants are discharged to the atmosphere and that the final end products of the incineration process are inert carbon dioxide and water.

Stablex first conducted a pilot test on actual soil samples obtained from the Pesticide Shop to determine the appropriate physical and chemical treatment process to treat soil with chlordane below 50 ppb. Upon arrival at the Stablex facility the contaminated soil is homogenized to achieve uniform gradation of the soil. The processed soil is then added to a slurry mixture. A combination of chemical treatments (e.g. oxidation, reduction, or neutralization) is employed to produce a more stable material and transforms the slurry into an insoluble product. This reduces the toxicity and leachability of contaminants. Fixation reagents are added to the mixture to bind contaminants into mixed silicates (e.g., sand) and to trap insoluble precipitates produced during treatment that further enhances the environmental stability of the treated soils. The treated and stabilized soil cures and ultimately hardens to a compressive strength similar to that of concrete. The hardened and treated soils are then disposed of in an engineered and monitored disposal cell in order to preclude the possibility of future environmental contamination.]

1. Mr. Llewellyn stated the pre-design investigative work better defined the limits of the planned excavation and the anticipated waste streams, as well as verifying the volume to be removed would be greater and thus the cost would increase. He advised that while the remedy did not change from what was described in the ROD, the cost and volume increases needed to be documented as required by CERCLA in a document known as an Explanation of Significant Differences.

- m. Mr. Llewellyn next discussed the soil remedy. He noted the groundwater remedy has not yet been implemented so it would be discussed at a future meeting. He advised the site preparation activities included putting in some survey controls, establishing grids, locating

utilities, sediment and erosion control processes, and traffic control. Mr. Llewellyn said the next phase was the soil excavation which began in December and involves excavating about 1,200 tons of soil from four to sixteen feet below ground surface. He noted the size of the area to be excavated is relatively small, 100 feet by 40 feet. Mr. Llewellyn said the soil will be transported from the site on approximately 50 to 60 trucks. He explained samples will be taken to ensure any remaining concentrations of Chlordane in the soil are below 16 parts per million, the cleanup standard. Mr. Llewellyn said once the cleanup levels have been reached, the site will be backfilled and restored.

n. Mr. Llewellyn showed several photographs of the site being prepared and the soil being excavated. He also showed a video of the soil being excavated and loaded onto a truck. Mr. Fred Tutman asked what level of protective clothing was needed by the personnel conducting the work. Mr. Llewellyn responded that the main issues are dermal contact and controlling dust so only Level D protection was needed which is similar to what is used at any construction site (hard hats and hand and foot coverings).

o. Mr. Llewellyn reviewed the current status of the site and explained the first two soil layers have been removed, with 36 of 56 grids having been excavated. He stated the remaining 300 cubic yards of soil would be removed on approximately 15 trucks. Mr. Llewellyn said the post-excavation sampling would then be conducted. He advised air monitoring and health and safety protocols will be in place throughout the work.

p. Mr. Llewellyn discussed several project challenges. He advised after the soil removal began in mid-December, the trucking supply company was unable to provide the number of trucks needed so work was stopped and the project shutdown for the holidays. Mr. Llewellyn said when the project started again, the trucks were on schedule. He noted the job was shut down for a few days during the extreme cold weather due to safety concerns. He advised the work has started again, but a current challenge are some dewatering concerns due to the very sandy material, perched groundwater layers, and the volume of rain. Mr. Fluck asked what happens during the dewatering process when there is sediment on the bottom of the tanks. Mr. Llewellyn advised fabric is placed over the intake pumps to prevent silt from entering; he said any silt that gets through is removed and taken off-site as waste.

q. Mr. Llewellyn reviewed future activities and advised the site restoration and stabilization will be done following the excavation and confirmatory sampling. He said the groundwater remedy will begin sometime in February with the injection of emulsified vegetable oil. He stated a baseline groundwater sampling event will be conducted. Mr. Llewellyn said a draft remedial action completion report will be submitted in March 2014.

r. Mr. Llewellyn showed an aerial photograph and discussed the groundwater remedy. He stated two lines of GeoprobosTM borings will be advanced at the location of the solvent (tetrachloroethene (PCE) and trichloroethene (TCE)) contamination. He advised that the solvent PCE is at approximately 200 parts per billion relative to the standard of 5 parts per billion and TCE is at approximately 35 parts per billion relative to the standard of 5 parts per billion. He said the emulsified vegetable oil will be injected into the sub-surface to enhance the degradation

process. He noted the removal of the pesticide-contaminated soil will also help mitigate the groundwater contamination as the source of the solvents is removed.

s. Mr. Tutman asked about the difficulty of shipping hazardous waste to Canada and the method of transport. Mr. Llewellyn said there is paperwork to be done, and the trucks have to go through Customs. Mr. Llewellyn said the primary contaminant, chlordane, has limited disposal options. Mr. Llewellyn said there have not been any issues to date. Mr. Llewellyn said the materials are remaining on the trucks for the trip into Canada. Mr. Fluck added that the truck companies have a high level of quality control to ensure what is placed on the trucks is exactly what is on the manifest. Mr. Fluck said the Canadian government also puts forth a high level of effort in terms of inspections and testing of the material on the trucks compared to the manifest.

t. Mr. Fluck asked about the unanticipated finding of some construction debris. Mr. Llewellyn said there were some isolated layers of concrete, presumably from the demolition of the building. Mr. Fluck asked if the concrete had been removed from the site. Mr. Llewellyn said he believed it had been removed, but he would confirm the next day. [Following the meeting, Mr. Llewellyn advised the concrete debris had not yet been removed but had been staged pending landfilling or recycling.]

7. Update on the Nevada Avenue Investigation:

a. Mr. Fluck introduced Ms. Denise Tegtmeier.

b. Ms. Tegtmeier displayed 12 months of sampling data through December 2013 for the three houses on Nevada Avenue. She also displayed the data on a graph. Ms. Tegtmeier pointed out that the levels of PCE have continued to decline below the standard at all three of the properties. She reminded the Board the spikes on the graph are from the sampling event and have not re-occurred.

c. Ms. Tegtmeier reviewed the project schedule and noted the monthly sampling had been completed on January 15, and a draft report is due to be distributed to the Board and regulators before the end of the month.

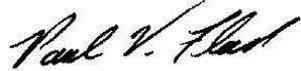
8. Open Discussion/New Business:

a. Mr. Fluck inquired about topics for the next Board meeting and invited Board members to email him with any suggestions. Mr. Tibbetts requested an overview of the program would be helpful including financial information on how much has been spent to date and approximate future costs. Mr. Fluck suggested the annual report to Congress might have some of the information Mr. Tibbetts was requesting, and a Google search would direct anyone interested to the report. Mr. Fluck said he could also bring a copy to the next meeting and discuss it further.

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b. The meeting was adjourned at 8:14 p.m.



For

MICHAEL P. BUTLER
Chief, Environmental Division

CF:
RAB MEMBERS
FGGM GARRISON COMMANDER
PUBLIC AFFAIRS OFFICE