

## St. Juliens Creek Annex Restoration Advisory Board Meeting Summary: November 13, 2013 Meeting

### Meeting Attendees

Krista Parra	Naval Facilities Engineering Command Mid-Atlantic	Roland DeGuzman	Norfolk Naval Shipyard
Robert Mann	Restoration Advisory Board Community Co-Chair	Kevin Lew	Restoration Advisory Board Community Member
Robert Stroud	United States Environmental Protection Agency (Region 3)	Barbara Brumbaugh	City of Chesapeake
Karen Doran	Virginia Department of Environmental Quality	Janna Staszak	CH2M HILL
Nathan Tice	Virginia Department of Environmental Quality	Adrienne Jones	CH2M HILL
		Bill Hughes	CB&I Federal Services
		Valerie Walker	Naval Facilities Engineering Command

**Location:** Major Hillard Library, Chesapeake, Virginia

**Meeting Date:** November 13, 2013

**From:** Adrienne Jones/CH2M HILL

**Minutes Date:** February 4, 2014

### Restoration Advisory Board Welcome and Introductions

At 4:30 PM, Ms. Parra presented opening remarks and introductions to the Restoration Advisory Board (RAB). Ms. Parra explained that she is the Naval Facilities Engineering Command Mid-Atlantic Remedial Project Manager for St. Juliens Creek Annex (SJCA). The other RAB members and guests introduced themselves. All presentation handouts were distributed.

### Fiscal Year 2014 Goals

Ms. Parra led the presentation. The objectives of the presentation were to provide an overview of the Comprehensive Environmental Response, Compensation, and Liability Act process; provide an update of the Environmental Restoration Program (ERP) sites and Fiscal Year (FY) 2014 goals for the ERP sites and facility-wide ERP activities; and answer any questions.

Ms. Parra reviewed the ERP goals for SJCA. ERP goals for SJCA are established yearly by FY; FY 2014 started October 1, 2013, and ends September 30, 2014. The goals serve as a budgeting tool for allocating funds, as a prioritization tool to determine sequencing of sites to be investigated and remediated based on their potential risk to human health and the environment, and as a tool to keep remediation projects on schedule. To date, 55 sites have been closed with no further action (NFA) required through desktop audits or investigations, and four Installation Restoration Program (IRP) sites are currently active in the ERP (Sites 2, 4, 5, and 21). A figure showing the locations of the ERP sites at SJCA was projected. FY 2014 goals have been established for most of the active ERP sites.

Ms. Parra reviewed the status of IRP Site 2 and presented the FY 2014 goals for the site. IRP Site 2, Waste Disposal Area B, is an unlined, inactive waste disposal area. The area was used for disposal of miscellaneous waste, including construction debris, blast grit, waste ordnance, and solvents, from 1921 to 1942. Investigations conducted at the site identified concerns from waste; chlorinated solvents, one polycyclic aromatic hydrocarbon (PAH), and one pesticide in the shallow aquifer groundwater; chlorinated solvents and metals in the surface

water; and PAHs, pesticides, polychlorinated biphenyls (PCBs), and metals in the sediment and soil. The selected remedy to address the concerns consists of enhanced reductive dechlorination (ERD), monitored natural attenuation, a cover, land use controls (LUCs), and sediment excavation. The Remedial Action (RA) is currently in progress and is in the construction phase. The FY 2014 goal established for Site 2 is to finalize the Construction Closeout Report by June 30, 2014.

Ms. Parra reviewed the status of IRP Site 4. IRP Site 4, Landfill D, is a landfill that was operated from 1970 to 1981. Investigations conducted at the site identified concerns from waste; metals, PCBs, and PAHs in soil; and mercury in drainage sediment. The selected remedy to address the concerns consists of soil cover installation, drainage ditch sediment removal, and LUCs. The soil cover and sediment removal components have been completed. A Five-Year Review was completed for the site in 2010. The Five-Year Review incorporated the results of voluntary groundwater monitoring conducted following completion of the RA to evaluate the site's impact on groundwater quality. The review concluded that the remedy at Site 4 is protective of human health and the environment. Currently LUCs are maintained, annual inspections are conducted yearly, and Five-Year Reviews are conducted every five years, with the next one scheduled for 2015. There are no FY 2014 goals for Site 4.

Ms. Parra reviewed the status of IRP Site 5 and presented the FY 2014 goals for the site. IRP Site 5, Burning Grounds, was used as a burning ground from the 1930s to the 1970s. Various wastes were reportedly disposed of, including solvents, paint sludge, pesticides, and refuse. Investigations conducted at the site identified concerns from waste and metals, pesticides, and PAHs in the surface soil and drainage sediment. The selected removal action alternative to address the concerns consisted of excavation and offsite disposal. The removal action was completed in 2012. Currently, planning is underway for a supplemental Remedial Investigation (RI) to evaluate metals in the shallow aquifer groundwater. The FY 2014 goals established for Site 5 are to finalize the supplemental RI Sampling and Analysis Plan by March 31, 2014; finalize the Supplemental RI Report by June 30, 2014; finalize the Proposed Plan by September 30, 2014; and to finalize the Record of Decision (ROD) by September 30, 2014.

Ms. Parra reviewed the status of IRP Site 21 and presented the FY 2014 goals for the site. IRP Site 21, Industrial Area, comprises an industrial area of the base. Historically, buildings were used as maintenance and electrical shops and munitions loading facilities, outdoor areas were used for equipment and chemical storage, and a former fuel service station was operated. Investigations conducted at the site identified concerns from chlorinated solvents in the shallow aquifer groundwater and indoor air. The selected remedy to address the concerns consists of in situ chemical reduction (ISCR) and ERD. The RA is currently in the operation phase and consists of groundwater, storm water, and vapor intrusion monitoring. The FY 2014 goals established for Site 21 are to finalize the 4th RA-Operation Groundwater Monitoring Report by December 31, 2013, and to finalize the 5th RA-Operation Groundwater Monitoring Report by June 30, 2014.

The facility-wide goals established for FY 2014 are to finalize the Site 4 Groundwater Monitoring for the Five-Year Review Sampling and Analysis Plan by March 31, 2014; draft a Site Management Plan by June 15, 2014; and prepare a success story by September 30, 2014.

Ms. Parra highlighted some of the SJCA ERP successes during FY 2013. All of the FY 2013 goals were met except the Site 5 Proposed Plan and ROD goals. SJCA received two awards recognizing ERP successes at the facility: Chief of Naval Operations Environmental Award for "Environmental Restoration – Installation" for FY 2012 and Secretary of Navy Environmental Award for "Environmental Restoration – Installation" for FY 2012.

Ms. Parra asked if there were any questions or comments; none were received.

## **Area Unexploded Ordnance 1 Expanded Site Inspection**

Ms. Staszak led the presentation. The objectives of the presentation were to provide an overview of Area Unexploded Ordnance (UXO) 1 – Wharf Area Sediments; discuss some of the challenges of investigating underwater munitions response sites; provide details of the Expanded Site Inspection field activities; present the Expanded Site Inspection results and conclusions; and solicit questions or comments.

Ms. Staszak provided an overview of the site. The site is divided into a northern wharf area and a southern wharf area along the Southern Branch of the Elizabeth River. In the northern wharf area, several pilings are all that remains of the former wharf. In the southern wharf area, the wharf is still present and used, but not for munitions loading. A Preliminary Assessment was conducted in 2009, to determine the potential for munitions or munitions constituents to be present. No documentation was found to confirm the presence of munitions in the wharf areas. Anecdotal evidence obtained (for example, interviews) indicated a potential for munitions to have been dropped during operations.

Ms. Staszak explained that there were several challenges that had to be addressed when investigating the underwater munitions site. These challenges included the dynamic environment caused by water currents, tides, and sedimentation; community impacts associated with boat traffic and neighboring properties; and physical characteristics, such as very poor underwater visibility, "chocolate pudding" sediment, variation in water depth, and debris. Ms. Walker indicated that there have been more requests from the facility and fleet for diving in the area and that she would pass along the information about the physical characteristics.

Ms. Staszak explained that a Site Inspection (SI) was conducted in 2010 as a screening step. The SI included a bathymetric survey to determine the depth of the river and an underwater digital geophysical mapping survey to identify metallic debris (geophysical anomalies). Two hundred and sixty-five anomalies were identified in the northern wharf area and 1,386 anomalies were identified in the southern wharf area. It was not known whether the anomalies were munitions-related so it was recommended that a subset of the anomaly sources be visually inspected. Therefore, an Expanded SI was conducted in 2012, to inspect anomaly sources and collect sediment samples for explosives analysis. Fifteen locations were selected for investigation. At each location, two barges were stationed, one with a long reach excavator and containers and the other with a crane. A silt curtain was deployed around the entire operational area because of the tidal nature of the river. A large electromagnet was lowered to the bottom of the river and powered to retrieve metallic debris, a large rake was sent down to loosen up the sediment that had built up over time, and then the electromagnet was lowered to the sediment bottom again to retrieve metallic debris. Material recovered by the electromagnet was released over a wooden screen on a barge so the sediment could be separated from the metallic debris. All of the metallic debris that was recovered was inspected by munitions experts. Mr. Lew asked how large the investigation locations were. Ms. Parra responded that each location was approximately 20 feet by 20 feet. Ms. Staszak added that at each location, the process was repeated until metallic debris was recovered and if no debris had been recovered, an alternate location would have been added.

Approximately 1 ton of metallic debris was recovered during the Expanded Site Inspection and did not include any munitions items. The metallic debris included a shackle, a crane hook, rebar, steel plates, metal poles, a steel pipe, cable, and pier bolts. Because various types of debris were recovered, the decisions makers were confident that the equipment used in the investigation would have recovered munitions if they had been encountered. One explosive constituent was detected in the sediment samples collected from three locations but the concentrations were low and did not pose unacceptable risks to human health or ecological receptors. Because no munitions were recovered and no unacceptable risks were present from exposure to sediment, the partnering team agreed to site closure for Area UXO 1 with NFA required. Ms. Walker asked if all of the metal debris that was recovered was recycled; Ms. Staszak responded that it was.

Ms. Staszak reviewed some of the successes from the Expanded SI. Despite all of the challenges associated with investigation of an underwater site within an urban water body, the project was a success and the objective of the investigation was met through the use of the electromagnet. The cost of the investigation was reduced by 50 percent by using the electromagnet instead of the more conventional method of using a clam shell. Suspended sediment was limited and contained within the turbidity curtain. Investigative-derived waste generation was minimized using the electromagnet because no sediment was recovered that had to be disposed of offsite, reducing cost and environmental impacts; 1,200 cubic yards (CYs) of sediment and debris for disposal was anticipated using the clam shell dredge. The investigation was completed without any safety incidents and the audit conducted by Naval Ordnance Safety and Security Activity during the investigation did not find any significant findings.

Ms. Staszak asked if there were any questions. Ms. Brumbaugh asked what clues were looked for when determining whether an item was munitions-related; Ms. Staszak explained that trained unexploded ordnance technicians examined every piece of debris to make the determination. Ms. Brumbaugh asked if anything historic was recovered; Ms. Staszak responded no. Ms. Walker asked if the sediment that was brought up was analyzed and if so, if there were any significant results. Ms. Staszak responded that the sediment was sent to a laboratory and analyzed for explosives constituents and that there were no significant results. Mr. Lew asked how nonferrous munitions were accounted for since they would not get picked up by the electromagnet. Ms. Staszak explained that when planning the investigation, the types of munitions that were shipped in and out from the facility were researched and less than half of the munitions were nonferrous, so based on that and because there were no records of munitions being dropped in the river, the team was comfortable using the electromagnet during the SI phase.

## Installation Restoration Program Site 2 Remedial Action

Mr. Hughes led the presentation. The purpose of the presentation was to provide an update on the status of the RA being conducted at Site 2.

Mr. Hughes reviewed the site background and results of previous investigations. The historic activities associated with contamination at the site include waste disposal, open burning, and stormwater discharge from Site 21. Site 2 contained a tidal inlet/wetland area that discharged to St. Juliens Creek. A map showing the location and features of the site was projected. Risks to human health and/or the environment were identified from exposure to volatile organic compounds (VOCs), a semi-volatile organic compound (SVOC) (naphthalene), and a pesticide (heptachlor epoxide) in the shallow aquifer groundwater; VOCs and metals in the surface water; and SVOCs, pesticides, PCBs, and metals in the sediment and soil. Cleanup goals were established for the contaminants of concern with concentrations contributing to unacceptable human health and ecological risks in soil, sediment, and groundwater. The RA Objectives were established for each of the site media.

Mr. Hughes reviewed the components of the selected remedy for the site. The RA consists of installation of a soil cover over the waste and impacted soil and inlet sediment; excavation of the impacted sediment in St. Juliens Creek located at the Site 2 outfall; in situ shallow aquifer groundwater treatment through injection of emulsified vegetable oil in high-concentration VOC areas followed by performance monitoring; monitored natural attenuation in the low-concentration VOC, naphthalene, and heptachlor epoxide areas; and LUCs to prevent incompatible future land and groundwater uses.

Mr. Hughes discussed the soil cover component of the RA, which was nearing completion. Storm water was rerouted around the site. Then the wetlands area was stabilized with geofabric and rock so that equipment could be driven over it. Fill soil was placed over the area for the cover and the fill was graded for proper drainage. Topsoil was placed over the fill material.

Mr. Hughes discussed the St. Juliens Creek sediment excavation component of the RA, which had been completed. To perform the sediment excavation, a turbidity curtain was deployed beyond the excavation area and a clay dam was built between the turbidity curtain and the excavation area. The water within the dammed area was pumped out and the impacted sediment was removed using a long reach excavator located on shore. Following confirmation of the limits and depth of the excavation, the dam was removed and the site was restored. The excavated sediment was disposed of offsite.

Mr. Hughes explained the following opportunities for materials reuse and recycling that were identified during the RA:

- 480 CY of timber and stumps were sent offsite for recycling.
- 975 CY of wood chips were reused at Site 2.
- 72,960 pounds (lbs) of steel and 3,460 lbs of copper wire were recycled by the Navy. Mr. Lew asked where the metal was from. Mr. Hughes explained that most of the metal was rebar that was discovered during removal of a building foundation during construction of the wetland at former Site 19.

- 600 CY of concrete from former Site 19 and 325 CY of concrete from the building demolition at Site 2 were reused for subgrade stabilization of the soil cover at Site 2.
- 550 CY of topsoil was stripped from former Site 19—525 CY was reused at former Site 19 and the rest was transported to the enhanced extended drainage basin (EEDB) for reuse.
- 950 CY of topsoil was stripped from the EEDB area and stockpiled for reuse during restoration.
- 6,500 CY of common fill was excavated from former Site 19 and 8,000 CY of common fill had been excavated from the EEDB area to date; the fill would be reused as grading fill at Site 2.

Mr. Hughes asked if there were any questions or comments. Ms. Walker asked if the rain in October had impacted the construction work. Mr. Hughes responded that the rain had slowed work because the soil had to be moved around to dry it out. Mr. Hughes noted that the next step in the RA-construction at the site was installation of the injection wells for the shallow aquifer groundwater treatment component.

### **Roundtable / Question and Answer**

Ms. Parra asked if there were any general questions or comments for discussion. Ms. Brumbaugh asked if the number of trees that were removed during the remedial activities were tracked so that they could be replaced. Ms. Parra responded that they were and that more trees had been planted than removed. Ms. Brumbaugh asked if there is a required ratio for replanting. Ms. Staszak responded that there are very specific replanting requirements for wetlands based on wetland type, such as emergent, scrub shrub, or forested wetland, that were addressed through the design. Mr. Lew asked when the RAB might be dismantled based on completion of work. Ms. Parra responded that construction complete was expected in March 2015, and that the RAB could discuss reducing the frequency of the meetings to once a year during the November 2015 RAB meeting. Ms. Walker asked if the goose deterrents that had been installed at the constructed wetlands had worked. Ms. Parra responded that they had.

### **Next Meeting**

Ms. Parra indicated that the next RAB meeting will be held in approximately 6 months, in May 2014. She asked if the RAB would prefer to do a site visit instead of a meeting; the RAB members responded that they would. Ms. Parra indicated that she would email the RAB members to schedule the site visit and coordinate access.

### **Meeting Adjourned**