

## NAVAL AIR STATION BRUNSWICK, MAINE - STATUS OVERVIEW OF ENVIRONMENTAL RESTORATION PROGRAMS

This Table provides an overview of the various Sites which have been or are currently being addressed under the Navy's Environmental Restoration Program at Naval Air Station Brunswick. This Table is meant to provide general information, such as the site description, actions taken, and proposed actions which the Navy is planning to carry out at each site. For more detailed descriptions of each site listed below, the following documents are recommended for review. These documents are available in the Naval Air Station Brunswick Administration Record which is available at the Curtis Memorial Library, 23 Pleasant Street, Brunswick, Maine.

Suggested Reading for More In-Depth Information on these Sites:

- 1.) Final 2<sup>nd</sup>- Five Year Review – (ECC/EA. 2005)
- 2.) Draft Final Remedial Investigation/Feasibility Study Report.Vo.I/II. (E.C. Jordan. 1990)
- 3.) Draft Final Supplemental Feasibility Study Sites 5, 6, and 12 (E.C. Jordan 1991)
- 4.) Final Preliminary Assessment, Naval Air Station Brunswick, Military Munitions Response Program (Malcolm Pirnie 2006)
- 5.) Site Records of Decisions (RODs) – A public document that explains which cleanup alternatives will be used to clean up a Superfund site. The RODs for sites listed below (marked with an asterisks \*) were created from information generated during the Remedial Investigation/Feasibility Study (RI/FS) phase of the EPA Superfund Process. For more information on this process refer to <http://www.epa.gov/superfund/about.htm>

SITE No./NAME	DESCRIPTION	ACTION	PROPOSED ACTIONS
<b>BASE ENVIRONMENTAL RESTORATION PROGRAM SITES</b>			
<b>SITES 1 &amp; 3: Orion Street Landfill and Hazardous Waste Burial Area *</b>	These two landfills were used for disposing of garbage and industrial wastes. Site 1 landfill was used from 1955 to 1975 and Site 3 was operated as a disposal area from 1960 to 1973. In 1992 a Record of Decision was finalized.	Remedy included construction of a landfill cap and slurry wall around the wastes. From 1994 through 1997, two extraction wells were installed to depress the water level within the slurry wall below the waste mass. The Long-Term Monitoring Program monitors groundwater, surface water, leachate seeps, sediment, and landfill gas emissions.	On-going evaluation of Long Term Monitoring data to gauge success of the remedy and to determine if additional monitoring or modifications to the plan are needed.
<b>SITE 2: Orion Street Landfill South*</b>	Site 2 was the base's primary landfill from 1945 to 1955. Wastes were reportedly incinerated before being placed in the landfill and covered with soil. The 2-acre site is adjacent to Mere Brook. Remedy for this site in the September 1998 Record of Decision is "Minimal Action" and institutional controls.	Metal debris was removed in 1999 and the landfill slope was stabilized. A Long-Term Monitoring Program has been established at Site 2 for environmental monitoring of groundwater, seep, sediments and surface water.	On-going evaluation of Long-Term Monitoring Program data. In Fall 2008, the Navy initiated an investigation of the area immediately north of the Site 2 Landfill to assess environmental issues related to metals and other contaminants.
<b>SITE 4: Acid/Caustic Pit*</b>	The pit (approximately 4 feet square and 3 feet deep) was used for the disposal of liquid wastes between 1969 and 1974. This site underlies a portion of Bldg 584. It is one of the three sources of groundwater contamination of the Eastern Plume.	The Navy completed a Remedial Investigation at Site 4 during the 1980s. Quantities of wastes disposed of are unknown. There has been no activity at Site 4 in the past several years.	As per the 1998 Record of Decision, no further action planned for soils at Site 4. Groundwater contamination is currently being addressed by the Eastern Plume groundwater remedy.
<b>SITE 5: Orion Street Asbestos Disposal Area*</b>	In 1979, Site 5 was reportedly used to dispose of asbestos-lined pipes from a demolished building. The pipes were placed in two trenches, in which a total of 14 pipes were found. The site covers approximately 0.25 acres and is located south of the main runway.	A Remedial Investigation in the early 1990s included geophysical survey, sampling of soils and a site inspection. As per the August 1993 Record of Decision, the asbestos-containing material was excavated from the site and placed into the Sites 1 and 3 landfill.	The results of the Remedial Investigation and a Baseline Risk Assessment conducted at the site indicated that the contaminants of concern were not detected in the environment. Based on confirmatory sampling, no further action is planned for Site 5.
<b>SITE 6: Sandy Road Rubble &amp; Asbestos Disposal Area*</b>	Site 6 is a small depression that was reportedly used to dispose of construction debris, aircraft parts, and asbestos-lined pipes. The site is approximately 1 acre and is nearly flat. The site is bordered by Sandy Road to the southeast and a stream behind Bldg 516.	The results of the Remedial Investigation conducted in the 1990s at Site 6 indicated that the contaminant of concern (asbestos) was not reported in the environment. Under the 1993 Record of Decision, the site remedy included the excavation of the asbestos-containing material and construction debris. This material was disposed of at Sites 1 and 3 landfill beneath the cap.	As per the August 1993 Record of Decision, no further action is planned for Site 6.
<b>SITE 7: Old Acid Caustic Pit*</b>	Site 7 is the former location for acid and caustic liquid waste disposal. This area was from 1952 to 1969 for disposal of transformer oils, battery acids, caustics, solvents, and miscellaneous liquids. Additionally, the area was used for temporary storage of equipment and a Defense Reuse and Marketing Office facility.	As per the 2002 Record of Decision the Site 7 remedy requires institutional controls with groundwater monitoring. The Long Term Monitoring Program for Site 7 has been on-going since 2005	Long-Term Monitoring data is evaluated twice a year. In 2007, the Navy installed 3 new monitoring wells to refine the groundwater monitoring well network. In December 2008, the Navy will conduct additional soil sampling in an effort to determine if any source material remains.
<b>SITE 8: Perimeter Road Disposal *</b>	Site 8 was a disposal area for rubble, debris and trash from 1964 to 1974. Environmental sampling completed during the 1990 Remedial Investigation indicated that the surface and subsurface soils were contaminated with polycyclic aromatic hydrocarbons (PAHs).	The site remedy in the 1993 Record of Decision was to excavate the PAH contaminated soil and dispose of it in the Sites 1 and 3 landfill. Confirmatory soil sampling after the excavation demonstrated that the removal action was successful.	There has been no activity at Site 8 since site restoration in the fall of 1995. No further action planned for Site 8.
<b>SITE 9: Neptune Drive Disposal Area</b>	Site 9 was a former incinerator, ash landfill/dump area, and disposal area. The incinerator operated from 1943 to 1953. The incinerated solid waste and the ash were disposed of in the "ash landfill/dump area". Groundwater is contaminated with vinyl chloride, and other dissolved-phase chlorinated volatile organic compounds. Pesticides and metals were found in the leachate samples. The Site Remedy in the 1999 Record of Decision was monitored natural attenuation with groundwater monitoring and institutional controls.	When the Navy removed the barrack buildings overlying the ash landfill/dump area, it was also decided to remove the source area (ash material). The Navy has removed over 36,000 cubic yards of demolition debris and contaminated soil/ash material from Site 9 north of Neptune Drive. The excavated contaminated material was transported off site for disposal. There is a Long-Term Monitoring Program in place at Site 9 for groundwater.	The excavated area north of Neptune Drive is currently being restored for reuse. A new monitoring well was installed in the southwest corner of the Site to better define the site boundary and be added to the Long-Term Monitoring Program. Monitoring wells destroyed by the removal action will be replaced in 2008. An additional investigation was conducted to determine the extent of ash material present south of Neptune Drive. Another investigation will be conducted to the area north of the excavation area to determine extent of ash material in that area.. An investigation in the vicinity of Bldg 201 was conducted for soil, groundwater and pore-water sampling.

SITE No./NAME	DESCRIPTION	ACTION	PROPOSED ACTIONS
<b>SITE 11: Fire Training Area*</b>	The former Fire Training Area was used regularly for 30 years before 1990 for Navy operations. Waste liquids (fuels, oils, degreasing solvents) were used as fuel for the fire training exercises. One of the three source areas of groundwater contamination of the Eastern Plume.	Groundwater and soil within Site 11 were polluted with volatile organic compounds as a result of the former fire training activities. Two removal actions for soil. In 2002, an infiltration gallery was constructed over this site, which recharges treated effluent from the treatment plant back into the subsurface.	No further actions are planned for soils. Groundwater associated with Site 11 is being addressed under the Eastern Plume pump and treat remedy, and Long-Term Monitoring Program, as presented in the 1998 Record of Decision for the Eastern Plume.
<b>SITE 12: Explosive Ordnance Disposal Area</b>	Site 12 was used for disposal of small quantities of ordnance, pyrotechnics, privately manufactured explosive devices, and war souvenirs, prior to its deactivation in 2004.	This site is currently under the Navy's Environmental Restoration Program and is concurrently being investigated under the Navy's Military Munitions Response Program (MMRP). A Preliminary Assessment has been conducted for this area.	The Draft Final Site Inspection Work Plan Site 12 is currently under review.
<b>SITE 13: Defense Reuse and Marketing Office*</b>	Site 13 consisted of three underground storage tanks: one for diesel fuel, the other two for storing waste fuels, oils and degreasing solvent.	The fiberglass replacement tank was removed and replaced with an above-ground tank. The Navy conducted a remedial investigation and a risk assessment to evaluate the potential effects on human health and the environment at Site 13.	No further actions are planned for Site 13.
<b>SITE 14: Old Dump Number 3*</b>	The Old Dump Number 3, used during World War II, is now surrounded by the active runways constructed in 1951.	The Navy conducted a remedial investigation. No unexplained anomalies were detected during the magnetometer survey.	No further actions are planned for Site 14.
<b>SITE 15: Merriconeag Extension Debris Area*</b>	The Debris Area was reported in 1990 by a NAS employee. Debris was found to consist of concrete rubble near a soil dam which created a 0.75-acre pond on a small, unnamed stream.	Asbestos pipe and scrap metal was removed. During site inspection in 1992, test pits encountered few, or no, debris items. A magnetometer survey in 1999 confirmed that no metal debris remained.	No further actions are planned for Site 15.
<b>SITE 16: Swampy Road Debris Area*</b>	The site was brought to the Navy's attention in 1990 by a NAS employee who observed surface debris and refuse along the banks of a stream in the golf course.	A site investigation was conducted in 1992. The Navy used a magnetometer to locate and remove surface debris and disposed of the material off site.	No further actions are planned for Site 16.
<b>SITE 17: Former Building 95*</b>	Building 95 and surrounding structures comprised the pesticide/herbicide storage area and distribution center for NAS Brunswick until 1985. This Site was originally regulated under the Resource Conservation and Recovery Act (RCRA) and currently by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).	In 1992, a Site Evaluation indicated the presence of pesticides and herbicides in soil. Remedial actions included the removal of over 1,000 cubic feet of impacted soil within the area of concern, and the placement of a geo-textile liner to act as a marker of the excavation.	There is a Long-Term Monitoring Program for groundwater at Site 17. A Remedial Investigation is currently being conducted at this site in 2008 to determine the extent of soil and groundwater impact. Additional assessment of the soil placed in an area south of the road has been conducted. A Focused Feasibility Study will be conducted in 2009 to determine options for site remediation.
<b>SITE 18: West Runway Study Area*</b>	This area is a seep is near the former location of an ordnance bunker that was dismantled some time in the mid-1970s.	In 1993, a Site Evaluation revealed a small number of anomalous areas where innocuous buried debris was found.	No further actions are planned for Site 18.
<b>Eastern Plume Operable Unit*</b>	The Eastern Plume is the groundwater contamination resulting from three sites: Site 4 (Acid/ Caustic Pit), Site 11 (Fire Training Area), and Site 13 (Defense Reuse and Marketing Office). A 1990 Remedial Investigation and a 1991 Supplement Remedial Investigation identified chlorinated volatile organic compounds and metals within the Eastern Plume.	A groundwater extraction and treatment system is operational and is treating the Eastern Plume. In 1995, the Navy installed five extraction wells and a treatment plant for hydraulic control and treatment of the Eastern Plume groundwater. Since 2000, the treatment plant uses an air stripper and carbon polisher. Water is now discharged to an infiltration gallery.	There is a Long-Term Monitoring Program in place at the Eastern Plume for evaluation of the Plume boundaries and efficiency of the extraction network and treatment system. Activities in 2007/2008 for the Eastern Plume include: (1) installation of an additional extraction well; (2) investigations on the extent of Plume impact on Mere Brook, (3) the development of a groundwater computer model and (4) groundwater investigation at infiltration gallery area.
<b>PETROLEUM, OIL AND LUBRICANT SITES</b>			
<b>UST 001: Old Navy Fuel Farm</b>	The Old Navy Fuel Farm was previously used as a petroleum bulk storage facility for the base. The site had 9 underground storage tanks I.	Two distinct groundwater plumes containing petroleum hydrocarbons were identified. In 2000, 15,000 tons of impacted soil was removed.	A Long-Term Monitoring Program is in place to continually evaluate the groundwater conditions.
<b>UST 002: Navy Exchange Service Station</b>	The Navy Exchange Service Station had underground storage tanks and associated piping that leaked gasoline into the surrounding soil and groundwater.	Active remediation has consisted of air sparging soil vapor extraction, and a chemical oxidation event. Most recently, a bioremediation program attempted to treat the dissolved and sorbed phases of petroleum contamination in the subsurface near Building 27 using enhanced biological activity (microbes).	In 2009, a removal action will be performed to remove contaminated soil at the NEX Gas Station area. Sampling is being conducted in Fall 2008 to assist with the design and work plan development for this action. There is an on-going Long-Term Monitoring Program for groundwater to monitor and evaluate the existing hydrocarbon plume.
<b>MILITARY MUNITIONS RESPONSE PROGRAM (MMRP)</b>			
<b>MMRP Main Base -</b>	Four MMRP areas of concern (AOCs) - (1) Former Munitions Bunkers; (2) Machine Gun Boresight; (3) Skeet Range (4) Quarry – and one Site – EOD pit known as Site 12.	A Preliminary Assessment was conducted at AOCs 1, 2 and 3 in 2006. A Preliminary Assessment Addendum on AOC 4 and Site 12 was completed in 2007. Additionally, a Site Investigation approach and Draft Final work plan for all 4 AOCs and Site 12 are currently being evaluated.	The Navy is currently in the process of conducting the initial evaluations at these AOCs and Site 12 to determine which require further assessment and/or actions.
<b>MMRP –Topsham Annex</b>	The Skeet Range AOC at Topsham Annex.	A Preliminary Assessment was conducted in 2006 to evaluate this AOC.	The Navy is currently in the process of conducting the initial evaluations at this AOC to determine whether further assessment and/or actions are necessary.