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NAS BRUNSWICK  
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FINAL RESOURCE CONSERVATION AND RECOVERY ACT PARTIAL CLOSURE REPORT  
FOR BUILDING 226 WITH TRANSMITTAL LETTER NAS BRUNSWICK ME  
6/29/2010  
NAS BRUNSWICK

**ENVIRONMENTAL DEPARTMENT  
NAVAL AIR STATION  
437 HUEY DRIVE  
BRUNSWICK, ME 04011**

June 29, 2010

Mr. Edward Vigneault  
Maine Department of Environmental Protection  
Division of Oil and Hazardous Waste Facilities Registration  
17 State House Station  
Augusta, ME 04333-0017

Subj: Final RCRA Partial Closure Report for Building 226

Dear Mr. Vigneault:

A copy of the Final RCRA Partial Closure Report for Building 226 at Naval Air Station Brunswick is provided as Enclosure (1).

If you have any questions, please contact Mr. Mike Fagan at 921-1717 or via e-mail at [michael.fagan1@navy.mil](mailto:michael.fagan1@navy.mil).

Sincerely, r



LISA M. JOY  
Environmental Director

Enclosure: (1) Final RCRA Partial Closure Report for Building 226

Copy to:  
NAVFAC Mid-Atlantic (B. Abraham)  
NAS Brunswick (M. Fagan/D. Smith)  
EPA Region I (M. Daly)  
MRRA (V. Boundy)  
Curtis Memorial Library (L. Oliver)  
Lepage Environmental (C. Lepage)  
BRAC PMO NE (P. Burgio)

**RCRA PARTIAL CLOSURE REPORT**  
for  
**BUILDING 226 – SEA CADETS PARCEL**  
**NAVAL AIR STATION BRUNSWICK, MAINE**  
**USEPA IDENTIFICATION NUMBER ME8170022018**  
**JUNE 2010**

## **1. INTRODUCTION**

The purpose of this report is to present the findings and conclusions of the investigation conducted to determine if the Maine Department of Environmental Protection (MEDEP) RCRA or hazardous waste closure requirements have been completed for the Building 226 parcel at Naval Air Station Brunswick (NAS Brunswick).

## **2. PROPERTY DESCRIPTION**

The Building 226 parcel is located in the central portion of NAS Brunswick (Figure 1). The parcel also contains Building 221 (Thrift Shop), which has been addressed in a separate RCRA Partial Closure Report, as discussed below in Section 3.

The approximately 0.51-acre parcel is bordered to the north by Neptune Drive. Beyond, to the northeast, is the Orion Landing barracks (Buildings 730 through 749), and to the northwest is Site 9 (Neptune Drive Disposal Site). Directly to the east and south is undeveloped land, and further south is the Lower Impoundment Pond (Figure 2), a dam at the western edge of the Lower Impoundment Pond, and to the southwest, the Upper Impoundment Pond. Undeveloped land and the Northern Tributary are located to the west of the parcel, and beyond these is Building 201. To the southeast, the Building 226 parcel is bordered by Building 537 (Sewage Pump House) (Figure 2). The Building 537 parcel, including the Sewage Pump House and a transformer located east of Building 221, is addressed in a separate RCRA Partial Closure Report.

Building 226 was constructed in 2001 as a meeting hall for Sea Cadets, a Navy-sponsored youth organization for youths 11 to 17 years old. The building consists of a 2,560 square-foot wood frame, multi-room, single-level building on a concrete slab foundation. The Sea Cadets used the building for an office, a meeting/classroom, and for uniform storage space.

Building 226 was heated by a natural-gas-fired hot water boiler supplied by an off-site utility.

## **3. PROPERTY HISTORY AND RECORDS RESEARCH**

The Tetra Tech NUS, Inc. (Tetra Tech) project team interviewed NAS Brunswick Environmental Department personnel and performed records research at both NAS Brunswick and the MEDEP office in Augusta, Maine to collect available information concerning the Building 226 parcel, including past use and operations at that location.

According to NAS Brunswick Environmental Department personnel, since its construction in 2001, the sole use of Building 226 has been a Sea Cadets youth organization meeting hall; there is no record of hazardous waste generation at Building 226.

Records reviewed include historical aerial photographs, the NAS Brunswick Other Environmental Liabilities (OEL) Database, area-specific reports, facility plans and drawings, and hazardous waste records. Aerial photographs dated 1958, 1978, 1981, 1984, 1989, 1993 and 1997 (all produced by James W. Sewall Company) were reviewed along with Public Works Department (PWD) site base maps dated 1946, 1952, 1956, 1957, 1962, 1975, 1983, 1989, 2004, and 2006, to provide historical information.

In aerial photographs dated before 1958 and on historical site plans through 1957, a wooded area is visible where the Building 226 parcel is currently located. Aerial photographs between 1978

and 1993, and historical plans between 1962 and 1989 show a large building, the former NAS Brunswick theatre (Building 293), present on the current footprint of Buildings 221 and 226. No buildings are visible on the Building 226 parcel in the 1997 aerial photograph. Historical plans dated 2004 and 2006 show Buildings 221 and 226 in their current locations. Building 537 is visible to the south of the NAS Brunswick theatre in each of the aerial photographs, beginning in 1958, and on the historical plan dated 1975.

The former NAS Brunswick theatre (Building 293) noted above was constructed in 1957, as was Building 537 to the south. Building 293 was an 8,803 square-foot building of unknown construction and operated as the base theater for its entire history. According to NAS Brunswick personnel, asbestos abatement was performed at Building 293 prior to its demolition in 1997.

According to NAS Brunswick records, no PCB-containing transformers, underground storage tanks (USTs) or aboveground storage tanks (ASTs) were present at the Building 226 parcel (PWD, 2010 and Environmental Department, 2009).

The Initial Assessment Study (IAS) prepared in 1983 by the Naval Energy and Environmental Support Activity (NEESA) lists NAS Brunswick PCB-containing transformers; the former Building 293 was not listed as a location with a PCB-containing transformer. In addition, based on available documentation and discussions with NAS Brunswick Environmental Department personnel, there have not been any documented leaks or releases from any transformers in past use at the Building 226 parcel.

The "RCRA Partial Closure Report for Building 221 – Thrift Shop" concluded that there have been no activities resulting in the generation, accumulation, or storage of hazardous waste at Building 221, and that the hazardous waste closure of Building 221 was completed in accordance with the provisions of MEDEP regulations (Tetra Tech, January 2010).

Investigations have been conducted in the vicinity of the Building 226 parcel at Site 9 (Neptune Drive Disposal Site) and Building 201 (Galley/Neptune Hall) located to the northwest and west of the Building 226 parcel, respectively (Figure 2). Two test pits were excavated in 1988 to assess whether landfill materials or other evidence of dumping could be located adjacent to Building 293 (the former theatre). Test pit TP-902 was excavated north of the former Building 293 (between and north of the current Buildings 221 and 226). Test pit TP-901 was excavated approximately 30 feet west of Building 226. No evidence of landfill materials or other dumping was observed in the test pits, although a small quantity of refuse was reportedly identified in 1988 in the embankment south of Building 293 (EC Jordan, 1990). Several inorganics were detected in the soil sample collected from TP-902 (located on the Building 226 parcel); however, the detections were deemed consistent with background levels (EC Jordan, 1990).

During a soil gas survey conducted to help identify potential areas of volatile organic compound (VOC) contamination, low concentrations of VOCs were detected in two soil gas sampling points, SG-16 and SG-33 (EC Jordan, 1990). Sampling point SG-16 was located approximately 25 feet west of the Building 226 parcel boundary, and SG-33 was located approximately 50 feet southeast of Building 537.

Based upon available information, one monitoring well (MW-09-073, formerly MW-905) exists approximately 50 feet south of the Building 226 parcel, near the southwestern corner of Building 537 (H&S, 2010). Several monitoring wells, including MW-09-073, were monitored for water levels on a periodic basis through 2009, as part of the Long-Term Monitoring Plan (LTMP) for Site 9; however, groundwater samples were not collected from this well as part of the LTMP (H&S, 2010). From the southern portion of Site 9, the groundwater flow direction has been measured to be toward the south-southeast. From the Building 226 parcel, groundwater flow turns southwest, toward the unnamed tributary to the Upper Impoundment Pond (ECC, 2009).

VOCs were not detected in groundwater samples collected from MW-09-073 (MW-905) prior to 1990. Groundwater samples were collected from the well and analyzed for filtered (dissolved) metals during three sampling events conducted prior to 1990. Arsenic was detected at concentrations ranging from 33 to 86 micrograms per liter ( $\mu\text{g/L}$ ), exceeding the Maine Maximum Exposure Guideline (MEGs) and the EPA Maximum Contaminant Level (MCL) of 10  $\mu\text{g/L}$  (EC Jordan, 1990).

Surface water and sediment samples were collected in 2009 from the Northern Tributary, located west of the Building 226 parcel, and from the Upper Impoundment Pond, to the southwest. The detections of the VOC, vinyl chloride, and of diesel-range organics (DRO) in the Upper Impoundment Pond pore-water samples appear unrelated to the Building 226 parcel.

Site 9 groundwater samples from 2009 indicated the presence of DRO at concentrations below regulatory criteria. In April and September 2009, groundwater samples collected from one monitoring well on Site 9, MW-09-003, contained chlorinated VOCs including chloromethane and vinyl chloride at concentrations above regulatory criteria; these exceedances were unrelated to the Building 226 parcel. Historically, vinyl chloride has been detected at concentrations exceeding regulatory criteria in groundwater samples from several Site 9 monitoring wells, including wells located on the Building 201 parcel. Trace levels of other VOCs and inorganics were detected in a sediment sample collected from the Northern Tributary in September 2009. The selected remedy for Site 9 is natural attenuation and monitoring for VOCs in groundwater, leachate, surface water, and sediment (H&S, 2010).

NAS Brunswick Instruction 5090.1C establishes institutional controls for the base that include a soil restriction zone for Site 9 (NAS Brunswick, 2008). The instruction specifies the use of administrative controls that restrict excavation/disturbance of soils and restrict groundwater use. The Site 9 restriction zone encompasses the Building 226 parcel; however, there is no data that indicate contaminated groundwater is present at the parcel. While the Building 226 parcel is located within the Institutional Control Boundary for Site 9, it is not likely that the Building 226 parcel is the source of impacts to groundwater, the Northern Tributary, or the Upper Impoundment Pond, based upon available information. Other groundwater investigations were not identified in the vicinity of the Building 226 parcel.

#### **4. SITE VISIT AND INVESTIGATION**

A site visit was conducted on June 3, 2010 by Mr. James Forrelli, P.E., Mindi Messmer, and Chelsea Fellows of Tetra Tech. The purpose of the visit was to verify information gathered during the records search and to collect additional information as necessary to prepare this closure report. Tetra Tech personnel were accompanied by Mr. D. Bruce Smith, the NAS Brunswick Hazardous Waste Manager. The Building 226 parcel was visually inspected for signs of hazardous waste generation or storage. Site visit observations, recorded on the attached Building Inspection Form <sup>(1)</sup>, are summarized below:

- At the time of inspection, Building 226 was vacant and in good condition.
- The interior consisted of seven main rooms for offices, classrooms, and uniform storage (Figure 3). A mechanical room, containing a hot-water boiler, and a restroom were also present.
- No evidence of current or past hazardous waste generation was observed.
- No evidence of hazardous waste residues was observed.
- No signs of a past release (staining, unusual odors, stressed vegetation, etc.) were observed and no structural modifications, which could conceal signs of a past release, were observed.
- No hazardous waste storage areas or hazardous waste accumulation areas were observed.

- No transformers that could be a potential source of polychlorinated biphenyls (PCBs) contamination were observed in the immediate vicinity.

The available information regarding the historical activities that occurred at the parcel and the location of known NAS Brunswick groundwater contamination areas indicate that there is no evidence to suggest that groundwater underlying the Building 226 parcel has been adversely impacted by a release, either from within the parcel or from another (off-parcel) source area.

Based on the records research findings and site visit observations, it was determined that neither further inspection nor sampling of the Building 226 parcel is required to complete the MEDEP hazardous waste closure requirements.

## 5. HAZARDOUS WASTE GENERATION AND STORAGE

Based on the records research, site visit observations, and NAS Brunswick Environmental Department personnel interviews, with the exception of universal waste, no hazardous waste generation, hazardous waste accumulation, or hazardous waste storage was conducted at the Building 226 parcel.

## 6. OTHER ENVIRONMENTAL CONSIDERATIONS

No transformers, USTs, or ASTs were observed at the Building 226 parcel, as described in Section 3.

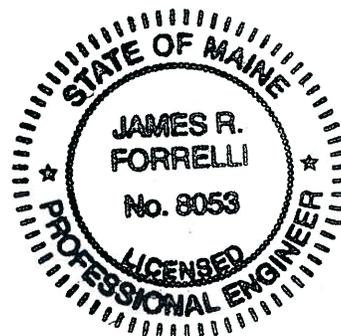
## 7. LIMITATIONS

This investigation of the hazardous waste closure requirement applies to the Building 226 parcel (as shown on Figure 2) only.

## 8. CERTIFICATION

Based on the findings of this investigation, there have been no activities resulting in the generation, accumulation, or storage of hazardous waste at the Building 226 parcel, NAS Brunswick, Maine. Therefore, the hazardous waste closure of the Building 226 parcel was completed in accordance with the provisions of MEDEP Regulations Chapter 851, Standards for Generators of Hazardous Waste, Section 11.

  
James Forrelli, P.E.  
Senior Project Engineer  
Tetra Tech NUS, Inc.



<sup>(1)</sup> The Building Inspection Form provides preliminary information collected during the building inspection, including information from visual observations, Navy personnel interviews, and from documents reviewed during file reviews. It does not reflect any additional information provided at a later date that further clarifies or corrects preliminary information collected during the building inspection and file reviews.

**REFERENCES**

- EA, 1999. Record of Decision for Site 9, NAS Brunswick, Maine. September.
- ECC, 2009. Final Summary Report, Site 9 Ash Delineation and Investigations at Building 201 AOC and Irrigated Playing Field, Naval Air Station, Brunswick, Maine. March.
- EC Jordan, 1990. Draft Final RI Report, Naval Air Station, Brunswick, Maine. August.
- Environmental Department, 2009. Master/Historical Aboveground and Underground Storage Tank Inventory. NAS Brunswick, Maine. February.
- H&S, 2010. Final Site Monitoring Event 35 Report, Neptune Drive Disposal Site, Naval Air Station, Brunswick, Maine. September.
- Interim Record of Decision, 1994. Interim Record of Decision (ROD) for the Groundwater Operable Unit at Site 9, Naval Air Station Brunswick, Brunswick, Maine. September.
- James W. Sewall Company, 1958. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 9.
- James W. Sewall Company, 1978. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. November 22.
- James W. Sewall Company, 1984. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 23.
- James W. Sewall Company, 1989. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 2.
- Mid-Coast Regional Redevelopment Authority, 2006. BNAS Reuse Master Plan Property Condition Assessment.
- Naval Air Station (NAS) Brunswick, 2008. Naval Air Station Brunswick Instruction 5090.1C From: Commanding Officer, Subj: Restriction on Soil Excavation, Groundwater Use, and Remedial Component Disturbance. March 5.
- Naval Energy and Environmental Support Activity (NEESA). 1983. Initial Assessment Study of Naval Air Station, Brunswick, Maine (NEESA 13-031). June.
- Public Works Department (PWD),1943. "Building Site Plan Showing Location of Underground Water Distribution Lines and Hydrants," US NAS Brunswick, Maine. September 4.
- PWD, 1946. "Map of US Naval Air Station, Brunswick, Maine, Showing conditions on June 30, 1946," NAS Brunswick, Maine. June 30.
- PWD, 1952. "Map of US Naval Air Station, Brunswick, Maine, Showing conditions on June 30, 1952," NAS Brunswick, Maine. June 30.
- PWD, 1956. General Station Map, Enclosure 2. , NAS Brunswick, Maine.
- PWD, 1957. "Map of US Naval Air Station, NAS Brunswick, Maine.
- PWD, 1962. "Map of Streets," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine.

PWD, 1975. General Development, Existing and Planned, Operations Area, US Naval Air Station, Brunswick, Maine.

PWD, 1983. "Existing Conditions Map. Public Works Department Drawing No. 2157" NAS Brunswick, Maine. May 5.

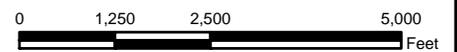
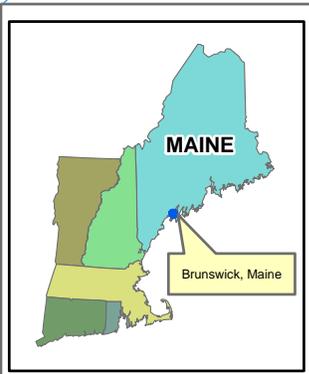
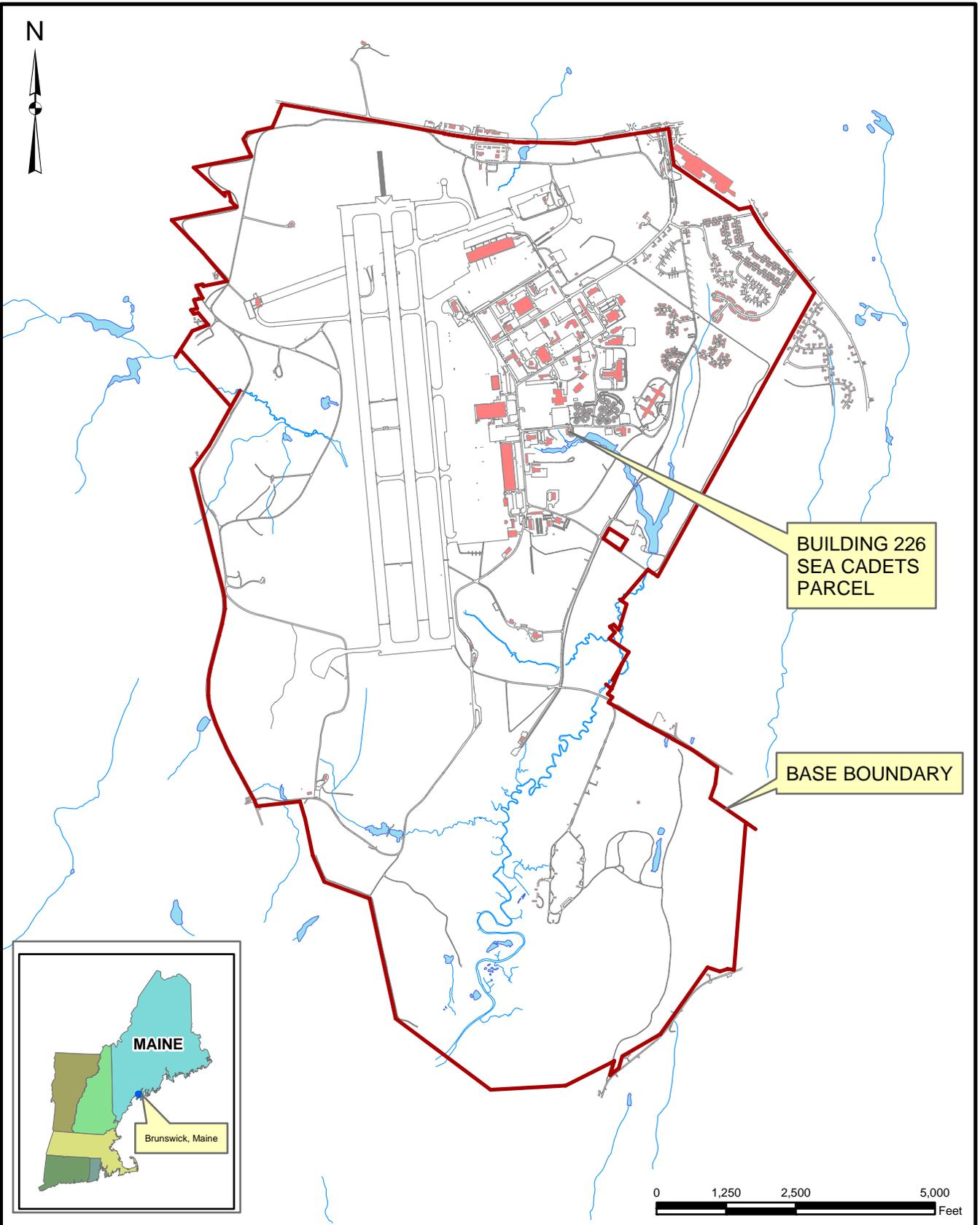
PWD, 1989. "Existing Conditions Map. Public Works Department Drawing No. 2157" NAS Brunswick, Maine. Revised April 2.

PWD, 2006. Brunswick Naval Air Station, NAS Brunswick, Maine.

PWD, 2004. Brunswick Naval Air Station, NAS Brunswick, Maine.

PWD. 2010. Transformer Database. NAS Brunswick, Maine.

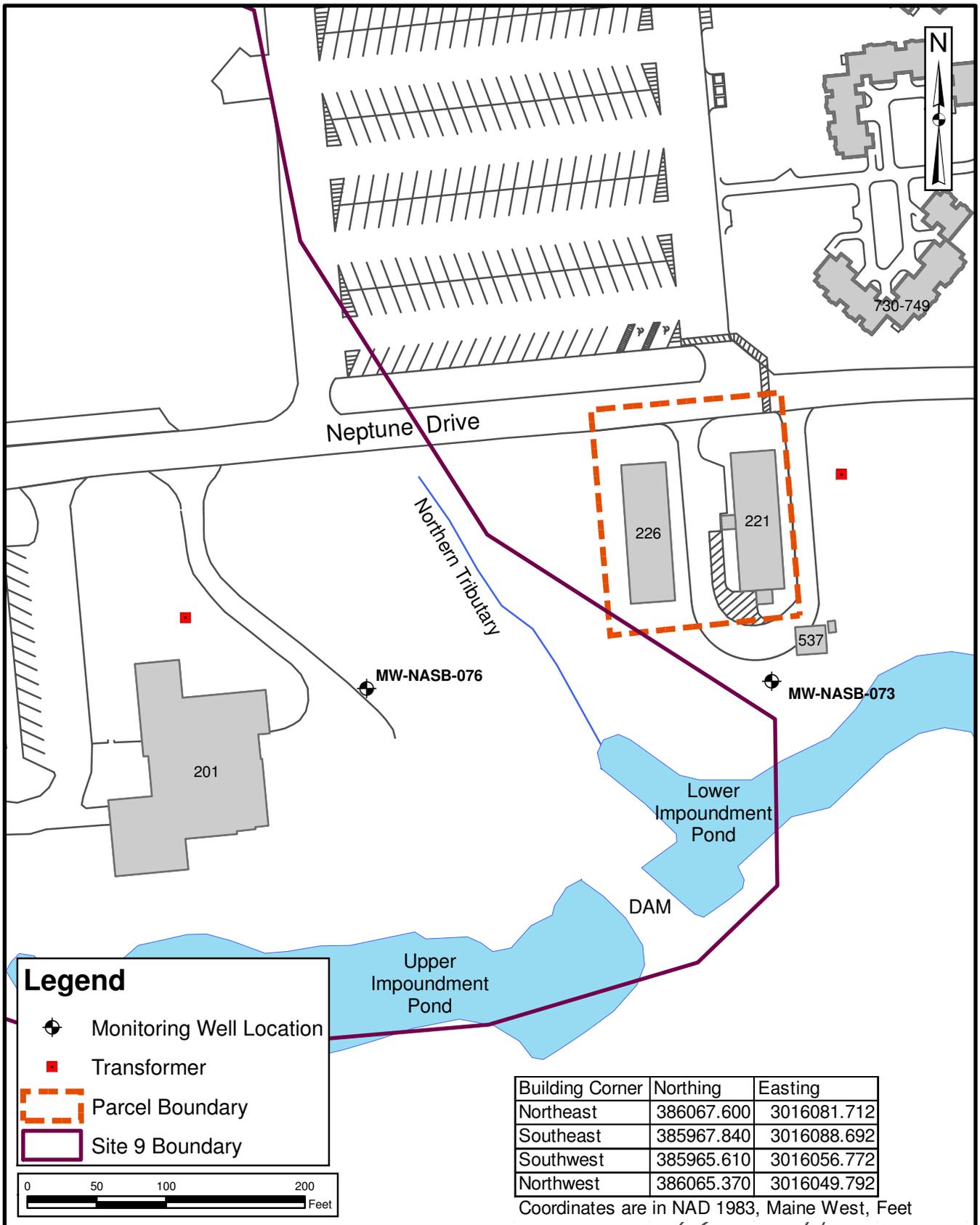
Tetra Tech NUS, Inc. 2010. RCRA Partial Closure Report for Building 221 – Thrift Shop, Naval Air Station Brunswick, Maine. January.



Tetra Tech NUS, Inc.

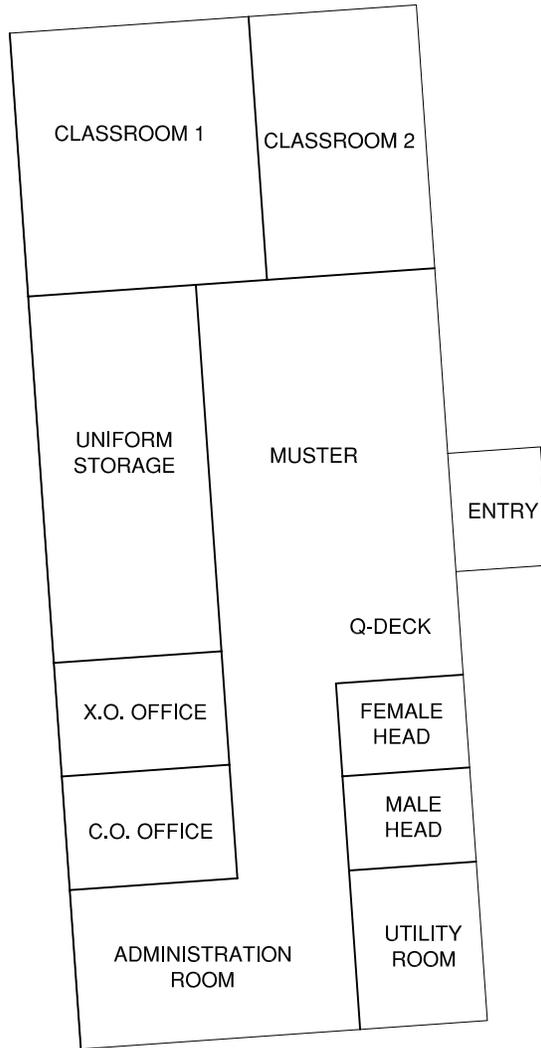
SITE LOCATION MAP  
 BUILDING 226 - SEA CADETS PARCEL  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\NASB_BLDG_226_LOCUS.MXD	
REV 0	DATE 06/11/10
FIGURE NUMBER 1	



SITE LOCATION MAP  
 BUILDING 226 - SEA CADETS PARCEL  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE	
I:\CP_DRNASB_BLDG_226_SITE_MAP.MXD	
REV	DATE
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FIGURE NUMBER	
FIGURE NO. 2	



TETRA TECH NUS, INC.

FLOOR PLAN  
 BUILDING 226 - SEA CADETS PARCEL  
 RCRA PARTIAL CLOSURE REPORT  
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE  
 AS NOTED

FILE  
 \.\NASB\_BLDG\_226\_FP.DWG

REV	DATE
0	06/11/10

FIGURE NUMBER  
 3

**HWSA INSPECTION FORM  
HAZARDOUS WASTE STORAGE AREAS CLOSURE  
NAS BRUNSWICK  
BRUNSWICK, MAINE  
CTO WE22**

**Inspection Date: 6/03/10**

**Personnel: Chelsea Fellows / James Forrelli, P.E. / Mindi Messmer**

**Weather: Cloudy, Showers, 60s**

**GENERAL BUILDING INFORMATION / USES**

Building Name: Sea Cadets

Function: Offices / Administration / Classrooms

Size: 2560 SF

Year of Construction: 2001

Building 226 is located at NASB Brunswick on Neptune Drive adjacent to Buildings 221 (Thrift Shop) and 537 (Sewage Pump House). It was constructed in 2001 and served as a Sea Cadets youth club meeting hall for its entire history. Building 226 consists of a wood frame, multi-room single level building on a slab foundation.

Building 226 was used only as office, meeting and administrative space. No hazardous materials were used in its operation and no hazardous waste was generated, according to NAS Brunswick personnel. Building 226 was heated by forced hot water generated by natural gas supplied by an off-site utility.

**HWSA INSPECTION / CONDITION**

No record of hazardous waste stored at Building 226.

At the time of inspection, Building 226 was vacant and in good condition. The interior consisted of 7 main rooms for offices, classrooms, and uniform storage. Two restrooms were also observed.

No evidence of current or past hazardous waste generation activities was observed.

No evidence of hazardous waste residues was observed.

No signs of a past release (staining, unusual odors, stressed vegetation, etc.) were observed. No modifications to the structure, which may conceal signs of a past release, were observed.

No hazardous waste storage areas or hazardous waste accumulation areas were observed.

**POTENTIAL PCB-CONTAINING TRANSFORMERS**

No transformer that could be a potential source of polychlorinated biphenyls (PCBs) contamination in the event of a leak was observed.

## BUILDING 226

### APPLICABLE REPORTS / DOCUMENTS

Available historical aerial photos were reviewed for past uses:

1946 plan – Wooded area

1952 plan – Wooded area/vacant area

1956 plan – Vacant area

1957 plan – Building 293 (NASB Theater) shown on the south side of Neptune Drive on the Building 226 parcel. Building 537 also present.

1958 aerial – Buildings 293 and 537 (NASB Theatre) are visible on Building 226 parcel.

1962 plan – Building 293 (NASB Theater) is shown on Building 226 parcel. Building 537 is not shown. A parking lot is shown across the Neptune Drive to the north.

1975 plan – Building 293 (NASB Theater) present on Building 226 parcel. Building 537 also shown. A parking lot and softball fields are located across the Neptune Drive to the north.

1978 aerial – Building 293 (NASB Theater) present on Building 226 parcel. Building 537 is also visible. A parking lot is located to the north across Neptune Drive.

1981 aerial – same as 1978 aerial.

1983 plan – same as 1978 plan.

1984 aerial – Building 293 (NASB Theater) present on Building 226 parcel. Building 537 is also visible. Parking lot located to the north across Neptune Drive.

1989 plan – Building 293 (NASB Theater) present on Building 226 parcel. Building 537 not shown. Parking lot located to the north across Neptune Drive.

1989 aerial – Building 293 (NASB Theater) present on Building 226 parcel. Building 537 not shown.

1993 aerial – Building 293 (NASB Theater) present on Building 226 parcel. Building 537 is also visible.

1997 aerial – no buildings are visible on the Building 226 parcel.

2004 plan - Building 226 is shown in current location. Building 221 is shown to the east and Building 537 is shown to the southeast.

2006 plan – same as 2004 plan.

No underground storage tanks (USTs), above ground storage tanks (ASTs), or oil-water separators (OWS) were registered to Building 226.

### HAZARDOUS WASTE STORAGE RECORDS

No hazardous waste was historically stored at Building 226 according to NAS Brunswick Hazardous Waste Manager, D. Bruce Smith.

### MISCELLANEOUS NOTES

The Tetra Tech personnel were accompanied on the inspection by D. Bruce Smith Hazardous Waste Manager.

(SEE ATTACHED SITE SKETCH AND HWSA SKETCH)

(SEE ATTACHED PHOTOGRAPHS)

INSPECTOR SIGNATURE: Chelsea Fillows Saenz

**PHOTOGRAPHS**



No. 1 Building 226 – NAS Brunswick June 3, 2010  
Sea Cadet Building exterior northeast elevation showing main entrance from Neptune Drive



No. 2 Building 226 – NAS Brunswick June 3, 2010  
Sea Cadet Building exterior southeast elevation looking toward Neptune Drive

**PHOTOGRAPHS**



No. 3 Building 226 – NAS Brunswick  
Sea Cadet Building interior muster room

June 3, 2010



No. 4 Building 226 – NAS Brunswick  
Sea Cadet Building interior classrooms

June 3, 2010