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NAS BRUNSWICK
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FINAL RESOURCE CONSERVATION AND RECOVERY ACT PARTIAL CLOSURE REPORT
FOR BOWDOIN COLLEGE LOT 2 AREA WITH TRANSMITTAL LETTER NAS BRUNSWICK
ME
12/17/2010
NAS BRUNSWICK

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

December 17, 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

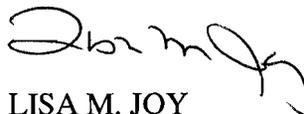
Subj: Final RCRA Partial Closure Report for Bowdoin College Lot 2 Area

Dear Mr. Vigneault:

A copy of the Final RCRA Partial Closure Report for Bowdoin College Lot 2 Area 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.

Sincerely,



LISA M. JOY
Environmental Director

Enclosure: (1) Final RCRA Partial Closure Report for Bowdoin College Lot 2 Area

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

RCRA PARTIAL CLOSURE REPORT
for
BOWDOIN COLLEGE LOT 2 AREA
NAVAL AIR STATION BRUNSWICK, MAINE
USEPA IDENTIFICATION NUMBER ME8170022018
DECEMBER 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 Bowdoin College Lot 2 Area at Naval Air Station Brunswick (NAS Brunswick).

2. PROPERTY DESCRIPTION

The Bowdoin College Lot 2 Area is located in the northwestern corner of NAS Brunswick, bordering the northwestern boundary of the base (Figure 1). The approximately 3.8-acre parcel is bordered to the north by Route 24 (Bath Road), to the east by the Runways Area, to the south by the Former Residential Area, and to the west by St. John's Cemetery (Figure 2).

A portion of the Bowdoin College Lot 2 Area lies within the north runway clear zone and is grass-covered; the remainder of the parcel is primarily tree-covered. Perimeter Road, a two-lane, asphalt-paved roadway, runs approximately east-west through the southern portion of the area. There are no other structures or improvements present within the area.

In the southern portion of the area near Perimeter Road, the topography is generally flat, roughly at an elevation of approximately 73 feet mean sea level (msl). From the Perimeter Road area, the land surface slopes generally to the northeast toward Route 24. The difference in elevation across the area is approximately 20 feet. There are no surface water features such as streams or ponds within the area.

Photographs of the Bowdoin College Lot 2 Area are provided in the attachment.

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 Bowdoin College Lot 2 Area, including past use and operations.

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 1953, 1958, 1978, 1981, 1984, 1989, 1993 and 1997 (Sewall, 1953, 1958, 1978, 1981, 1984, 1989, 1993 and 1997) were reviewed. Public Works Department (PWD) site base maps dated 1943, 1946, 1952, 1956, 1975, 1989, and 2006 (PWD, 1943, 1946, 1952, 1956, 1975, 1989, and 2006) and site building lists for 1950, 1965, 1976, 2003, and 2008 (PWD, 1965, 1976, 2003, and 2008) were also reviewed.

According to NAS Brunswick Environmental Department personnel, the Bowdoin College Lot 2 Area was not used for industrial purposes or for air wing support services. This area is a combination of former residential properties which were obtained for relocation of the air station runways in the 1940s.

The 1943 map of the air station does not include the northwest area of the base where the

Bowdoin College Lot 2 is located. The Bowdoin College Lot 2 Area is shown on the 1946 map of the air station, with two structures identified as abandoned houses present: Building 142, located in the southwest corner of the area and Building 143, located in the northwest corner, adjacent to Route 24. None of these structures are on the 1950 building list, and are believed to have been demolished prior to 1950.

Between 1950 and 2010, the Bowdoin College Lot 2 Area is shown initially as an open field and more recently as a wooded area west of the reconfigured runway system.

The southernmost portion of the Bowdoin College Lot 2 Area, the area located south of Perimeter Road, was classified as a Category 1 Community Environmental Response Facilitation Act (CERFA) uncontaminated property, which is a real property on which no hazardous substances and no petroleum products or their derivatives are known to have been released or disposed (Tetra Tech, 2006). This area is included in Designated Area A-5 (Former Residential Area), which was a residential area in the 1940's, and has had no evident use or development since the government acquired the property. Perimeter Road was selected as the northern boundary of Area A-5 in order to exclude Navy property where trash, debris, and soil disturbances of an unknown origin were observed, the area north of Perimeter Road. No commercial or industrial activities or releases were identified at the Bowdoin College Lot 2 Area in the CERFA report.

No oil-water separators (OWS), aboveground storage tanks (ASTs), or underground storage tanks (USTs) are associated with the Bowdoin College Lot 2 Area, according to NAS Brunswick records (PWD, 2008b; Environmental Department, 2009).

The Bowdoin College Lot 2 area is not served by the base-wide sanitary sewer system and the no individual septic system are located there (Navy, 2006).

The NAS Brunswick Transformer Database lists no electrical transformers for the Bowdoin College Lot 2 Area (PWD, 2009).

A review of the MEDEP spill database and the NAS Brunswick spill logbook identified no reported spills within the Bowdoin College Lot 2 Area (MEDEP, 2010; Environmental Department, 2005).

Preliminary information concerning groundwater underlying the Bowdoin College Lot 2 Area is available from an ongoing NAS Brunswick background groundwater study. As part of this study, groundwater samples were collected from three sets of well in the Bowdoin College Lot 2 area (Figure 3) as listed below.

Location	Well ID ⁽¹⁾	Notes
located south of area and hydraulically upgradient	MW-01, MW-02, and MW-03	within the Former Residential Area
located west of the area and hydraulically cross-gradient	MW-30, MW-31, and MW-32	along Route 24
located east-northeast of area and hydraulically cross-gradient	MW-27, MW-28, MW-29, and MW-40	immediately north of the airfield and north of Route 24

(1) Well ID prefix "NASB-BG" not shown.

The fall 2009 and spring 2010 preliminary background study groundwater monitoring results indicates groundwater is encountered between approximately 10 and 12 feet below grade for the well set located south (upgradient) of the Bowdoin College Lot 2 area. Groundwater level measurements show that the groundwater flow direction is to the north-northeast from NAS Brunswick, across the Bowdoin College Lot 2 Area toward and underneath Route 24 (Bath Road). During both rounds of groundwater monitoring referenced above, no total or dissolved metals were detected above the Maine Maximum Exposure Guidelines (MEGs) with the exception of total and dissolved sodium, which was detected above the MEGs in cross-gradient well NASB-BG-MW-28 located east of the Bowdoin College Lot 2 area. Based on preliminary

information from the background groundwater study discussed above, it is unlikely that groundwater underlying the Bowdoin College Lot 2 Area is impacted by any historic disposal activities at NAS Brunswick.

4. SITE VISIT AND INVESTIGATION

Site visits were conducted by Mr. Brian Geringer and Mr. Mark K. Speer, P.E. of Tetra Tech on July 29, 2010, and by Mr. Geringer, Mr. Speer, and Mr. James Forrelli, P.E. of Tetra Tech on September 9, 2010. The purpose of the visits 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 Bowdoin College Lot 2 Area was visually inspected for signs of hazardous waste generation or storage. Site visit observations, recorded on the attached Building Inspection Form ⁽¹⁾, are summarized below:

- At the time of the inspection, there was no active use of the Bowdoin College Lot 2 Area.
- There are no existing improvements on the Bowdoin College Lot 2 Area (no observed development since the government acquired the property).
- 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, etc.) were observed.
- No hazardous waste storage areas or hazardous waste accumulation areas were observed.
- Four historical, apparently man-made, shallow depressions in the ground surface were observed.
- A larger, apparently man-made depression (approximately 20 feet by 10 feet), possibly a former house foundation, was observed in the northwest area.
- A few isolated areas of discarded household items were observed north and south of Perimeter Road. In these areas, items were observed scattered along the ground surface, including corroded metal pots and pans, corroded metal cans, old glass bottles and jars, and broken porcelain items.
- In the northwest area, a chimney remnant was observed.

Surface water runoff from precipitation appears to flow from the south to the north across the parcel, in the direction of Route 24.

Based on the records research findings and site visit observations, the historical use of the area has been residential. There is no evidence or record of commercial or industrial activity on the Bowdoin College Lot 2 Area. The nature and frequency of discarded household items appears to be an insignificant remnant of the former residential use of the parcel, before it was acquired by the federal government to establish NAS Brunswick. Therefore, it was determined that neither further inspection nor sampling of the Bowdoin College Lot 2 Area 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, no hazardous waste generation, hazardous waste accumulation, or hazardous waste storage was conducted at the Bowdoin College Lot 2 Area.

6. OTHER ENVIRONMENTAL CONSIDERATIONS

No ASTs, USTs or oil/water separators have been utilized at the Bowdoin College Lot 2 Area, according to NAS Brunswick records.

7. LIMITATIONS

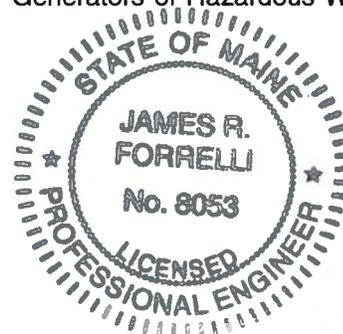
This investigation of the hazardous waste closure requirements applies to the Bowdoin College Lot 2 Area (as shown on Figure 2) only.

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 Bowdoin College Lot 2 Area. Based on the findings of the investigation as reported in this Partial Closure report, the hazardous waste closure of the Bowdoin College Lot 2 Area was completed in accordance with the provisions of MEDEP Regulations Chapter 851, Standards for Generators of Hazardous Waste, Section 11.

James R. Forrelli

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



⁽¹⁾ 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

Environmental Department, 2005. Spill Record Logbook (19 June 1991 - 21 April 2005). NAS Brunswick, Maine.

Environmental Department, 2009. Master/Historical Aboveground and Underground Storage Tank Inventory. NAS Brunswick, Maine. February.

MEDEP, 2010. MEDEP Spills Database. Maine Department of Environmental Protection, Augusta, Maine.

Navy (Department of the Navy, Base Realignment and Closure Program Management Office), 2006. "Final (Revision 2) Environmental Condition of Property Report for the Naval Air Station, Brunswick, Maine," NAS Brunswick, Maine. May 30.

PWD (Public Works Department), 1943. "US Naval Air Station, Brunswick, Maine, Building Site Plan Showing Locations of Underground Water Distribution Lines and Hydrants," 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, 1965. "Index of Structures, Department of the Navy Bureau of Yards & Docks Department" US Naval Air Station Brunswick, Maine. Updated May 13.

PWD, 1975. "General Development, Existing and Planned, Operations Area," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. Updated December 2.

PWD, 1976. "Index of Structures, Naval Facilities Engineering Command, Northeast Division Drawing No. 747 256" Naval Air Station Brunswick, Maine. Updated September 21.

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

PWD, 2003. "NAS Brunswick, Facility List," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. March 9.

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

PWD, 2008a. "Draft NAS Brunswick, Facility List," US Naval Air Station, Brunswick, Maine, NAS Brunswick, Maine. March.

PWD, 2008b. Revised Oil/Water Separator List, Table J-C4(a). NAS Brunswick, Maine. January 1.

PWD, 2009. Master Transformer Database. NAS Brunswick, Maine. June 24.

Sewall (James W. Sewall Company), 1953. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. June 29.

Sewall, 1958. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 9.

Sewall, 1978. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. November 22.

Sewall, 1981. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. October 17.

Sewall, 1984. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 23.

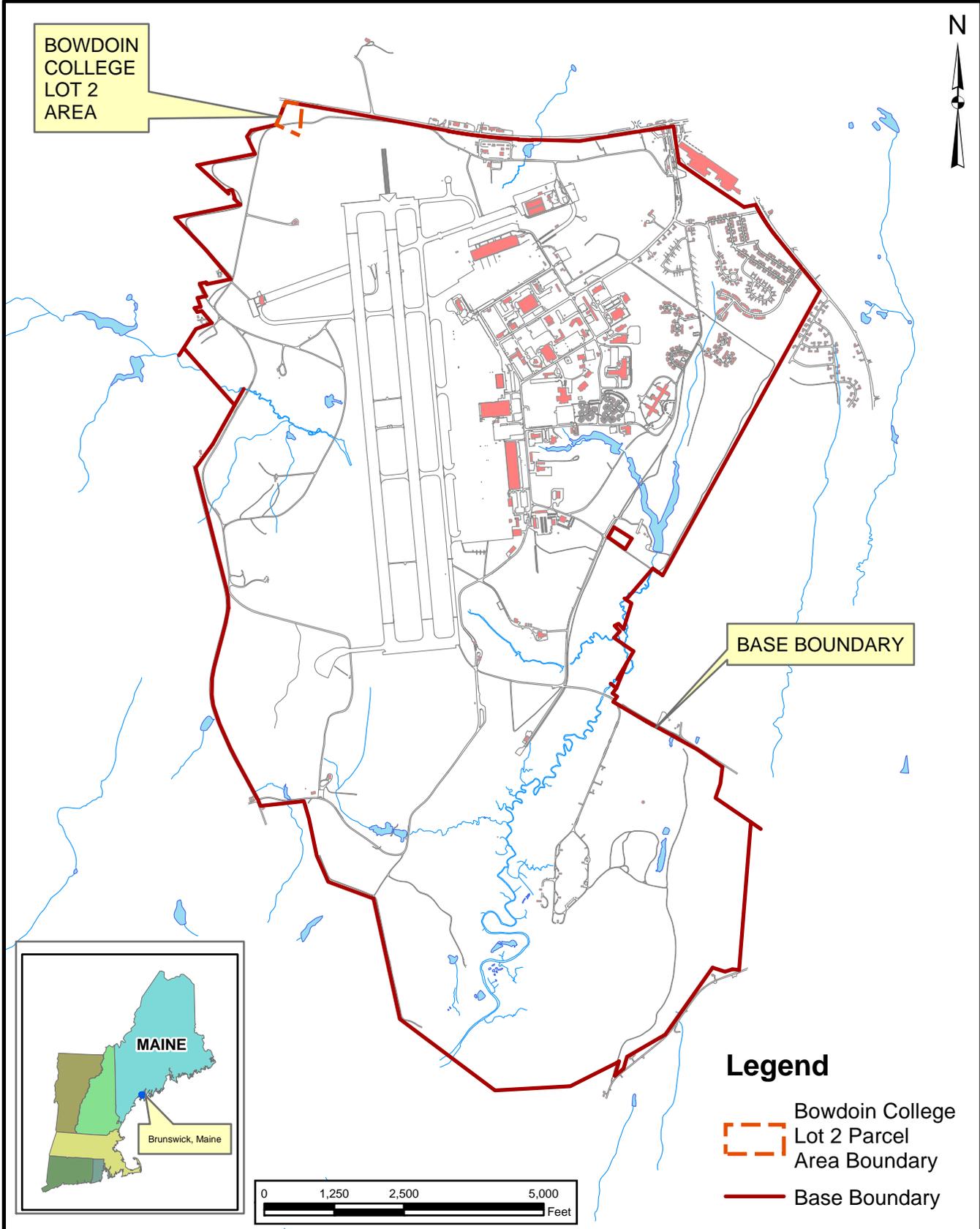
Sewall, 1989. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. April 2.

Sewall, 1993. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. November 8.

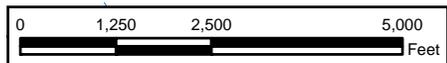
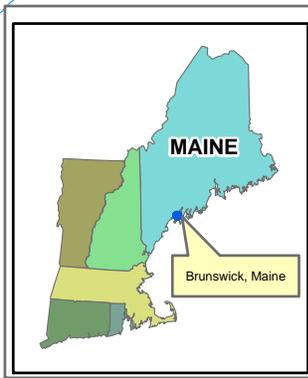
Sewall, 1997. NAS Brunswick Aerial Photographs. James W. Sewall Company, Old Town, ME. May 27.

Tetra Tech (Tetra Tech NUS, Inc.), 2006. Draft Community Environmental Response Facilitation Act (CERFA) Identification of Uncontaminated Property at the Naval Air Station Brunswick, Maine. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania. May.

BOWDOIN COLLEGE LOT 2 AREA



BASE BOUNDARY



Legend

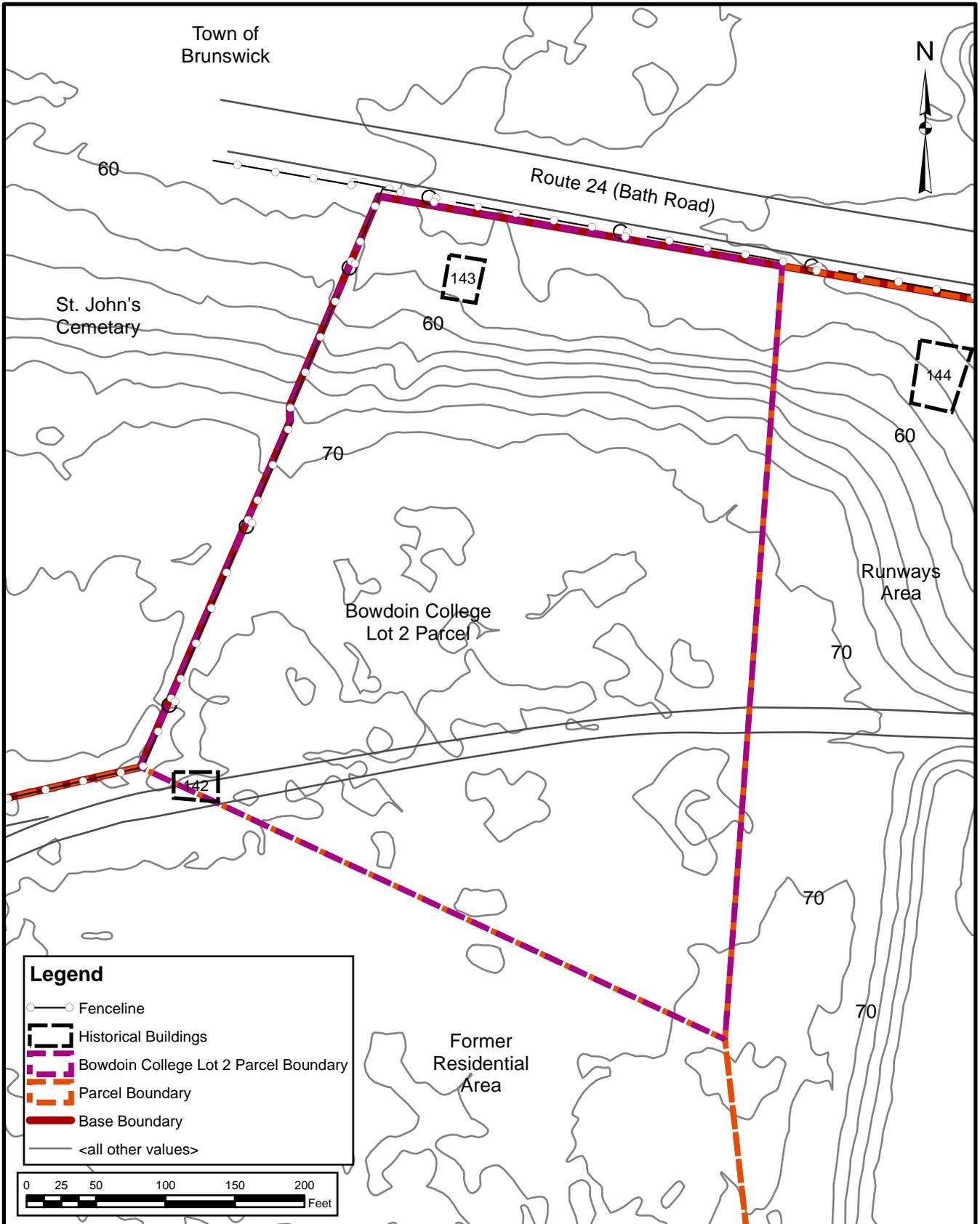
-  Bowdoin College Lot 2 Parcel Area Boundary
-  Base Boundary



Tetra Tech NUS, Inc.

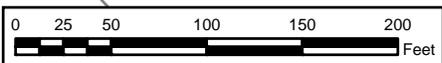
SITE LOCATION MAP
 BOWDOIN COLLEGE LOT 2 AREA
 RCRA PARTIAL CLOSURE REPORT
 NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE I:\NASB_PARCEL_17_LOCUS.MXD	
REV 0	DATE 12/10/10
FIGURE NUMBER 1	



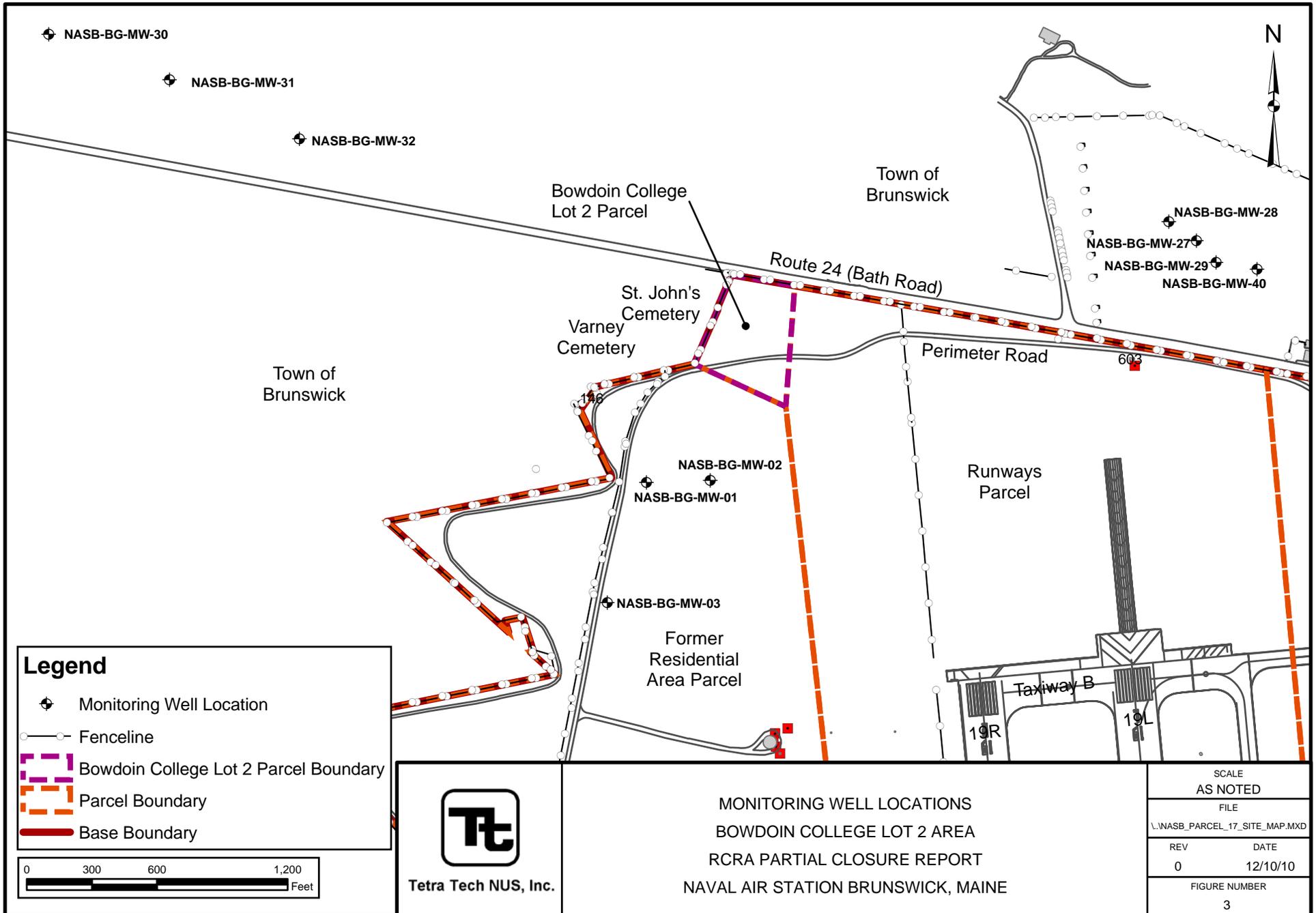
Legend

- Fenceline
- Historical Buildings
- Bowdoin College Lot 2 Parcel Boundary
- Parcel Boundary
- Base Boundary
- <all other values>



SITE PLAN
BOWDOIN COLLEGE LOT 2 AREA
RCRA PARTIAL CLOSURE REPORT
NAVAL AIR STATION BRUNSWICK, MAINE

SCALE AS NOTED	
FILE L:\NASB_PARCEL_17_SITE_PLAN.MXD	
REV 0	DATE 12/10/10
FIGURE NUMBER 2	



BUILDING Parcel 17

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

Inspection Date: 9/9/10

Personnel: Brian Geringer / James Forrelli, P.E. / Mark Speer, P.E.

Weather: Partly Cloudy, 70s

GENERAL BUILDING INFORMATION / USES

Building Name: Parcel 17
Function: Forested Open Space
Size: 3.8 acres
Year of Construction: NA
Tenant List:

Parcel 17 is located in the northwest corner of the air station, immediately south of Route 24 (Bath Road); east of St. John's Cemetery; and west of the Runways Area (Land Area 3A); and north of the Former Residential Area (Land Area 16). Perimeter Road passes through Parcel 17, from east to west, to the southern side of St. John's Cemetery. Construction date of Parcel 17 is noted as 1946, and has served as residential properties and as open space for its entire history.

Parcel 17 is forested open space and has not been an active area of the air station. Parcel 17 was returned to open space in approximately 1946, with the installation of the new concrete apron and runways. Prior to 1946 Parcel 17 consisted of several residential properties, with houses and out-buildings.

HWSA INSPECTION / CONDITION

At the time of inspection, parcel 17 was vacant and the grounds in good condition. Evidence of the parcels prior residential use was observed, including a section of a former brick and cement chimney, and several piles of half buried metal cans and bottles, which have the appearance of household trash. 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, etc.) 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.

APPLICABLE REPORTS / DOCUMENTS

Available historical aerial photos and base maps were reviewed for past uses:
1943 map – None, area of map does not include Parcel 17.
1946 map – Three "abandoned" residential houses are present (nos. 142 – 144).
1950 building list – None.
1952 map – Same as 1946 map.
1953 aerial – None.
1956 map – None.
1957 map – Same as 1956 map.

APPLICABLE REPORTS / DOCUMENTS cont'd

1958 aerial – Same as 1953 aerial.
1965 building list – Same as 1950 building list.
1975 map – Same as 1956 map.
1976 building list – Same as 1950 building list.
1978 map – Same as 1956 map.
1978 aerial – Same as 1953 aerial.
1979 map – Same as 1956 map.
1981 aerial – Same as 1953 aerial.
1984 aerial – Same as 1953 aerial.
1989 map – Same as 1956 map.
1993 aerial – Same as 1953 aerial.
1997 aerial – Same as 1953 aerial.
2003 building list – Same as 1950 building list.
2006 map – Same as 1956 map.
2008 building list – Same as 1950 building list.
Current Google aerial – Current site configuration.

According to NASB records, no above ground storage tanks (ASTs), underground storage tanks (USTs), or oil-water separators (OWS) were registered to Parcel 17.

HAZARDOUS WASTE STORAGE RECORDS

No hazardous waste was historically stored at Parcel 17 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.

INSPECTOR SIGNATURE: _____



PHOTOGRAPHS



No. 1 Bowdoin College Lot 2 Area, NAS Brunswick
View along eastern tree line, from Perimeter Road

September 9, 2010



No. 2 Bowdoin College Lot 2 Area, NAS Brunswick
View along Perimeter Road

September 9, 2010



No. 3 Bowdoin College Lot 2 Area, NAS Brunswick September 9, 2010
View along Route 24 (Bath Road) and northern tree line



No. 4 Bowdoin College Lot 2 Area, NAS Brunswick July 29, 2010
View along eastern side of St. John's Cemetery, from Perimeter Road



No. 5 Bowdoin College Lot 2 Area, NAS Brunswick
View from Perimeter Road

September 9, 2010



No. 6 Bowdoin College Lot 2 Area, NAS Brunswick
Isolated area of discarded household items in the southwest area of the parcel

September 9, 2010



No. 7 Bowdoin College Lot 2 Area, NAS Brunswick September 9, 2010
Isolated area of discarded household items in the west-central area of the parcel



No. 8 Bowdoin College Lot 2 Area, NAS Brunswick September 9, 2010
Remnant of a former chimney in the northwest area of the parcel