SRW
Environmental Consulting, LLC

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Subject Property:
Sherburne School
35 Sherburne Street
Portsmouth, New Hampshire

Prepared For:
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Todd Scheffer

Todd Scheffer, P.G.

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1.0 SUMMARY

SRW Environmental Consulting, LLC (SRW) has completed a Phase I Environmental Site Assessment (ESA) of the above-referenced property for Portsmouth Housing Authority (Client). The purpose of this study is to characterize current environmental conditions, to detect the presence or potential presence of hazardous substances and petroleum products at the property, and to determine if environmental conditions at the site are considered to be recognized environmental conditions (RECs) as defined in ASTM 1527-13. Another purpose of the Phase I is to document compliance with 24 CFR 58.5(i)(2) as funding by US Department of Housing and Urban Development (HUD) is being sought for the proposed project. SRW inspected the subject property on December 6, 2022.

The subject property is a 5.33 +/- acre parcel of land with a school building, located in a mixed use neighborhood at the northeast corner of Sherburne Road and Greenland Road, in Portsmouth, Rockingham County, New Hampshire. The site topography slopes downward slightly from southwest to northeast, where the elevation averages approximately 70 feet above mean sea level. The regional topography slopes downward generally to the east-southeast toward Sagamore Creek and the Atlantic Ocean.

The subject property is currently mostly developed with a school building, parking lot, athletic fields, storage sheds, maintained landscaping and garden area. The north, east and south sides of the property are lined with trees. It was developed circa 1930 with a school building, and has remained a school since that time.

Potential environmental conditions identified during this assessment included the existence of twelve nearby remediation sites, two former heating oil underground storage tanks (USTs), two monitoring wells on the southern side of the property, pole-mounted electrical transformers, a floor drain and sump pit in the basement, regulated substances on the form of janitorial and maintenance supplies. Based on analysis of all information collected regarding the aforementioned potential RECs, described in detail in this report, SRW concludes the following:

SRW has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of a 5.33 +/- acre parcel of land with a school building, located in a mixed use neighborhood at the northeast corner of Sherburne Road and Greenland

Road, in Portsmouth, Rockingham County, New Hampshire. Any exceptions to, or deletions from, this practice are described in Section 7.5 of this report. This assessment has revealed no evidence of RECs or vapor encroachment conditions (VECs) in connection with the property with the following exception:

● Potential bedrock aquifer impacts under the subject property from PFOA (perfluorooctanoic acid), PFOS (perfluorooctane sulfonate), PFHxS (perfluorohexanesulfonic acid) and PFNA (perfluorononanoic acid), a group of regulated substances commonly associated with fire fighting foam, from the nearby Pease Air Force Base National Priorities List property. Currently, it does not appear that there is, in fact, an impact, and the bedrock contamination plume appears to be essentially confined to the Pease Air Force Base site itself. However, a bedrock monitoring well was installed at the subject property at the end of 2022 and laboratory analysis results from groundwater collected from that well have not been released.

It is not currently known if the bedrock aquifer at the property has been impacted with PFOA, PFOS, PFHxS and PFNA, or will be impacted in the future, and it may be summer of 2023 before those results are known. Whether or not that is the case, it does not appear that the existence of those compounds at the subject property poses a significant risk to the occupants or would restrict the future use of the property. The property has no water supply wells from which to extract and expose people, and these substances are not highly volatile and will not pose a risk of vapor intrusion. Further, if PFOA, PFOS, PFHxS and/or PFNA are identified in the bedrock aquifer under the subject property, it would appear unlikely that any entity except the Pease Air Force Base site would be considered the responsible party for the contamination.

2.0 INTRODUCTION

2.1 Purpose

The purpose of this Phase I Environmental Site Assessment is to identify, to the extent feasible pursuant to ASTM document E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, recognized environmental conditions in connection with the subject property. Another purpose of the Phase I is to document compliance with 24 CFR 58.5(i)(2) as funding by US Department of Housing and Urban Development (HUD) is being sought for the proposed project.

2.2 Scope of Services

The scope of services is the performance of a Phase I Environmental Site Assessment pursuant to ASTM E 1527-13 including a vapor encroachment study in conformance with ASTM E 2600-15. The client has not requested additional services beyond those required by ASTM E 1527-13 and ASTM

2600-15.

2.3 Significant Assumptions

Significant assumption made by SRW is that regional groundwater flow follows regional topography and is influenced by other hydrological features in a manner typically observed, and that groundwater flow contours developed by others and reviewed in files available from NHDES are accurate. Otherwise, SRW made no significant assumptions.

2.4 Limitations

The conclusions and recommendations presented in this report are based solely upon the described Scope of Work, and not on scientific tasks or procedures beyond the described Scope of Work or the time and budgetary constraints imposed by the Client. The stated conclusions and recommendations represent SRW's best professional judgment and should not be construed as statements of scientific fact or certainty.

The observations of the subject property, including any structures thereon, contained in this report are based solely on conditions that existed at the stated time of investigation. Where access to portions of the property or to structures thereon was limited or unavailable, or where direct observation was obstructed or otherwise limited, SRW renders no opinion as to the presence of, or the potential for, hazardous materials or petroleum products in those portions of the property or structures.

In preparing this report, SRW has relied on information provided by state and local officials, and other parties herein referenced, and on information on record with various state and local agencies made available to SRW at the stated time of inspection. SRW did not attempt to independently verify the accuracy or completeness of all information received or reviewed as part of this investigation.

Observations or other evidence suggesting the presence of asbestos-containing materials (ACMs) or polychlorinated biphenyls (PCBs) may have been noted in this report. However, unless otherwise specified in this report, SRW did not perform testing or analysis to confirm the presence or compute the concentration of these substances. Also, unless otherwise stated, SRW did not perform testing or analysis to confirm the presence of lead-based paints or airborne radon at the subject site.

This report may contain the results of quantitative analysis performed by an outside laboratory. In such cases, SRW has relied upon the data provided to formulate its stated conclusions and recommendations and has not attempted to independently evaluate the reliability of these data.

During this investigation, SRW did not make a specific attempt to determine whether any and all activities performed on the subject property have been granted all required environmental permits or licenses. SRW makes no claim that the subject property and any activities performed thereon are in compliance with all applicable federal, state, or local laws, environmental or otherwise.

In the event that the conclusions stated in this report express SRW's professional opinion that a release of hazardous substances or petroleum products to the environment has occurred at the subject site, SRW recommends that the Client consult with its legal counsel regarding the duty to report the discharge to the appropriate federal, state, or local authorities. If SRW is not notified in a timely manner that such duty to report has been discharged by another party, SRW may, under certain legal interpretations, be deemed to be a "knowledgeable party", and may consult with its legal counsel regarding its duty to report or confirm the discharge to the appropriate authorities. Otherwise, SRW agrees to maintain in strictest confidence the information contained in this report.

2.5 Special Terms and Conditions

Client has not requested any special terms and conditions.

2.6 User Reliance

This report was prepared for the exclusive use of Portsmouth Housing Authority and except as described below, no other party may rely on the information herein contained. SRW hereby grants Portsmouth Housing Authority permission to distribute this report, or copies thereof in whole, to its affiliates, assigned agents, or, in Client's discretion, to other parties having a direct financial interest in the subject property.

2.7 Property Description

Quick Property Reference:

Legal Description: Portsmouth Tax Map 259, Lot 10
Deed Reference: Rockingham County Book 2389, Page 1272 (not confirmed)
Address: 35 Sherburne Road, Portsmouth, New Hampshire
Owner: City of Portsmouth
Size: 5.33 +/- acres
Utilities: Municipal water, municipal sewer, natural gas
Structures: Brick school building, storage sheds

Site & Vicinity General Characteristics

The subject property is a 5.33 +/- acre parcel of land with a school building, located in a mixed use neighborhood at the northeast corner of Sherburne Road and Greenland Road, in Portsmouth, Rockingham County, New Hampshire (see Figure #1, USGS Map and #2, Portsmouth Tax Maps). The site topography slopes downward slightly from southwest to northeast, where the elevation averages approximately 70 feet above mean sea level. The regional topography slopes downward generally to the east-southeast toward Sagamore Creek and the Atlantic Ocean.

Current Use of the Property

The subject property is currently the location of Robert J. Lister Academy, an alternative high school of approximately 30 students. The school grounds include the school building, storage sheds and athletic fields.

Structures, Roads, & Site Improvements

The subject property is currently mostly developed with a school building, parking lot, athletic fields, storage sheds, maintained landscaping and garden area. The north, east and south sides of the property are lined with trees.

Current Uses of Adjoining Properties

The property is bound by Interstate I-95 to the northwest, by residential properties to the west and south; and by Highliner Foods USA, a value added frozen seafood processor and marketer to the east.

3.0 USER PROVIDED INFORMATION

The report user, Mark Lentz of Portsmouth Housing Authority, completed an ASTM 1527-13 questionnaire regarding the subject property during this site assessment, which is attached in section 9.6 of this report and summarized below. Mr. Lentz was not aware of any potential environmental issues at the site.

3.1 Environmental Liens or AULs

The user was not aware of any environmental liens or activity and use limitations (AULs) imposed on the subject property. An example of an AUL would be a groundwater management permit which restricts the use of groundwater, or an approved remedial action plan which includes

restrictions on soil excavation.

3.2 Specialized Knowledge

The user has no specialized knowledge that might indicate the past or present use of any chemicals, oil, heating oil, degreasers, gasoline, or other hazardous substances on the subject or nearby properties.

3.3 Valuation Reduction for Environmental Issues

The user indicated that the property is not valued significantly below fair market value.

3.4 Commonly Known or Reasonably Ascertainable Information

The user indicated that the property has been used as a school, and is not aware of any chemicals that may be present at the property.

3.5 Reason for Performing Phase I ESA

The report was performed to qualify for an LLP (Landowner Liability Protections under the Brownfields Amendments) to CERCLA liability. Another purpose of the Phase I is to document compliance with 24 CFR 58.5(i)(2) as funding by US Department of Housing and Urban Development (HUD) is being sought for the proposed project.

3.6 Other

None.

4.0 RECORDS REVIEW

4.1 Standard Environmental Record Sources

During this assessment, SRW obtained regulatory information, including Federal and State lists and databases, including the following:

National Priorities List (listed/delisted)	1 mile
CERCLIS	0.5 mile
CERC-NFRAP	0.5 mile
RCRA CORRACTS	1 mile
RCRA TSD facilities	0.5 mile
RCRA Generators list	at/adjacent
ERNS list	site only
NHDES Remediation Sites	
Hazardous Waste Sites	0.5 miles
UST Facilities	at/abutting
LUST Sites	0.50 miles
Solid Waste Landfill Sites	0.50 miles
Other Spill Sites	0.50 miles

Notes: Institutional control sites are contained within the jurisdiction of other types of regulated sites and in property deed records, and there are no specific "institutional controls" site lists. State Brownfields and Voluntary Cleanup sites fall under the NHDES Remediation Sites database. Also, there are no known tribal environmental lists or databases for New Hampshire.

SRW has generated three maps including two based on state regulated sites and the NHDES Onestop GIS, and the other based on federally regulated sites and the EPA Cleanups in My Community GIS. Results of our research of federal and state lists and databases, downloaded directly from governmental sources, and our NHDES Onestop GIS and EPA Cleanups in My Community GIS maps are attached in Appendix 9.5. The NHDES GIS map shows known and/or inferred groundwater flow directions at nearby properties when known or anticipated.

Twelve remediation sites which appear on various lists and databases are located within their respective minimum search distances from the subject property, though none are at the subject property itself. The property is, however, listed as an underground storage tank (UST) facility. Note that some sites may appears on multiple lists if they are regulated under multiple programs. All except two of the twelve remediation sites are registration only sites or have achieved regulatory closure status, which indicates that no further investigation or remediation is required, and cleanup goals have been achieved. SRW performed a cursory review of all active nearby remediation sites to determine the groundwater flow direction (if computed) and extent of contamination and has shown these on the attached NHDES Onestop GIS Map (the extent of contamination is only shown if a significant off-site plume exists). If the subject property is located hydraulically upgradient of a spill site, or on the opposite side of a groundwater flow divide from a spill site, that spill site typically poses no risk of impact to the subject property. During this review of files, SRW has determined that based on groundwater flow directions and proximity to the subject property, no active off-site remediation sites are located hydraulically upgradient of the

subject property, or are far enough away from the subject property so the pose no risk of impact to the subject property, with the possible exception of the Pease Air Force Base National Priorities List site, located near the subject property. Information about the potential impact is summarized below.

Pease Air Force Base Site: The Pease Air Force Base (PAFB) National Priorities List site (EPA # NH7570024847) boundary is within 1,000 feet of, and hydraulically upgradient of the subject property. The site includes at least 13 areas of concern, though none located within ½ mile of the subject property. Of these locations, it is only the migration of PFOA (perfluorooctanoic acid), PFOS (perfluorooctane sulfonate), PFHxS (perfluorohexanesulfonic acid) and PFNA (perfluorononanoic acid), a group of regulated substances commonly associated with fire fighting foam, that potentially threatens the subject property, as contamination has migrated from their original location of release. Assessing the overburden groundwater contamination plume includes collection of samples from an overburden monitoring well located at the subject property itself among the many other wells in the network. Assessing the bedrock groundwater contamination plume has led to the recent installation of a bedrock monitoring well, located near the historic overburden monitoring well, at the subject property.

SRW contacted the environmental consultant who is working on the PFOA, PFOS, PFHxS and PFNA assessment at the PAFB property, Ms. Lauren Tierney, of WSP. Ms. Tierney indicated that the results of the groundwater sampling at the newly installed bedrock well have not been published at this time, and it may be the summer of 2023 before the assessment is complete. However, historic results of samples from the overburden well at the subject property, identified as PSW-1, are available.

Using the existing monitoring locations (excluding the recently installed subject property bedrock well), it was determined that as of the end of 2021, the PFOS and PFOA overburden groundwater plumes covers much of the PAFB property, but does not extend to the subject property. The overburden PFHxS plume is similar, but migrates off the property to the southwest. At this time, the known PFOA, PFOS and PFHxS contamination plumes in the bedrock aquifer are a bit more limited in extent relative to the overburden extents. PFNA overburden and bedrock plumes are very small in comparison and do not extend to anywhere near the subject property.

Historically, while there have been detections of PFOA, PFOS and PFHxS at PWS-1, none have been over ambient groundwater quality standards (AGQS), and there have been no long term impacts to groundwater quality observed. Additionally, no petroleum-related compounds have been detected. However, while analysis results are well below AGQS, modelling shows that there may be an increasing concentration trend for PFOA at PSW-1. No trends were identified by models for the other compounds of concern. The presumed source of PFOA, PFOS, PFHxS and PFNA is in the center of the PAFB site, and impacted groundwater in the area is undergoing treatment, during

which highly contaminated water is extracted from the ground, treated, and re-injected back into the ground outside of the area of influence of the extraction well. The treatment system has been shown to be effective at removing the contaminant mass over the two years it has been operational.

The subject property and monitoring well PWS-1 are located hydraulically downgradient of what is known as the southern infield injection wells, where treated water is injected back into the ground from the Airfield Interim Mitigation System (AIMS), the treatment system for PFOA, PFOS, PFHxS and PFNA. The collective result of contaminant plume control, contaminant mass reduction and the re-introduction of clean water suggest that groundwater quality at PWS-1 and the subject property is expected to improve in the future.

It has been reported that "*Given that it will take an estimated 4 years for treated groundwater injected in the southern infield to migrate to the southern well field, the effects of operating the AIMS on the southern well field will not be seen for several years*."

Copies of the groundwater flow map, contamination plume maps, recent groundwater analysis results, contamination trend modelling table, and graph showing groundwater treatment system efficacy, all from a reported entitled Final Airfield Interim Mitigation System Optimization, Maintenance and Monitoring Report January - June 2021, prepared by Wood Programs Inc, are attached in Appendix 9.5.

Other nearby sites: While three sites are adjacent to the subject property (NHDES # 199906085, 201709004 and 198606056), corrective actions at those sites have achieved the desired cleanup goals and no additional corrective actions are required. No further review of these files is warranted. Letters from NHDES detailing the need for no further action are attached in Appendix 9.5.

UST Facility: The subject property is registered with the NHDES as a UST facility and has been assigned facility # 0110059. Two 4,000 gallon tanks previously existed at the site, including an oil tank installed circa 1958 and removed in September 1989 (tank #1), and a second tank installed in the same grave as tank #1 circa September 1989 and removed circa April 1999 (tank #2). Environmental assessments were prepared fore each tank closure, and neither assessment identified significant contamination resulting from the tanks. NHDES reviewed both reports and did not recommend any additional assessment for the first, and issued a no further action letter dated July 15, 1999 for the second, and by extension, the first (since they were both in the same tank grave). A copy of the UST closure reports, UST registration paperwork and other related documentation at attached in in Appendix 9.5.

Non-Geocoded Sites: SRW cross referenced NHDES lists and databases using by various names and

addresses for the subject property and has determined the subject property is not a non-geocoded site.

4.2 Additional Environmental Record Sources

Title Records

Historical ownership of the subject property was reviewed at the City of Portsmouth's Tax Assessor's Office and from property deed information recorded with the Rockingham County Registry of Deeds. SRW did not identify any environmental liens or activity and use limitations against the subject property in the files at the Rockingham County Registry of Deeds.

Note that the deed reference on the Portsmouth Tax card in Appendix 9.4 references a property that appears to be adjacent to the subject property, as it references the Sherburne School property as an abutter. SRW did not attempt to identify the correct deed reference. It has likely been owned by the City of Portsmouth at least since the school was constructed circa 1930.

Previous Environmental Assessment Reports:

No previous environmental site assessment reports are known to exist for the subject property except for the previously discussed UST closure assessment reports and the reports of groundwater quality described in Section 4.1 above.

Municipal File Review

Files for the subject property at the Building Department offices for the city of Portsmouth were reviewed and no files reviewed indicated a risk of environmental contamination from activities at the site or high risk uses.

4.3 Physical Setting Source(s)

The subject property is a 5.33 +/- acre parcel of land with a school building, located in a mixed use neighborhood at the northeast corner of Sherburne Road and Greenland Road, in Portsmouth, Rockingham County, New Hampshire (see Figure #1, USGS Map and #2, Portsmouth Tax Maps). The site topography slopes downward slightly from southwest to northeast, where the elevation averages approximately 70 feet above mean sea level. The regional topography slopes downward generally to the east-southeast toward Sagamore Creek and the Atlantic Ocean.

Groundwater at the westerly adjacent site and PAFB site has been measured during corrective actions performed at those sites. Groundwater in the area was measured to be south-

southeasterly, and it is assumed that groundwater at the subject property will be similar.

4.4 Historical Use Information on the Property

A. Historical Municipal Directories

Historic municipal directories were not reviewed during this assessment, as the property is known to have been a school since the 1930s, before municipal directories were cross referenced by street addresses.

B. Satellite Images / Aerial Photographs

SRW reviewed aerial photographs provided the Granitview GIS, and the US Geological Survey (USGS). Photographs were available for several years, and images historic in nature, where details were observable, are briefly described below.

Satellite Images dated 2018, 2008, 1998 and 1992: The subject property was developed with the current building, driveway, maintained landscaping and athletic fields. The surrounding properties appear to be similar to how they currently exist.

Aerial Photograph dated 1990: The subject property was developed with the current building, driveway, maintained landscaping and athletic fields. The surrounding properties appear to be similar to how they currently exist.

Aerial Photographs dated 1973 and 1960: The subject property was developed with the original part of the current building, which was generally U-shaped. The gymnasium, which was constructed after this photograph, is located between the two arms of the original U. The property is otherwise developed with parking lot, and maintained landscaping. The athletic fields currently on the northeast side are not developed as athletic fields in these photographs. The surrounding properties appear to be similar to how they currently exist, though an apartment complex currently southeast of the property does not exist in this photograph. Also, in 1973 the Highliner Food property to the northeast is not as expansive as it currently is and it is not developed in 1960.

Copies of these images and photographs are attached in Appendix 9.2 and 9.4 as Figures #3 through #9 respectively.

C. Historical USGS Topographic Maps

SRW reviewed historical United States Geologic Survey (USGS) Maps provided by the University of

New Hampshire Dimond Library. Observations made of the subject property, and area, are described below:

1981, 1956, 1941, 1918 and 1895 USGS maps. The subject property is developed with the school building in the 1956 map and earlier, and while the school existed in 1941, it is not shown as developed on the 1941 or earlier maps. It may be possible that the location of the school was redacted from the 1941 map along with the Portsmouth municipal airport that would become the Pease Air Force Base. The property is not identified as a wetland, gravel pit or landfill on any map, and no electrical transmission lines cross the site. Copies of these maps are attached as Figures #10 through #14 in Appendix 9.4.

D. Sanborn Fire Insurance Maps

SRW reviewed copies of Sanborn Fire Insurance maps provided by the Dartmouth College Library and New Hampshire State Library. The subject property is just outside of the coverage area of all maps.

4.5 Historical Use Information on Adjoining Properties

Properties to the west south and east of the subject property have only served residential purposes since they were developed in the mid 20th century, and they remain that way today. Interstate I-95 has existed to the northwest since between 1941 and 1956, and the Highliner Food property currently to the northeast was developed during the same general time period.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

SRW's site inspection was performed by Mr. Todd Scheffer, P.G. on December 6, 2022, who was accompanied by Mark Lentz of the Portsmouth Housing Authority, who is the report user and prospective purchaser of the property.

5.2 General Site Setting

The subject property is a 5.33 +/- acre parcel of land with a school building, located in a mixed use neighborhood at the northeast corner of Sherburne Road and Greenland Road, in Portsmouth, Rockingham County, New Hampshire. The site topography slopes downward slightly from southwest to northeast, where the elevation averages approximately 70 feet above mean sea level. The regional topography slopes downward generally to the east-southeast toward Sagamore Creek and the Atlantic Ocean.

5.3 Exterior Observations

The subject property is currently mostly developed with a school building, parking lot, athletic fields, storage sheds, maintained landscaping and garden area. The north, east and south sides of the property are lined with trees. In addition to the school building, the property is developed with six small storage sheds.

A pole-mounted electrical transformer and a bank of three pole-mounted electrical transformers exist along Sherburne Street. All transformers appeared to be in good condition, and no evidence of a past or ongoing release, or conditions which suggest that a release may be imminent was observed.

Two monitoring wells exist on the southern side of the property. As described in Section 4.1, one well is an overburden well used to monitor groundwater on the hydraulically upgradient side of a water supply production well for the city of Portsmouth. This well has existed since circa 2014. The second well, located near the first, is a recently installed bedrock well used to monitor potential migration of PFOA and PFOS in the bedrock aquifer, originating at the nearby Pease Air Force Base National Priorities List site.

No evidence of distressed or stained vegetation, failing septic systems, buried or surficial solid waste, pits, ponds or lagoons, or any other potential environmental condition was observed at the subject property. Additionally, SRW observed no condition at any off site property, from the property line of the subject property, which may pose a risk of environmental impact to the subject property.

5.4 Interior Observations

The property is developed with a single school building erected circa 1930 and expanded several times since then. It is a single story brick structure on a partial basement and partial slab foundation. The building is currently heated using natural gas burning boilers, but had previously (c. 1958 - 1999) been heated using heating oil for fuel, and before that the fuel was coal. The building consists of classrooms, a gymnasium, restrooms, a kitchen and offices. The basement is the location of the mechanical systems and is also used by maintenance staff.

What appears to be the former storage area for coal exists on the north side of the basement. It is partially full of soil and possibly remnant coal. In this room also exists the tank gauge that had been previously connected to a heating oil UST.

A floor drain that is likely connected to the municipal sewer system exists in the basement of the

building. No evidence of staining, which could indicate improper disposal of regulated substances was observed near the floor drain. Another floor penetration in the basement is a sump pit. The pit is equipped with a sump pump that appears to discharge to the municipal sewer system.

Regulated substances in the form of janitorial and maintenance supplies are stored and used in the building. All substances are stored in small or individual use container, and none appeared to have been released to the environment.

No other potential environmental conditions were observed inside of the subject buildings, and no conditions inside of the subject building appear to pose a potential risk of impact to the environment of the subject property.

6.0 INTERVIEWS

6.1 Interviews with Owner

The current owner is the City of Portsmouth, which has owned and operated the school since circa 1930. The property owner has provided information used throughout this report. City representatives are not aware of any potential contamination at the property, but is aware that groundwater at the site has been and is currently being monitored.

6.2 Interview with Site Manager

The site manager is the owner.

6.3 Interview with Occupants

The building is currently occupied by a school, and SRW did not discuss environmental conditions with the faculty or staff.

6.4 Interviews with Local Government Officials

SRW spoke with administrative personnel at the Portsmouth Building Department who provided available files to review. Files at City Hall indicate that the property has only served academic purposes.

6.5 Interviews with Others

None.

7.0 EVALUATION

7.1 Findings

The subject property is a 5.33 +/- acre parcel of land with a school building, located in a mixed use neighborhood at the northeast corner of Sherburne Road and Greenland Road, in Portsmouth, Rockingham County, New Hampshire. The site topography slopes downward slightly from southwest to northeast, where the elevation averages approximately 70 feet above mean sea level. The regional topography slopes downward generally to the east-southeast toward Sagamore Creek and the Atlantic Ocean.

The subject property is currently mostly developed with a school building, parking lot, athletic fields, storage sheds, maintained landscaping and garden area. The north, east and south sides of the property are lined with trees. It was developed circa 1930 with a school building, and has remained a school since that time.

During completion of this phase I environmental site assessment, SRW has identified the following environmental conditions at the site:

● *Remediation sites:* According to lists and databases provided by the NHDES and EPA, twelve remediation sites exist within their respective search distance from the subject property, but not including at the subject property itself.

● *Underground storage tanks:* Two heating oil USTs formerly existed at the site.

● *Electrical transformers:* A pole-mounted electrical transformer and bank of three pole-mounted electrical transformers exist along Sherburne Street.

● *Basement floor penetrations:* A floor drain and sump pump exist in the basement.

● *Regulated substances:* Regulated substances in the form of janitorial and maintenance supplies are stored and used in the building.

7.2 Opinions

SRW has assessed the environmental conditions considered in section 7.1, and has made the following determination of whether or not they rise to the level of REC as defined in ASTM 1527-13 which states “The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment;

or(3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions". Note that historic RECs (HRECs) are not considered to be RECs because they no longer pose a risk of environmental impact, and controlled RECs (CRECs) are considered to be RECs, but that they pose no significant risk to the property due to the regulatory oversight of ongoing investigations and/or remediation.

● *Documented remediation sites:* After review of files provided by the NHDES, it appears that no off-site remediation sites pose a known risk of significant impact to the subject property, including vapor encroachment conditions (VECs, see section 8.1). However, minor environmental impacts may be possible from contamination originating at the PAFB.

Historically, while there have been detections of PFOA, PFOS and PFHxS at PWS-1, an overburden monitoring well located at the subject property, none have been over AGQS, and there have been no long term impacts to groundwater quality observed. Additionally, no petroleum-related compounds have been detected. However, while analysis results are well below ambient AGQS, modelling shows that there may be an increasing concentration trend for PFOA at the PSW-1. No trends were identified by models for the other compounds of concern. The presumed source of PFOA, PFOS, PFHxS and PFNA is in the center of the PAFB site, and impacted groundwater in the area is undergoing treatment, during which highly contaminated water is extracted from the ground, treated, and re-injected back into the ground outside of the area of influence of the extraction well. The treatment system has been shown to be effective at removing the contaminant mass over the two years it has been operational.

The subject property and monitoring well PWS-1 are located hydraulically downgradient of what is known as the southern infield injection wells, where treated water is injected back into the ground from the Airfield Interim Mitigation System (AIMS), the treatment system for PFOA, PFOS, PFHxS and PFNA. The collective result of contaminant plume control, contaminant mass reduction and the re-introduction of clean water suggest that groundwater quality at PWS-1 and the subject property is expected to improve in the future. It has been reported that "*Given that it will take an estimated 4 years for treated groundwater injected in the southern infield to migrate to the southern well field, the effects of operating the AIMS on the southern well field will not be seen for several years*."

The uncertainty of whether or not PFOA, PFOS, PFHxS and/or PFNA exist in the bedrock aquifer under the property is considered to be a REC at this time. However, it is not a REC that poses a potentially significant environmental impact to the intended users of the site, nor one that the property owner would be responsible for mitigating.

● *Electrical transformers:* All transformers appeared to be in good condition, and no evidence of a past or ongoing release, or conditions which suggest that a release may be imminent was observed.

The transformers are not considered to be RECs.

● *Underground storage tanks:* Both USTs have been removed and closure assessments prepared. No evidence of any significant release was observed during either closure, and after review of the UST closure documents, no additional investigation was required by NHDES. The former USTs are not considered to be RECs.

● *Basement floor penetrations:* The floor drain is connected to the municipal sewer system. The sump pump also appears to discharge to the municipal sewer system. No evidence of staining, which could indicate improper discharge of regulated substances, was observed near the sump pump pit or floor drain. The floor drain and sump pump are not considered to be RECs.

● *Regulated substances:* All substances are stored in small or individual use container, and none appeared to have been released to the environment. Regulated substances stored and used at the property are not considered to be RECs.

7.3 Conclusions

SRW has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of a 5.33 +/- acre parcel of land with a school building, located in a mixed use neighborhood at the northeast corner of Sherburne Road and Greenland Road, in Portsmouth, Rockingham County, New Hampshire. Any exceptions to, or deletions from, this practice are described in Section 7.5 of this report. This assessment has revealed no evidence of RECs or VECs in connection with the property with the following exception:

● Potential bedrock aquifer impacts under the subject property from off site sources (Pease Air Force Base property).

7.4 Deviations

Data gaps are defined by ASTM E-1527.13 as follows: *A lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to site reconnaissance (for example, an inability to conduct the site visit), and interviews (for example, an inability to interview the key site manager, regulatory officials, etc.).*

There were no significant data gaps identified during this assessment.

7.5 Exceptions

No deletions or deviations from ASTM E 1527-13 were implemented in the performance of this Phase I Environmental Site Assessment.

7.6 Additional Investigations

SRW does not recommend any additional assessment at this time, except for providing continued access to the site's monitoring wells so that corrective actions at the Pease Air Force Base property can include monitoring groundwater conditions at the subject property.

7.7 Statement of Qualifications

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

A copy of my resume is attached in Appendix 9.8.

7.8 References

Part A. Sources

Federal:

U.S. Geological Survey:
- A. Topographic Maps
- B. Satellite Imagery/Aerial Photographs

U.S. Environmental Protection Agency databases:
- A. CERCLIS site list
- B. CERC-NFRAP
- C. RCRA CORRACTS
- D. RCRA TSD facilities
- E. RCRA Generators list
- F. ERNS list

U.S. Library of Congress
- A. Bird's Eye View Maps (no coverage)

State of New Hampshire:

NH Department of Environmental Services:
Oil Remediation & Compliance Bureau
- A. Remediation Sites Database
- B. Underground / Aboveground Storage Tank Databases
- C. NHDES Geographical Information System
- D. NHDES One Stop Data Retrieval System
- E. File Review of off-site and on-site remediation site files

NH Granitview GIS
- A. Satellite Images
- B. Aerial Photographs

Local:

Portsmouth City Hall:
- A. Assessors Office
- B. Building/Code Office

Rockingham County:
- A. Registry of Deeds

Concord Public Library:
- A. Sanborn Fire Insurance Maps (no coverage)

Dartmouth Library:
- A. Sanborn Fire Insurance Maps (no coverage)

Other:

ASTM Standard Practice for Environmental Site Assessments - Phase I Environmental Site Assessment Process Designation E 1527-13.

ASTM Standard E2600-15, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions

University of New Hampshire Dimond Library:
- A. Historic USGS Maps

Part B. Individuals Contacted

Name:	Date:
Mr. Mark Lentz Portsmouth Housing Authority Property Owner/ Report User	1/3/2023
Administrative Personnel Portsmouth Building Department Files	12/6/2022

Lauren Tierney
Senior Environmental Scientist 12/29/2022
WSP

7.9 Signature of Environmental Professional

This site assessment was completed by Mr. Todd Scheffer, P.G., of SRW Environmental Consulting, LLC.

SRW Environmental Consulting, LLC

Todd Scheffer, P.G.
Principal

8.0 NON-SCOPE ASSESSMENT

8.1 Vapor Encroachment Screening

SRW completed a Vapor Encroachment Screening (VES) in accordance with ASTM E 2600-15, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions. The VES is divided into two tiers, including Tier 1, a determination if any remediation site exists within the Area of Concern (AOC) of the subject property; and Tier 2, a review of data for those sites located within the AOC (if applicable) to determine whether or not a Vapor Encroachment Condition (VEC) exists, based on the "critical distance" of the chemicals of concern.

Tier 1 Screening: Standard environmental records were reviewed by SRW and included files for active sites located within the minimum search distance, or AOC, defined in ASTM 2600-15, as follows:

	Search Radius	
Standard Source	**Chemicals of Concern**	**Petroleum Chemicals of Concern**
Federal NPL site list	1/3	1/10
Federal CERCLIS list	1/3	1/10
Federal RCRA CORRACTS facilities list	1/3	1/10
Federal RCRA non-CORRACTS TSD list	1/3	1/10
Federal RCRA generators list	property only	property only
Federal institutional control/engineering control registries	property only	property only
Federal ERNS list	property only	property only
State and tribal lists of hazardous waste sites identified for investigation or remediation:		
State-and tribal-equivalent NPL	1/3	1/10
State-and tribal-equivalent CERCLIS	1/3	1/10
State and tribal landfill and/or solid waste disposal site lists	1/3	1/10
State and tribal leaking storage tank lists	1/3	1/10
State and tribal registered storage tank lists	property only	property only
State and tribal institutional control/ engineering control registries	property only	property only
State and tribal voluntary cleanup sites	1/3	1/10
State and tribal Brownfield sites	1/3	1/10

Review of NHDES files (see section 4.1) indicates that the subject property is not located within the respective search distance of any petroleum or hazardous substance site, where volatile chemicals of concern have been identified. Any contamination plumes of volatile organic compounds at the Pease Air Force Base property are well beyond the **critical distance** from the subject property. A vapor encroachment condition does not exist at the property.

Note: The **critical distance** is defined by ASTM 2600-15 as "the lineal distance in any direction between the nearest edge of the contaminated plume and the nearest TP (target property) boundary and is equal to 100 ft (30.5 m) for chemicals of concern (COC) or 30 ft (9 m) for dissolved petroleum hydrocarbon COC. The critical distance for petroleum hydrocarbon COC as LNAPL is the same as for nonpetroleum hydrocarbon COC (that is, 100 ft (30.5 m)). The critical distance represents an estimate of the lineal distance COC vapors volatilized from contaminated groundwater or contaminated soil might migrate in the vadose zone to the TP."

9.0 APPENDICES

APPENDIX 9.1

Site Vicinity Map

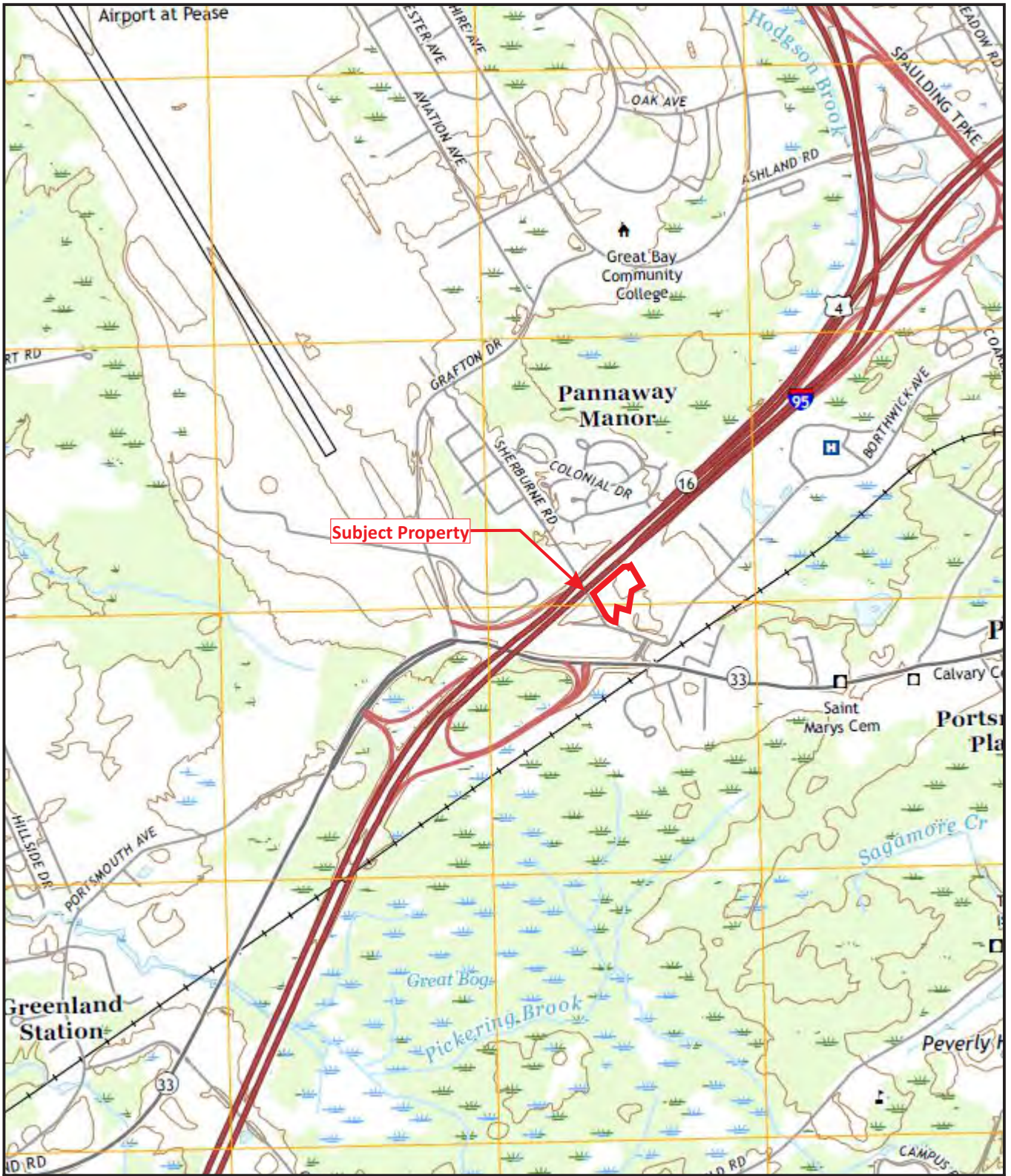

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Figure #1
2021 USGS Map

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

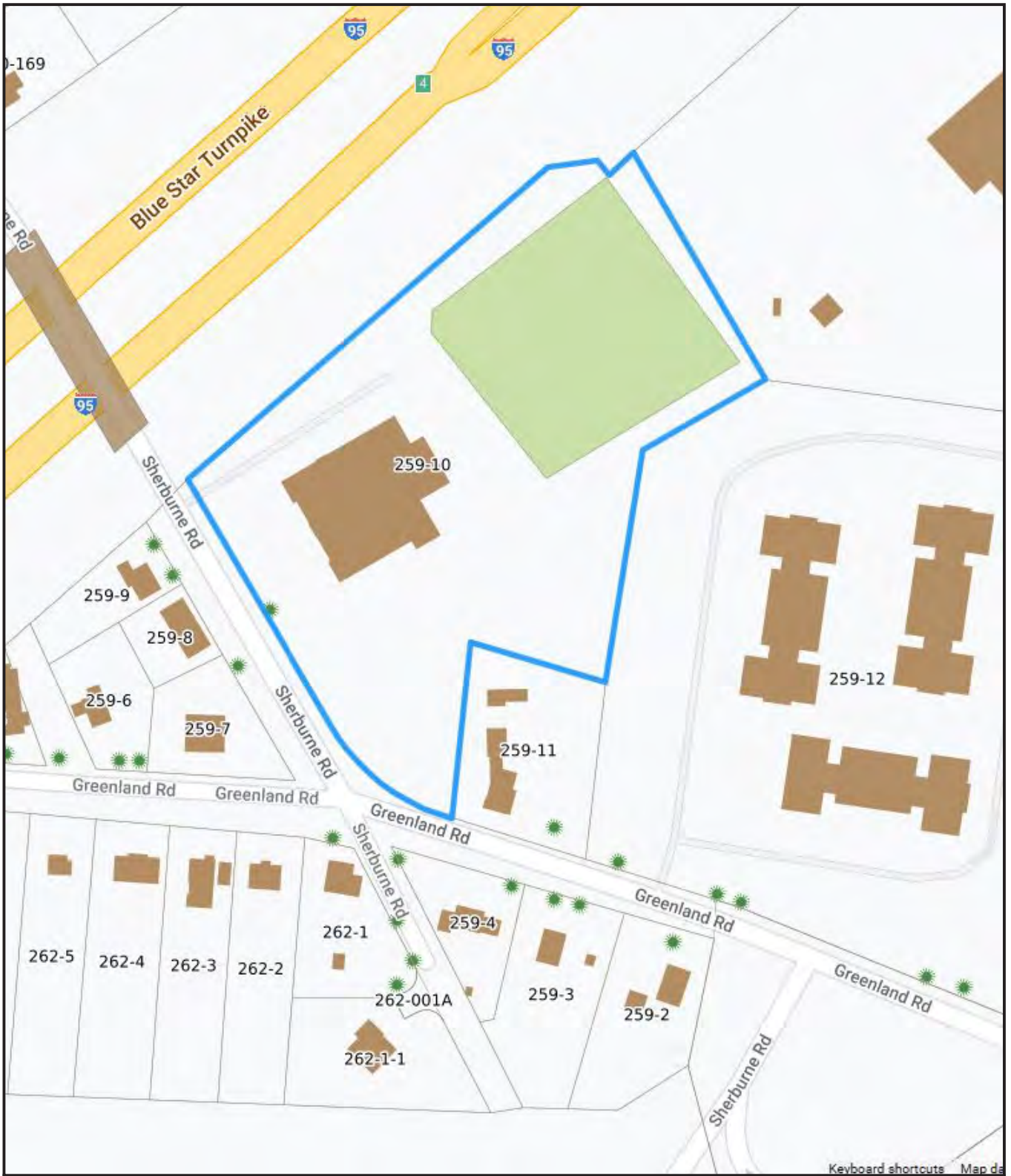

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Figure #2
Portsmouth Tax Map

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

APPENDIX 9.2

Site Plan

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Figure #3
2021 Satellite Image

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

APPENDIX 9.3

Site Photographs

Front of the subject building.

Southwestern side of the building.

Rear of the subject building.

Rear of the subject building.

Northwestern side of the building.

Garden shed.

Storage sheds.

Pole-mounted electrical transformer.

Bank of 3 pole-mounted electrical transformers.

Vacant field on the southern side of the property, with newly installed monitoring wells.

Gardens to the south of the building.

Southern side of the property.

Athletic fields on the east side of the property, and Interstate 95 (left hand side) adjacent to the site.

Athletic fields on the east side of the property, and Interstate 95 (left hand side) adjacent to the site.

View looking at the northern side of the property.

Proeprties to the west of the subject property.

Inside of the boiler room.

Tank guage to the former UST(s).

Storage of maintenance and janitorial supplies.

Remnants of historic coal storage.

Floor drain in the boiler room.

Sump pit.

APPENDIX 9.4

Historical Research Documents

Property Location 35 SHERBURNE RD | Map ID 0259/ 0010/ 0000/ / | Bldg Name | State Use 903J
Vision ID 35730 | Account # 35730 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 1 | Print Date 11/1/2022 11:47:48 A

CURRENT OWNER

CITY OF PORTSMOUTH
SCH
PO BOX 628
PORTSMOUTH NH 03802

TOPO	UTILITIES	STRT / ROAD	LOCATION
1 Level	1 Public Sewer	1 Paved	2 Suburban

SUPPLEMENTAL DATA

Alt Prcl ID 0259-0010-0000-0000	CONDO C
OLDACTN 1206	INLAW Y/
PHOTO	LOT SPLIT
WARD	2015 Reval V JM
PREC.	Ex/Cr Appli
1/2 HSE	
GIS ID 35730	Assoc Pid#

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
EXEMPT	9033	2,645,500	2,645,500
EXM LAND	9033	1,335,800	1,335,800
EXEMPT	9033	11,600	11,600
Total		3,992,900	3,992,900

2229
PORTSMOUTH, NH

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
CITY OF PORTSMOUTH	2389	1272			I	0	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2021	9033	2,645,500	2020	9033	2,645,500	2019	9033	2,645,500
	9033	1,335,800		9033	1,335,800		9033	1,335,800
	9033	11,600		9033	11,600		9033	11,600
	Total	3,992,900		Total	3,992,900		Total	3,992,900

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	STREET INDEX NAME	Tracing	Batch
304				

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	2,645,500
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	11,600
Appraised Land Value (Bldg)	1,335,800
Special Land Value	0
Total Appraised Parcel Value	3,992,900
Valuation Method	C
Total Appraised Parcel Value	3,992,900

NOTES

02/10-PERMIT- ALL SCHOOLS DOOR & FRAMES
FINISHED - NCIV
07/14- ONLY 50% REPL WINDOWS REST OLDER
FAIR COND; BALLFIELD, SCOREBOARD

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
09-199	04-24-2009			7,596		100		REPL 1 ALUM FRAMED ENT
05-910	12-01-2005			1,800		100		INST EQUIP SHED
8059	08-28-1997			100		100		31
8037	08-14-1997			3,500		100		14
8030	08-13-1997			1		100		27

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result
05-26-2017	ST			ER	Exterior Review
03-21-2015	ST			ER	Exterior Review
07-24-2014	JM			11	Listed INACTIVE
09-14-2010	GO			DR	Desk Review
02-16-2010	JW			50	Building Permit
06-16-2006	DB		0	2	No one home INACTIVE

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Frontage	Depth	Land Units		Unit Price	Size Ad	Site	Cond.	ST Idx	S.I. Adj.	Notes- Adj	Special Pricing		Adj Unit P	Land Value
1	903J	PUB-SCHOOL	M			87,120	SF	24.8	1.0000	1	1.00	304	0.530			1.0000	13.14	1,145,100
1	903J	PUB-SCHOOL	M			145,055	SF	24.8	1.0000	1	0.10	304	0.530	-90% RESIDUAL		1.0000	1.31	190,700
Total Card Land Units						5	AC	Parcel Total Land Area			5						Total Land Value	1,335,800

Property Location 35 SHERBURNE RD | Map ID 0259/ 0010/ 0000/ / | Bldg Name | State Use 903J
Vision ID 35730 | Account # 35730 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 1 | Print Date 11/1/2022 11:47:48 A

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	83	Schools-Public
Model	94	Commercial
Grade	B+	B+
Stories:	1	
Occupancy		
Residential Unit		
Exterior Wall 1	20	Brick/Masonry
Exterior Wall 2		
Roof Structure	03	Gable/Hip
Roof Cover	03	Asph/F Gls/Cmp
Interior Wall 1	05	Drywall/Sheet
Interior Wall 2		
Interior Floor 1	06	Inlaid Sht Gds
Interior Floor 2		
Heating Fuel	03	Gas
Heating Type	01	None
AC Type	01	None
Bldg Use	903J	PUB-SCHOOL MDL-94
Total Rooms		
Total Bedrms		
Total Baths		
Kitchen Grd		
Heat/AC	00	NONE
Frame Type	02	WOOD FRAME
Baths/Plumbing	02	AVERAGE
Ceiling/Wall	06	CEIL & WALLS
Rooms/Prtns	02	AVERAGE
Wall Height	10.00	
% Comn Wall		
1st Floor Use:		
Class		

CONSTRUCTION DETAIL (CONTINUED)

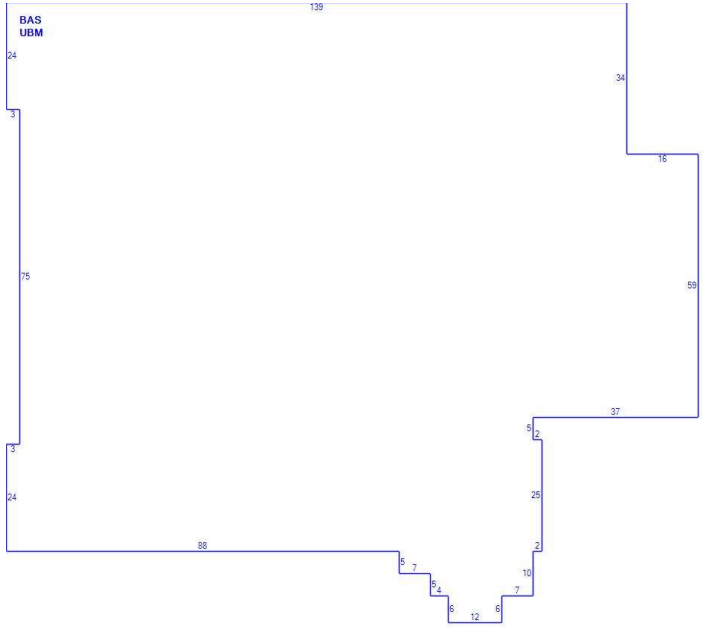
Element	Cd	Description

MIXED USE

Code	Description	Percentage
903J	PUB-SCHOOL MDL-94	100
		0
		0

COST / MARKET VALUATION

Adj. Base Rate	196.02
RCN	4,133,670
Year Built	1930
Effective Year Built	1983
Depreciation Code	A
Remodel Rating	
Year Remodeled	
Depreciation %	36
Functional Obsol	0
External Obsol	0
Trend Factor	1
Condition	
Condition %	
Percent Good	64
RCNLD	2,645,500
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond	% Gd	Gr	Gr Adj	Appr. Value
FN3	FENCE-6' CHAIN	L	500	16.30	2000	2	30	C	1.00	2,400
PAV1	PAVING-ASPHALT	L	7,000	1.75	2000	3	50	C	1.00	6,100
SHD1	SHED FRAME	L	160	13.00	2000	3	50	C	1.00	1,000
SHD1	SHED FRAME	L	80	13.00	1980	2	30	C	1.00	300
SHD1	SHED FRAME	L	96	13.00	1980	2	30	C	1.00	400
SHD1	SHED FRAME	L	100	13.00	2005	3	50	C	1.00	700
FN1	FENCE-4' CHAIN	L	189	12.25		2	30	C	1.00	700

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	17,573	17,573	17,573	196.02	3,444,659
UBM	Basement, Unfinished	0	17,573	3,515	39.21	689,010
	Ttl Gross Liv / Lease Area	17,573	35,146	21,088		4,133,669

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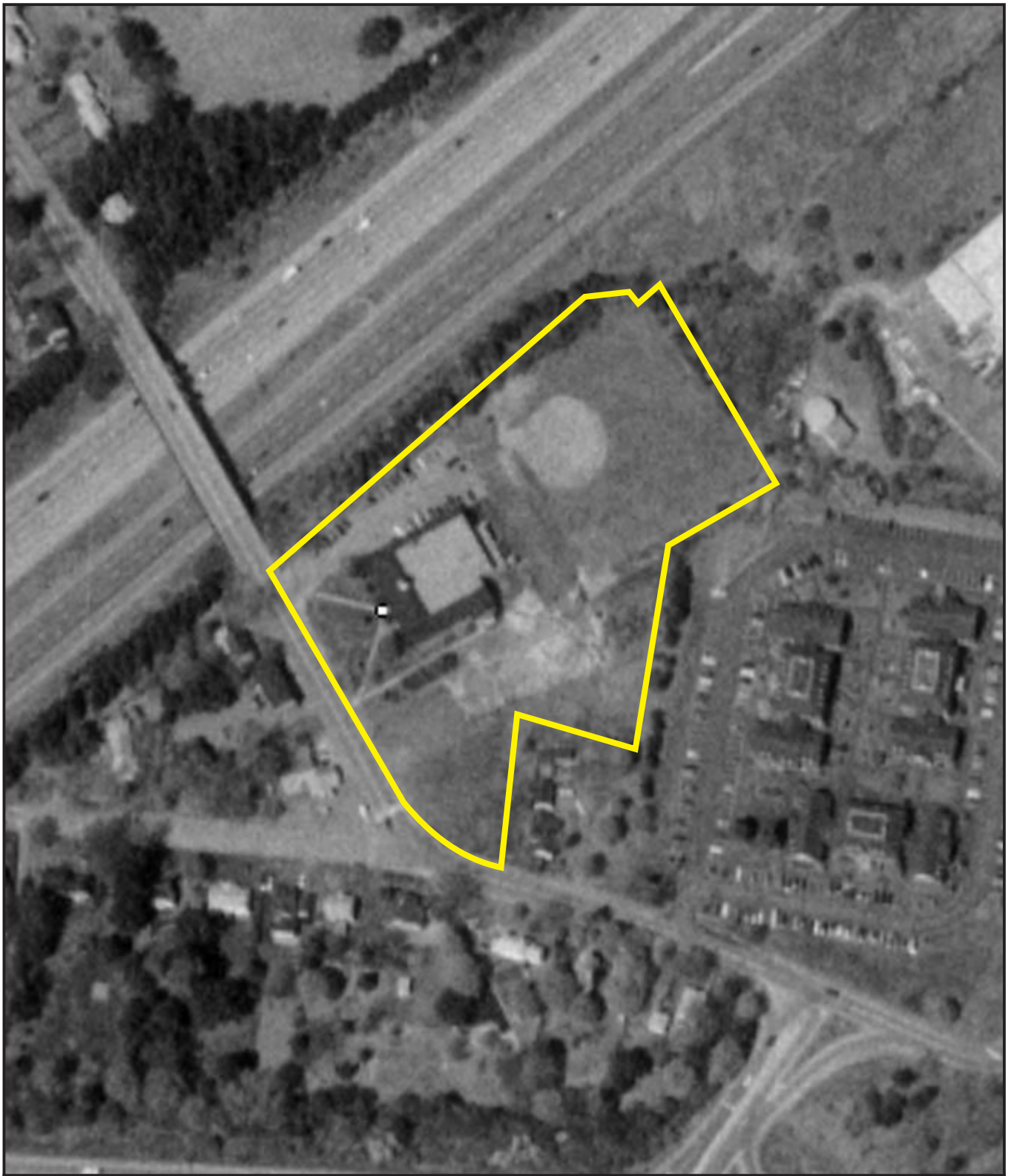
Figure #4
2008 Satellite Image

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire



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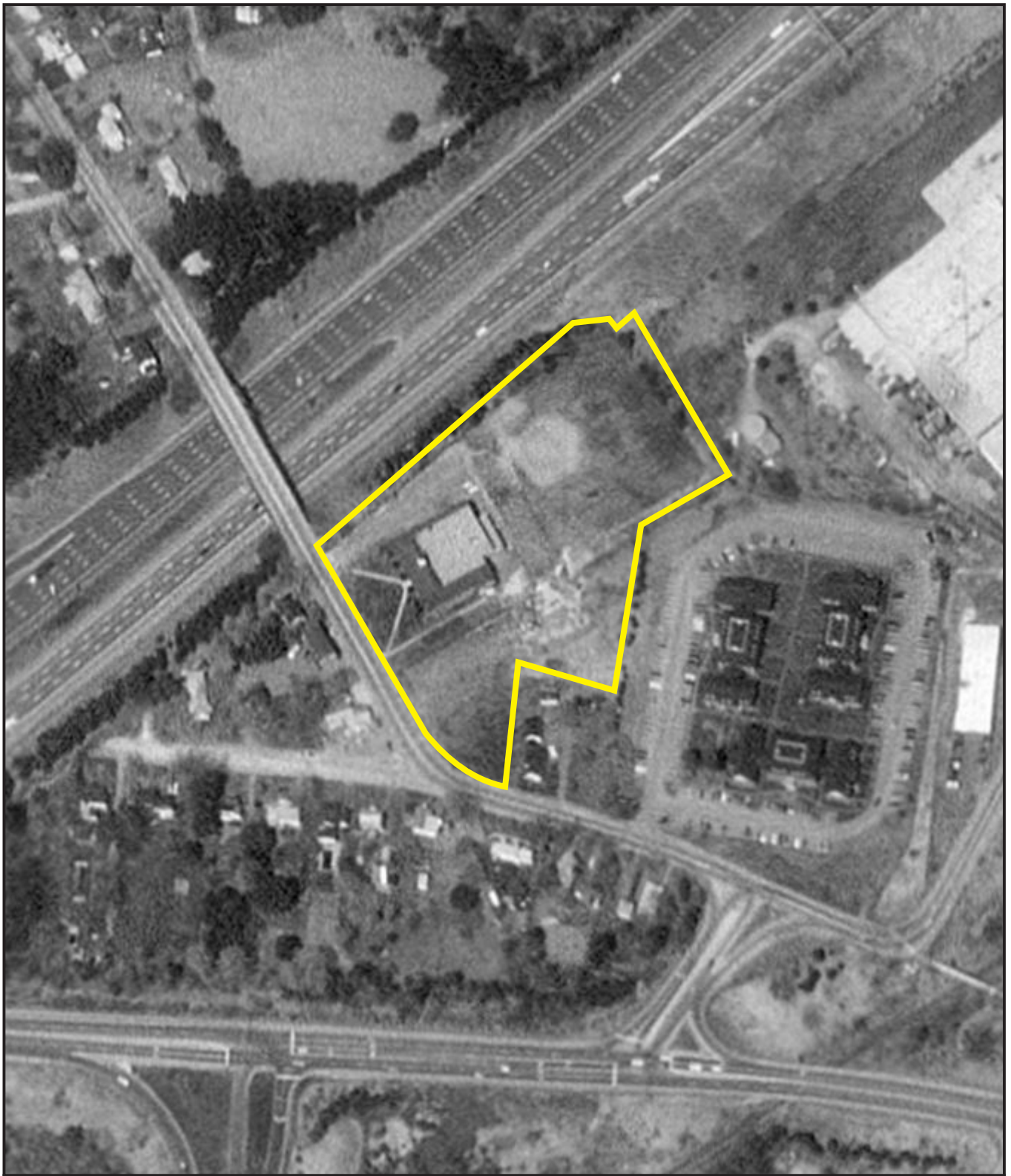
December 2022

Figure #5
1998 Satellite Image

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire



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Environmental Consulting, LLC
December 2022

Figure #6
1992 Satellite Image

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

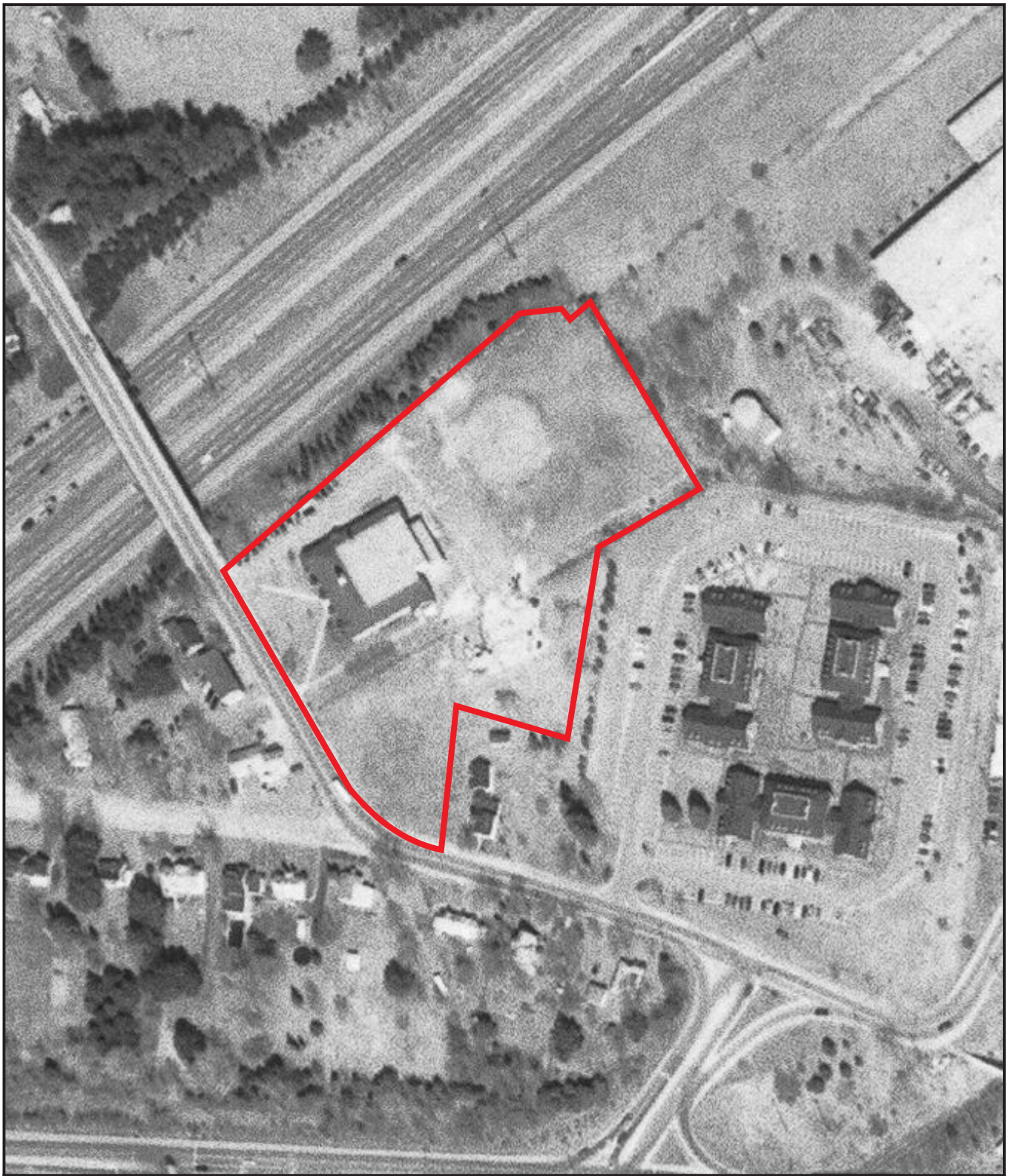

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Figure #7
1990 Aerial Photograph

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

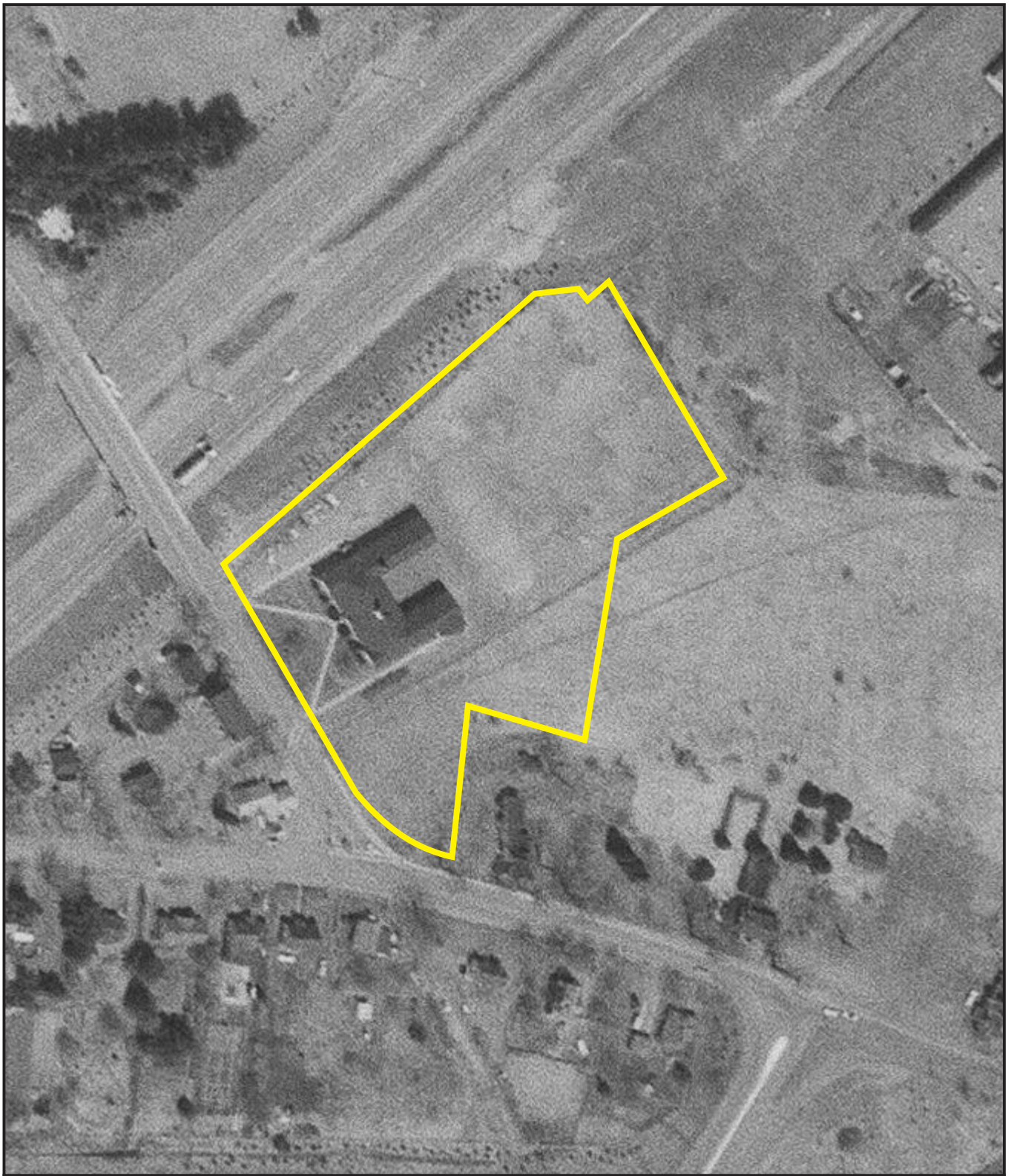

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Figure #8
1973 Aerial Photograph

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

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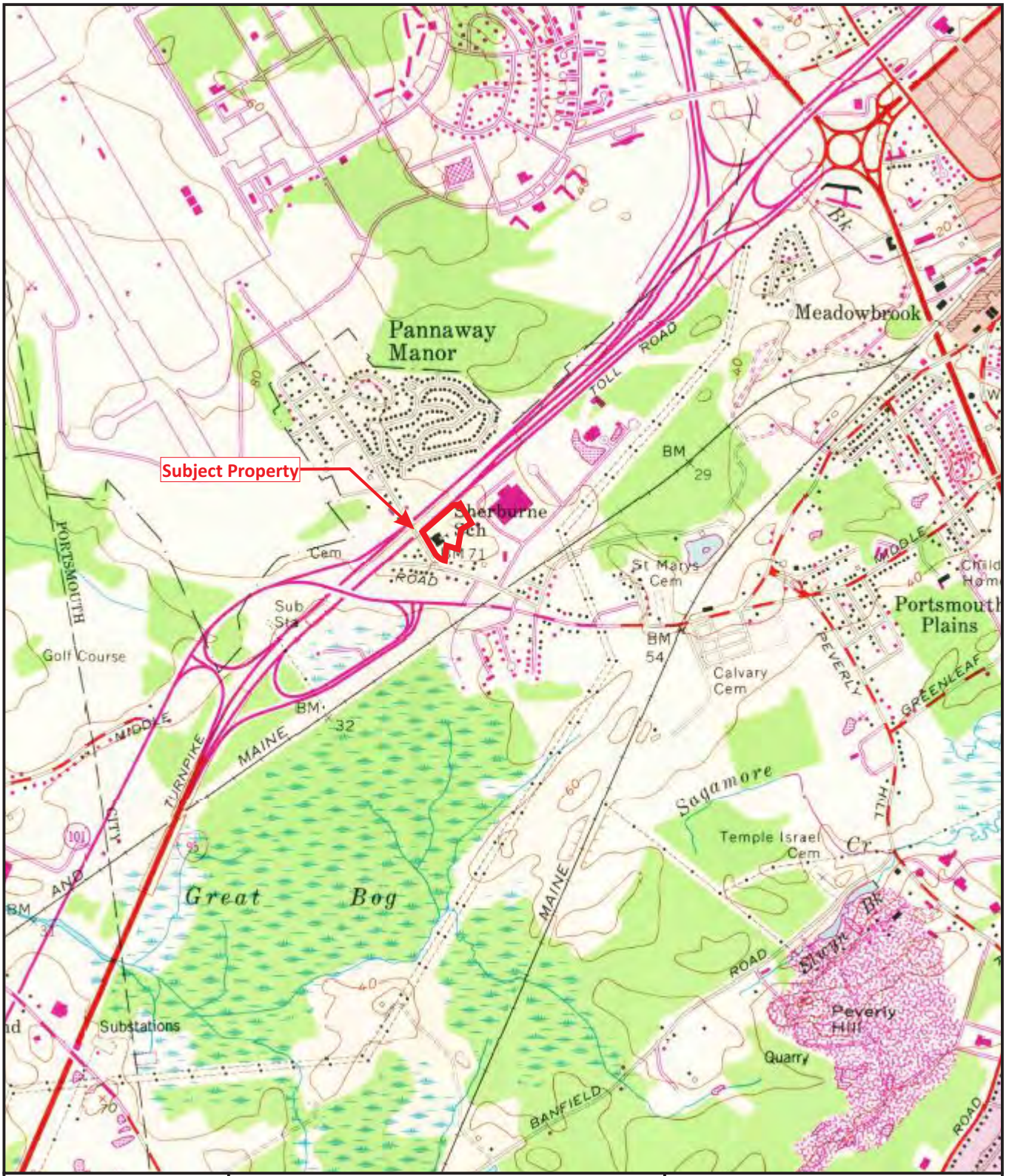
Figure #9
1960 Aerial Photograph

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire



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December 2022

Figure #10
1981 USGS Map

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

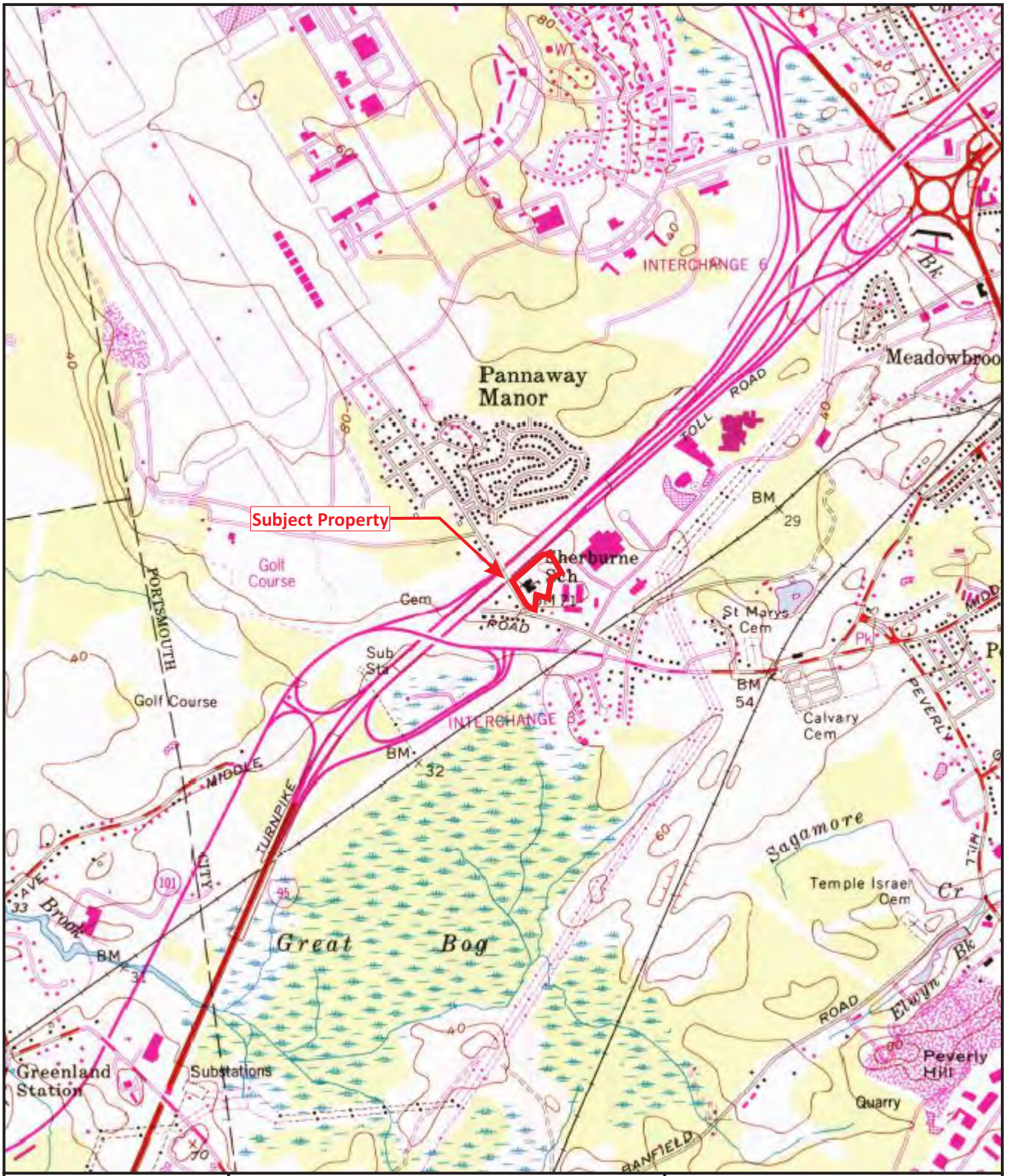

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Figure #11
1956 USGS Map

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

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Figure #12
1941 USGS Map

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

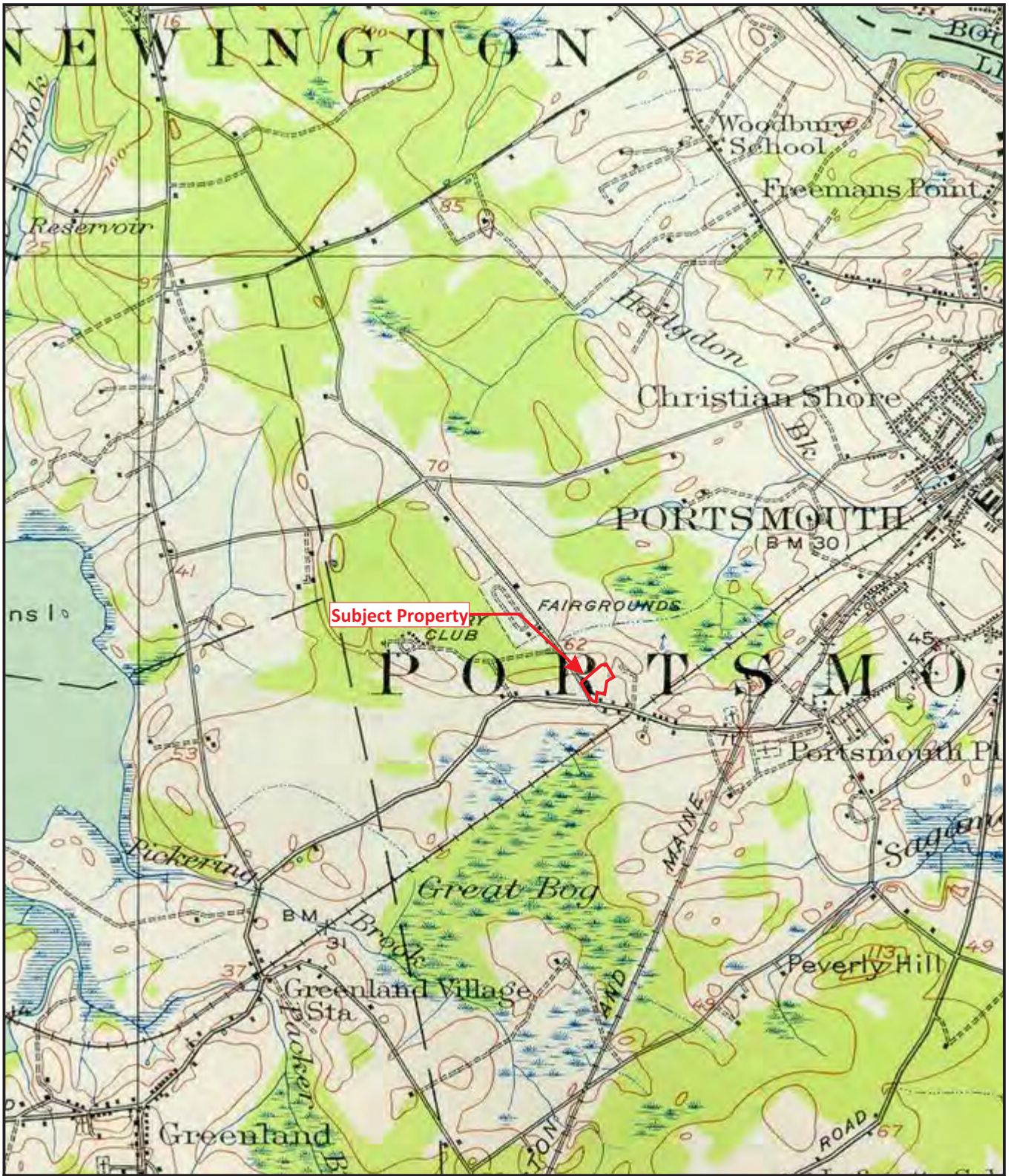

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Figure #13
1918 USGS Map

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

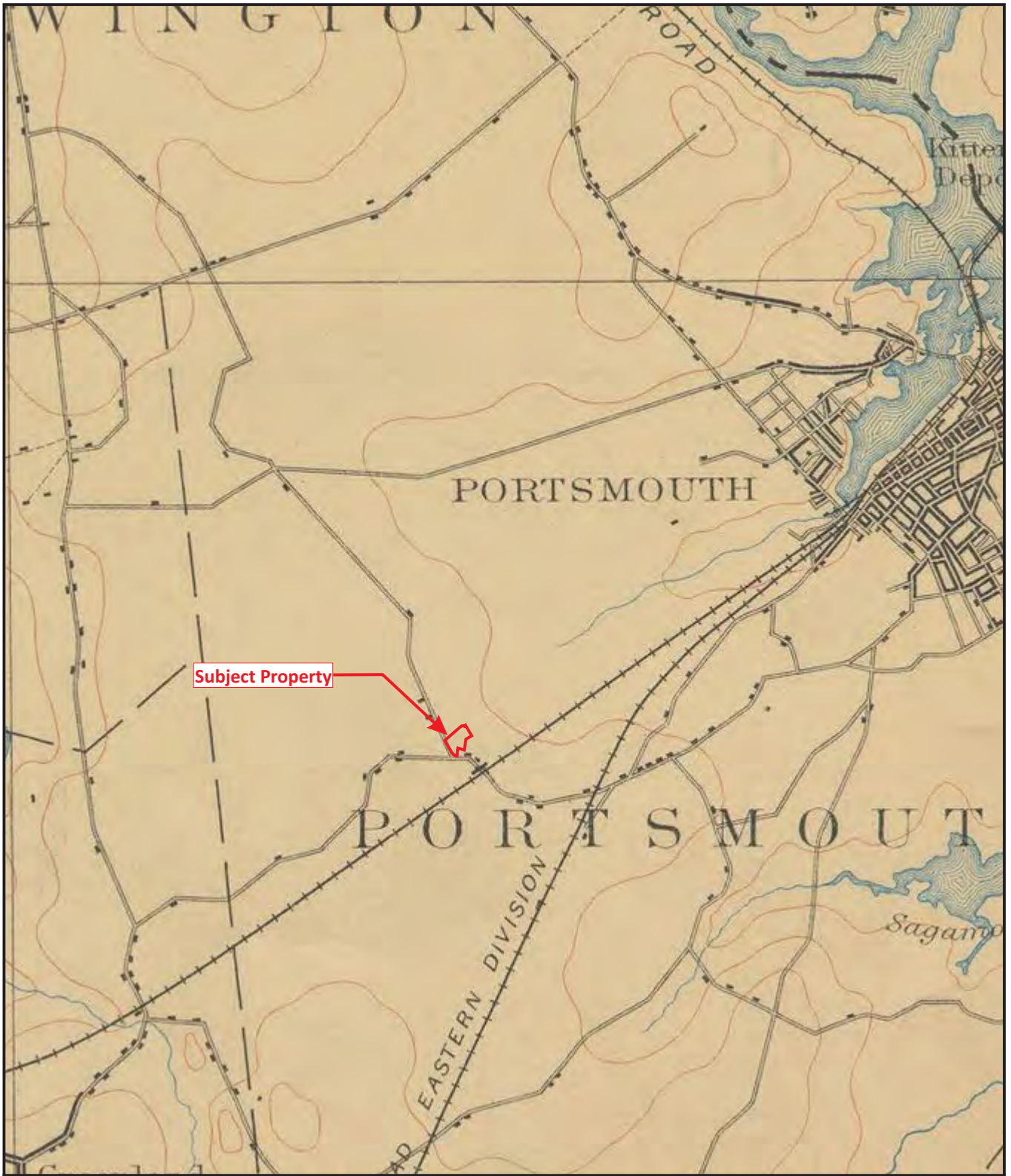

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Figure #14
1895 USGS Map

Sherburne School
35 Sherburne Road
Portsmouth, New Hampshire

APPENDIX 9.5

Regulatory Records

APPENDIX 9.5
DATABASE SEARCH RESULTS

FEDERAL RECORDS

A) National Priority List Sites located within 1 mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

EPA ID	Site Name	City	Street Address	NPL Status	Construction Completion Date	Site Status
NH7570024847	PEASE AIR FORCE BASE	PORTSMOUTH/NEWINGTON	509 CSG/CC	Final NPL	9/26/2000	Active

Source: EPA Superfund Enterprise Management System database reviewed December 27, 2022
EPA NEPAssist GIS reviewed December 27, 2022

B) CERCLIS (Active/Archived) Sites located within ½ mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

NONE ON FILE

Source: EPA Superfund Enterprise Management System database reviewed December 27, 2022

C) RCRA CORRACTS Facilities located within 1 mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

NONE ON FILE

Source: EPA RCRAInfo database dated November 13, 2022

D) RCRA non-CORRACTS TSD Facilities located within ½ mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

NONE ON FILE

Source: EPA RCRAInfo database dated November 13, 2022

E) RCRA Generator Facilities located at and adjacent to Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

RCRA ID Number	Generator Name	Address 1	Generator Type	Generator Size	Generator Status
NHD500020516	HIGH LINER FOODS USA INC	1 HIGH LINER AVE	RCRA REGULATED	SQG(CESQG)	ACTIVE
NHD986486587	STRAWBERRY BANK PRINT SHOP	38 SHERBURNE RD	RCRA REGULATED	SQG(CESQG)	DECLASSIFIED

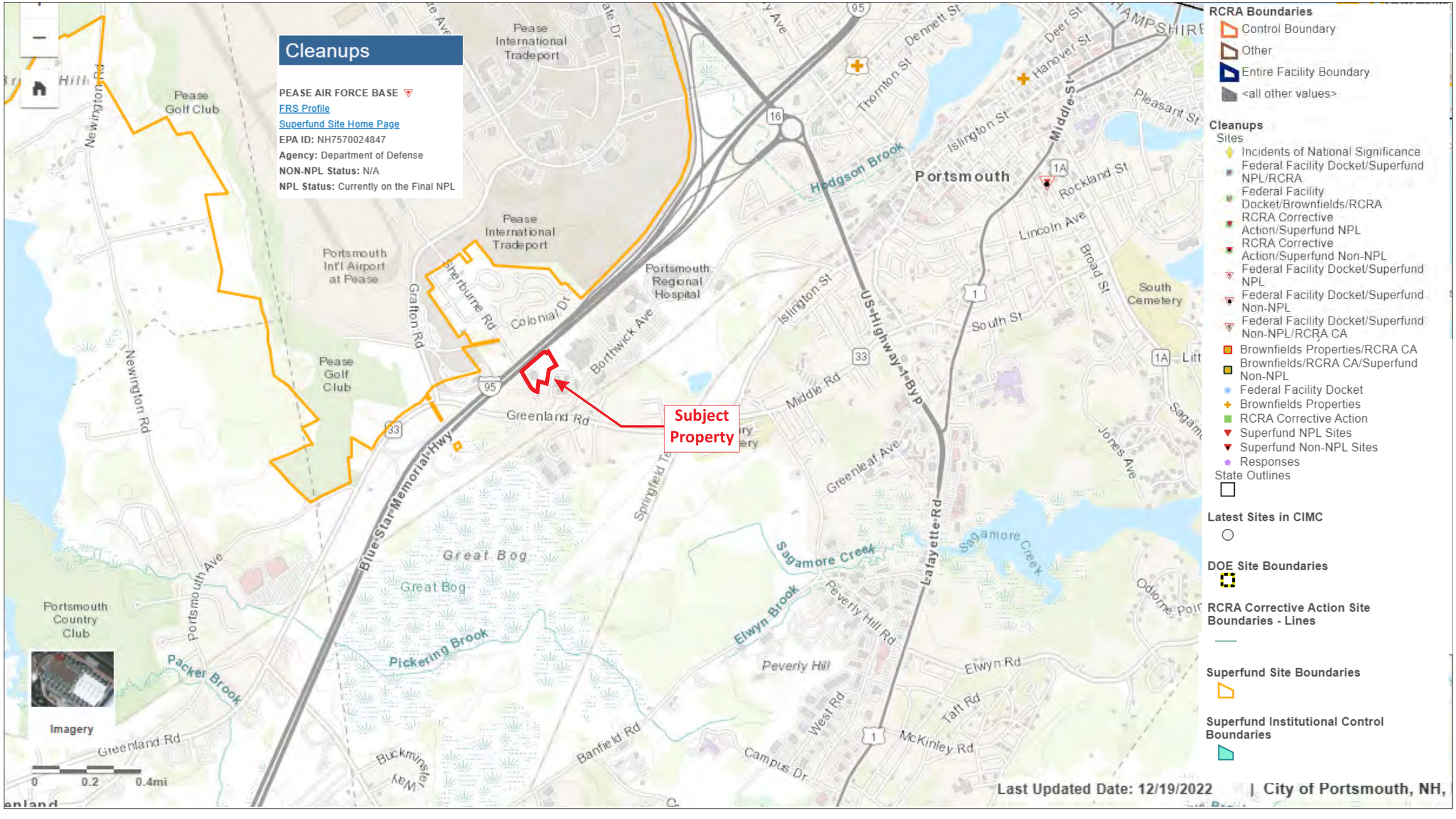
Source: NHDES One Stop Data Retrieval System/EPA NEPAssist GIS, reviewed on December 27, 2022

F) Emergency Response Notification System Sites located at Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

NONE ON FILE

Source: National Response System database reviewed December 27, 2022

EPA CLEANUPS IN MY COMMUNITY GIS



STATE RECORDS

G) Hazardous Waste Sites Located within 1 mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

Site Number	Site Name	Address	Town	Project Type	Staff	Risk
200205014	GRIFFIN PARK LOT #1-4	GRIFFIN ROAD	PORTSMOUTH	HAZWASTE	CLOSED	8

Note: Risk ranges from 8 (low) to 1 (high)
Source: NHDES One Stop Data Retrieval System, reviewed on December 27, 2022

H) Registered UST/AST Facilities on / abutting Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

Facility ID	Registered Facility Name	Address	Town	Facility Type	Tank Type
0110059	SHERBURNE SCHOOL	SHERBURNE RD	PORTSMOUTH	LOCAL GOVERNMENT	UST
0112026	SHERBURNE STORE	917 GREENLAND RD	PORTSMOUTH	GAS STATION	UST
0112817	HIGH LINER FOODS INC (FRM NTL SEA PRDTS)	1 HIGHLINER AVE	PORTSMOUTH	INDUSTRIAL	UST

Source: NHDES One Stop Data Retrieval System, reviewed on December 27, 2022

I) Solid Waste Facilities and Landfills located within ¼ mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

NONE ON FILE

Note: Risk ranges from 8 (low) to 1 (high)
Source: NHDES One Stop Data Retrieval System, reviewed on December 27, 2022

J) Leaking UST / AST Facilities located within ½ mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

Site Number	Site Name	Address	Town	Project Type	Staff	Risk
100333950	PAFB 395.OO WELL HOUSE	PEASE AIR FORCE BASE	PORTSMOUTH	LUST	CLOSED	8
199906086	SHERBURNE STORE	917 GREENLAND RD	PORTSMOUTH	LUST	CLOSED	8
199008028	GRIFFIN PROPERTY	GRIFFIN RD	PORTSMOUTH	LUST	CLOSED	8
200911077	GOODWIN RESIDENCE	87 MASON AVE	PORTSMOUTH	OPUF	CLOSED	8
200111009	GILLETTE / ANDERSON PROPERTY	628 GREENLAND ROAD	PORTSMOUTH	OPUF	CLOSED	8
202011038	MANCHEGO / NAVARRO RESIDENCE	362 SHERBURNE ROAD	PORTSMOUTH	OPUF	UNASSIGNED	NDY
199802080	PORTSMOUTH REGIONAL HOSPITAL	333 BORTHWICK AVE	PORTSMOUTH	OPUF	CLOSED	8

Note: Risk ranges from 8 (low) to 1 (high)
Source: NHDES One Stop Data Retrieval System, reviewed on December 27, 2022

K) Other Spill Sites located within ½ mile of Sherburne School, 35 Sherburne Road, Portsmouth, New Hampshire

Site Number	Site Name	Address	Town	Project Type	Staff	Risk
199812013	LIBERTY MUTUAL	225 BORTHWICK AVE	PORTSMOUTH	IRSPILL	CLOSED	8
201709004	K & M CARPET CLEANING	898 GREENLAND ROAD	PORTSMOUTH	NDW	CLOSED	8
198606056	HIGH LINER FOODS INC (FRM NTL SEA PRDTS)	1 HIGHLINER AVE	PORTSMOUTH	SPILL/RLS	CLOSED	8

Note: Risk ranges from 8 (low) to 1 (high)
Source: NHDES One Stop Data Retrieval System, reviewed on December 27, 2022

NHDES Onestop GIS

Legend

- Remediation Sites
- Solid Waste Facilities

Key to Remediation Sites

Closed Sites:
Closed - Regulatory Closure Status

Active Sites:
SPILL - Initial response spill site
UIC - Underground Injection Control
LUST - Leaking UST site (oil/gasoline)
OPUF - Leaking UST/AST site (fuel oil)
HAZWASTE - Hazardous waste Site
Registration - Registration only
Asbestos - Asbestos disposal site
MISC - Multiple programs

Subject Property

Estimated Groundwater Flow Direction

Map Scale
1: 10,000

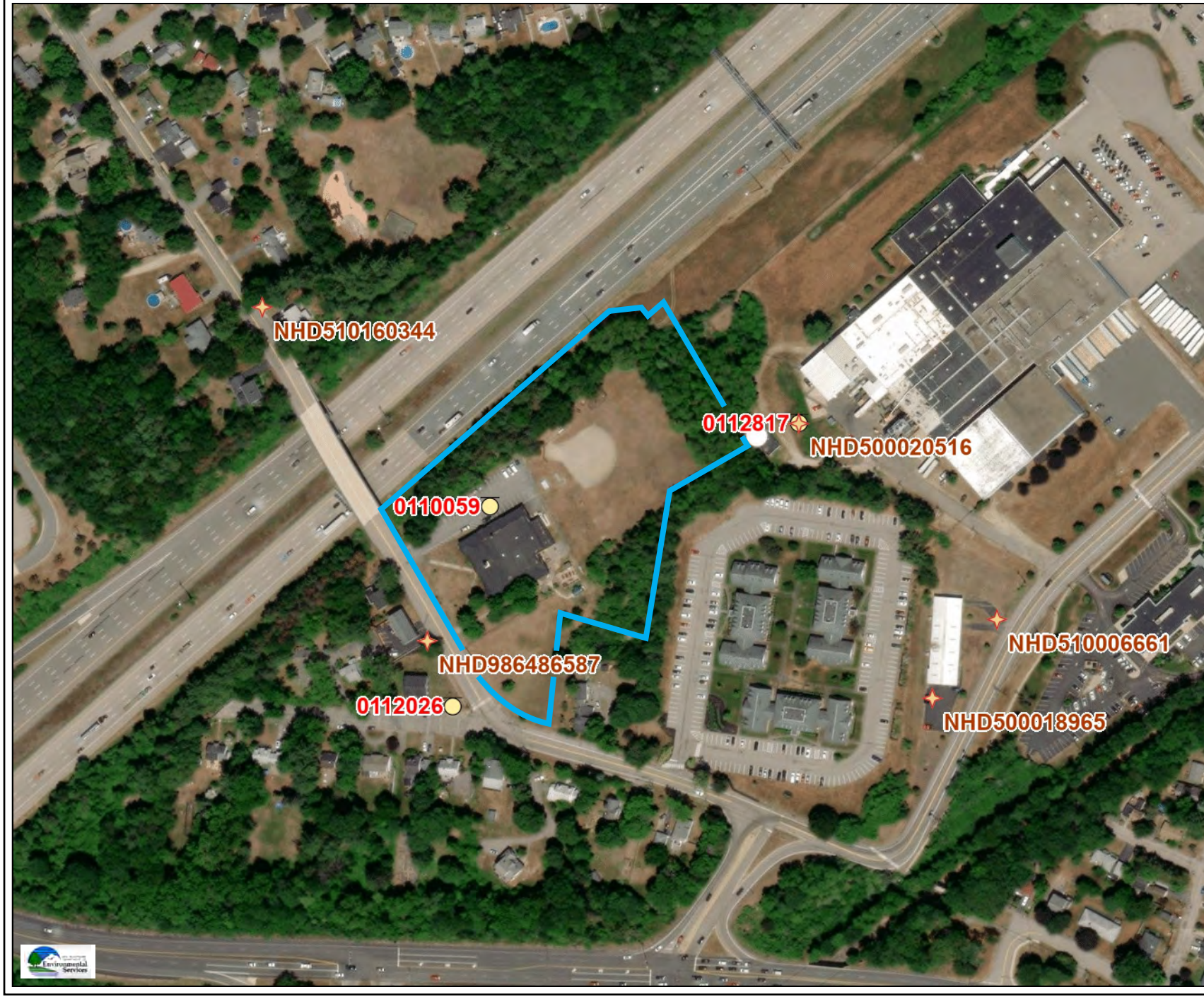
Map Generated: 12/22/2022

Notes

Approximate Scale
0 feet 1,000

SRW Environmental Consulting, LLC

NHDES Onestop GIS



Legend

- Aboveground Storage Tank Sites
- Hazardous Waste Generators
- Underground Storage Tank Sites

Subject Property

Map Scale
1: 3,015

Map Generated: 12/28/2022

Notes

Approximate Scale
0 feet 300

SRW
Environmental Consulting, LLC

Underground Storage Tank Facility Report

Site Number: **198603007**

System Name and Address: **SHERBURNE SCHOOL**
SHERBURNE RD
PORTSMOUTH

Mapit

Registration Date: **03/12/1986**

Facility Id: **0110059**

Facility Owner: **PUBLIC WORKS DEPT**
700 ISLINGTON STREET
PORTSMOUTH NH 03801

Facility Type: **LOCAL GOVERNMENT**

Tanks (2)

Active: 0 Closed: 2

Tank #	Substance Stored	Capacity	Installed Date	Temporarily Closed Date	Permanently Closed Date	Assessment Received Date	Construction Material	Piping Material	System Type	Overfill Install Date	Spill Install Date
1	#2 HEATING OIL	4000	01/01/1958		09/01/1989	10/07/1989	STEEL - BARE/GALV	COPPER	SUCTION: OLD CODE		
2	#2 HEATING OIL	4000	09/04/1989		04/29/1999	06/07/1999	STEEL-CORR. PROT.	COPPER	SUCTION: OLD CODE	09/04/1989	09/04/1989

Activity (2)

Activity	Enforcement Number	Activity Date	Substantial Compliance	Deadline	Response	Response Date
LETTER OF DEFICIENCY PROCEDURES		08/14/1998		09/28/1998		
INSPECTION		07/24/1998			COMPLIANCE NOT MET ON DATE	

Permits (1)

Type	Renewal Date	Issue Date
UST Permit		

Underground Storage Tank Facility Report

Site Number: **198603007**

System Name and Address: **SHERBURNE SCHOOL**
SHERBURNE RD
PORTSMOUTH

Mapit

Registration Date: **03/12/1986**

Facility Id: **0110059**

Facility Owner: **PUBLIC WORKS DEPT**
700 ISLINGTON STREET
PORTSMOUTH NH 03801

Facility Type: **LOCAL GOVERNMENT**

Documents (6)

	Document Type	Name/Title	Date Submitted	File Size
3770625	CORRESPONDENCE	Correspondence 8/3/89 to 7/15/99	01/22/2004	1.78 MB
3770626	CORRESPONDENCE	Correspondence 3/17/86 to 8/1/89	01/22/2004	.97 MB
3770630	PHOTO	UST Closure Report Dated 5/26/99	07/07/1999	2.15 MB
3770628	REPORT	UST Closure Report Dated 5/26/99	06/07/1999	2.11 MB
3770627	REGISTRATION	Notification For USTs	05/03/1991	.91 MB
3770629	REPORT	UST Closure Report Dated 10/2/89	10/02/1989	1.51 MB

UST Closure Documents - Tank #2

0059
+2

State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES
6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095
(603) 271-3644 FAX (603) 271-2181

July 15, 1999

Public Works Department
700 Islington Street
Portsmouth, NH 03801

Subject: **Portsmouth - Sherburne School, Sherburne Road: Tank Closure Report, May 26, 1999 by Gemini Geotechnical Associates, Inc. (UST #0-110059)**

Dear Sir or Madam:

The New Hampshire Department of Environmental Services (DES) has reviewed the report for the April 29, 1999, tank closure by Gemini Geotechnical Associates, Inc. for the 4,000 gallon heating oil underground storage tank removed at the above referenced facility. Based upon the information contained in the report, DES has concluded that:

1. It does not appear that a discharge of petroleum that would ultimately impact surface water or groundwater of the State has occurred from these tank(s). Therefore, DES will not require additional investigation or remedial measures related to this tank removal.

2. The owner(s) of this facility must meet the goals of the N.H. Administrative Rules Env-Wm-1403 "Groundwater Management and Groundwater Release Detection Permits", that is, groundwater at the site must continue to meet drinking water quality standards. The owner shall not undertake any activities which might result in Ambient Groundwater Quality Standards being exceeded at the site.

DES reserves the right, under N.H. Administrative Rules Env-Wm-1403 "Groundwater Management and Groundwater Release Detection Permits" and N.H. Administrative Rules Env-Ws 412, "Rules for Reporting and Remediation of Oil Discharges," to require additional hydrogeological investigations and/or remedial measures, if further information indicating the need for such work becomes known.

If you have any questions, please contact me at the *Waste Management Division* at 603-271-3644.

Sincerely,

Charles Berube
Oil Remediation and Compliance Bureau

CB/gls:/f:\sherburn.por
cc: Gary S. Lynn, P.E.
Gemini Geotechnical Associates, Inc.
file

0059
#2

GG GEMINI GEOTECHNICAL ASSOCIATES, INC.
One Cate Street • Portsmouth, New Hampshire 03801 • (603) 427-0141 • Fax (603) 427-0147
7055 Engle Road • Middleburg Heights, Ohio 44130 • (440) 239-1511 • Fax (440) 239-1517

May 26, 1999
Project No. 98160NH

Portsmouth Department of Public Works
700 Islington Street
Portsmouth, NH 03801
Attn: Mr. Thomas Richter

RE: Report on Underground Storage Tank Removal
Sherburne School
Sherburne Road
Portsmouth, New Hampshire
UST No. 110059

Dear Mr. Richter:

We are pleased to submit this report on the removal and monitoring of the underground storage tank at the above referenced site (See Figure 1, the Site Location Plan and Figure 2, the Site Sketch). The site is located in a combined commercial and residential area on Sherburne Road Street in Portsmouth. The site vicinity is serviced by municipal water and sewer. The nearest surface water body is the Great Bog, located approximately 1,000 feet south-southwest of the site. The site grade is approximately 52 feet in elevation (MSL).

The tank was located on the northern side of the school building and was used to store #2 fuel oil. The tank was listed under registered number 110059 with the NHDES. The tank was composed of double-walled steel and was cathodically protected. It was installed on September 4, 1989. The tank was in excellent condition, with no evidence of pitting and corrosion. The factory adhered labels were still readable.

The tank was excavated and removed by M.B. Maintenance, Inc. of New Boston, New Hampshire on April 29, 1999. The soils surrounding the tank consisted of light brown gravelly sand. The tank area was excavated to a depth of approximately 10 feet. Groundwater was not encountered in the excavation at this point.

Jar soil samples were obtained from the area under the tank after removal and screened *in-situ* with the Organic Vapor Meter (OVM) in the field for concentrations of total volatile organic compounds (VOCs). The OVM measures volatile organic compounds such as benzene, xylenes and toluene, which are commonly found in gasoline and diesel. The air in the head space is continuously sampled by a positive displacement pump, and is introduced into a high energy ultraviolet photoionization detector, where a small portion of the sample is ionized. The amount of ions reaching the electrode is proportional to the concentration of organic molecules. The OVM 580A is manufactured by Thermo Environmental Instruments, Inc. of Franklin, MA, and has a detection limit of 0.1 parts per million.

An *in-situ* screening of the soils with the OVM revealed that all samples contained concentrations below background levels. Background readings were registered as 0.4 ppm to 0.7 ppm. No stained soil was observed in the excavation or the excavated soils. The excavation was terminated at a depth of approximately 10 feet below the surface grade. Clean soils excavated from the tank area were temporarily stockpiled on polyethylene and then placed back into the excavation upon completion of the tank removal. One composite soil samples comprised of soil obtained from five discrete locations was collected from the tank excavation and submitted to the laboratory for total petroleum hydrocarbons analysis by EPA Method 8100 (modified), polynuclear hydrocarbons analysis by EPA Method 8270, and volatile organic analysis by EPA Method 8260. Concentrations of total petroleum hydrocarbons, polynuclear hydrocarbons, and volatile organics in the composite soil sample were all be below detection limits. Refer to Appendix C for laboratory analysis results.

Based on our field inspection of the excavation of the underground storage tank and the field screening of the soil samples, it is our professional opinion that the tank was removed and closed in accordance with state regulations. The results of the analytical testing and our screening of the excavation indicate that no contamination was present in the excavated soil or in the excavation itself. Gemini Geotechnical recommends that no additional investigations be performed on this site.

If you have any questions, or require additional information, please do not hesitate to contact this office at your convenience.

Very truly yours,
GEMINI GEOTECHNICAL ASSOCIATES, INC.

Judith M. Meagher
Hydrogeologist
Project Manager

Frank S. Vetere, P.E.
Principal
Director of Technical Services

Attachments

Town _____ Date of Closure _____ Mailed _____

pc Initial _____

New Hampshire Department of Environmental Services

TANK CLOSURE REPORT FORM

1. Telephone Message

Name _____ Date: _____

Street _____ Telephone: _____

City _____ Initial _____

2. Facility Registration Number: 110059

Name Sherburne School Street Sherburn Road

City Portsmouth

3. Owner Name

Name City of Portsmouth Street _____

City Portsmouth State NH Telephone _____

4. Tank Removal Information *** Indicate suspected leakers. ***

Tank # 2	Tank #	Tank #	Tank #	Tank #
Size 4,000	Size	Size	Size	Size
Product #2 fuel	Product	Product	Product	Product
will tank be	will tank be	will tank be	will tank be	will tank be
Replaced ~~XXX~~ No	Replaced Yes No	Replaced Yes No	Replaced Yes No	Replaced Yes No

5. Consultant Gemini Geotechnical Associates, Inc.

6. Local Fire Dept. Notified yes

7. Inspector Judith Meagher Date 4/29/99

8. Field Screening Methods (tank and piping):

OVM

9. Sample Information

tank # 2	tank #	tank #	tank #	tank #
Soil X Water	Soil Water	Soil Water	Soil Water	Soil Water

Taken By: JM Meagher

10 Tank Condition:

tank # 2	tank #	tank #	tank #	tank #
excellent				

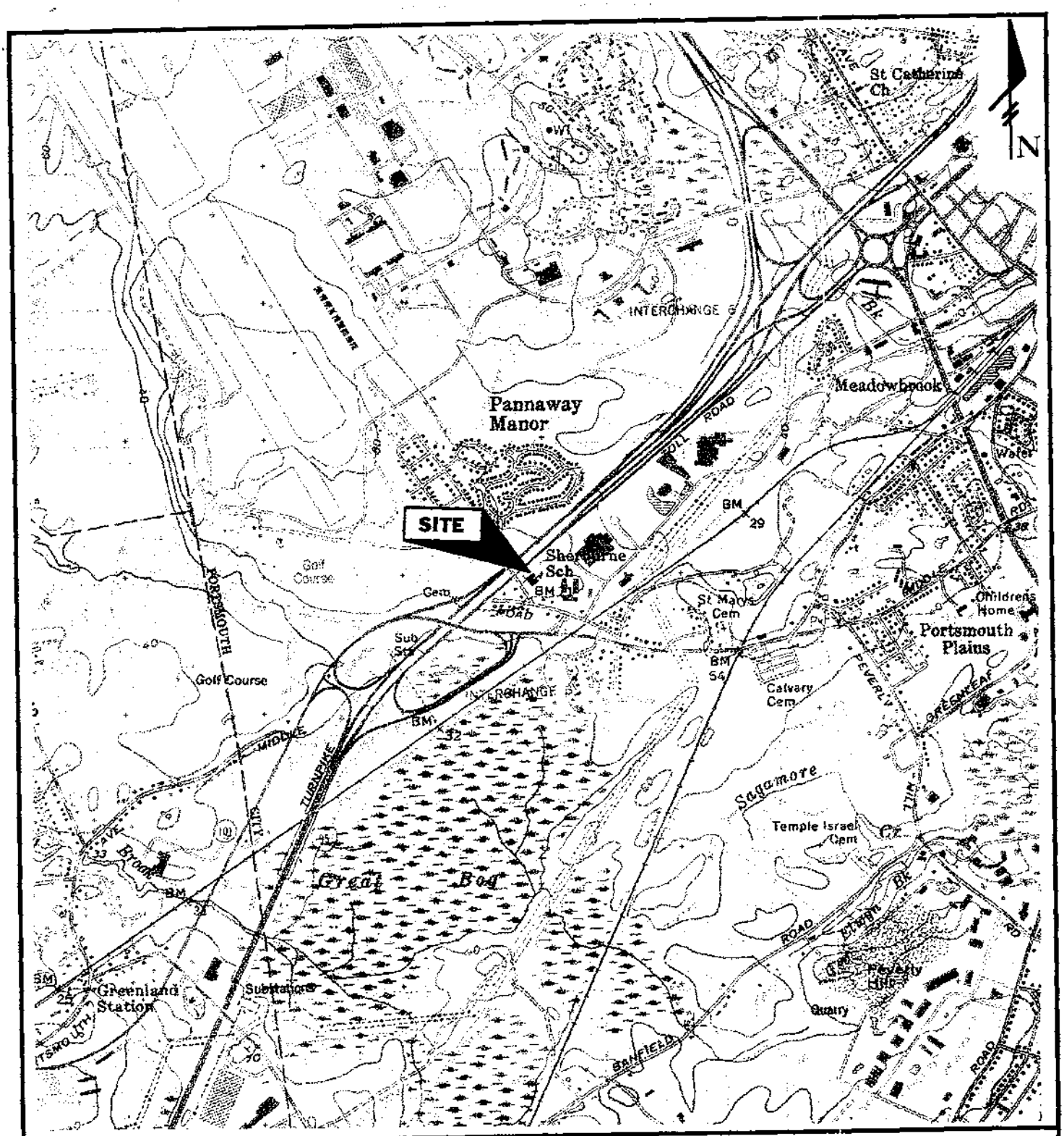
11 Indicate tank and sample locations by sketching on back of this report.

12. Include photographs of the excavation and tank(s) condition if avaliable.

13. Verification

I have inspected the site of the removed tank(s), including the entire excavation area. I am knowledgable in field observation techniques to determine regulated substance contamination in soils and groundwater. There is no evidence of soil or groundwater contamination at the site. I have also inspected the excavated tank(s) and found no evidence of leakage.

Name:	Signature:	Date:



PORTSMOUTH, NH
U.S.G.S. Topographic Map
7.5 Minute Series, 1956, 1993
National Vertical Datum of 1929

Digitized image obtained from
TopoScout software by MapTech.

SITE LOCATION PLAN
SHERBURNE SCHOOL - SHERBURNE ROAD
PORTSMOUTH, NEW HAMPSHIRE

GEMINI GEOTECHNICAL ASSOCIATES, INC.
ONE CATE STREET
PORTSMOUTH, NEW HAMPSHIRE

DRAWN BY: JMM	SCALE: 1:24,000	PROJ. NO.: 99160NH
CHECKED BY: FSV	DATE: 5/26/99	FIGURE: 1

RLI Resource Laboratories, Inc.

124 Heritage Avenue Unit 10
Portsmouth, NH 03801

Voice: 603-436-2001
FAX: 603-430-2100

Judith Meagher
Gemini Geotechnical Associates, Inc.
1 Cate Street
Portsmouth, NH 03801

PO Number: 98160NH
Lab No: 9630
Date Received: 04/29/99
Date Reported: 05/13/99

Project: Sherburne School

Attached please find results for analyses performed on samples received on 04/29/99.

Samples were received in acceptable condition and under chain of custody.

Instruments used in analysis were calibrated with the appropriate frequency and to the specifications of the referenced methods.

Analytes in blanks were below levels effecting sample results.

Matrix effects as monitored by matrix spike recovery or unusual physical properties were not apparent.

Accuracy and precision as monitored by laboratory control sample analyses were within acceptance limits.

RESOURCE LABORATORIES

Authorized Signature

Date 5/14/99

Lab Number: 9630-01
Sample Designation: Bottom Composite-1
Date Sampled: 04/29/99
Date Analyzed: 04/29/99
Matrix: Solid

VOLATILE ORGANICS
Method Reference: EPA SW 846, 3rd Edition. Method 8260B.

	Concentration ug/g dry wt	Quantitation Limit ug/g dry wt		Concentration ug/g dry wt	Quantitation Limit ug/g dry wt
dichlorodifluoromethane	U	0.09	1,1,2-trichloroethane	U	0.09
chloromethane	U	0.09	tetrachloroethene	U	0.09
vinyl chloride	U	0.09	1,3-dichloropropane	U	0.09
bromomethane	U	0.09	dibromochloromethane	U	0.09
chloroethane	U	0.09	1,2-dibromoethane	U	0.09
trichlorofluoromethane	U	0.09	chlorobenzene	U	0.09
acetone	U	0.4	1,1,1,2-tetrachloroethane	U	0.09
1,1-dichloroethene	U	0.09	ethylbenzene	U	0.09
methylene chloride	U	0.09	m- and p-xylene	U	0.09
carbon disulfide	U	0.09	o-xylene	U	0.09
trans-1,2-dichloroethene	U	0.09	styrene	U	0.09
vinyl acetate	U	0.4	bromoform	U	0.09
1,1-dichloroethane	U	0.09	isopropylbenzene	U	0.09
2-butanone (MEK)	U	0.4	bromobenzene	U	0.09
2,2-dichloropropane	U	0.09	1,1,2,2-tetrachloroethane	U	0.09
cis-1,2-dichloroethene	U	0.09	1,2,3-trichloropropane	U	0.09
bromochloromethane	U	0.09	n-propylbenzene	U	0.09
chloroform	U	0.09	2-chlorotoluene	U	0.09
tetrahydrofuran	U	0.4	4-chlorotoluene	U	0.09
1,1,1-trichloroethane	U	0.09	1,3,5-trimethylbenzene	U	0.09
carbon tetrachloride	U	0.09	tert-butylbenzene	U	0.09
1,1-dichloropropene	U	0.09	1,2,4-trimethylbenzene	U	0.09
benzene	U	0.09	sec-butylbenzene	U	0.09
1,2-dichloroethane	U	0.09	1,3-dichlorobenzene	U	0.09
trichloroethene	U	0.09	4-isopropyltoluene	U	0.09
1,2-dichloropropane	U	0.09	1,4-dichlorobenzene	U	0.09
dibromomethane	U	0.09	1,2-dichlorobenzene	U	0.09
bromodichloromethane	U	0.09	n-butylbenzene	U	0.09
2-chloroethylvinylether	U	0.09	1,2-dibromo-3-chloropropane	U	0.09
4-methyl-2-pentanone (MIBK)	U	0.4	1,2,4-trichlorobenzene	U	0.09
2-hexanone	U	0.4	hexachlorobutadiene	U	0.09
cis-1,3-dichloropropene	U	0.09	naphthalene	U	0.09
toluene	U	0.09	1,2,3-trichlorobenzene	U	0.09
trans-1,3-dichloropropene	U	0.09	methyl-t-butyl ether	U	0.09

SURROGATE STANDARDS	Recovery (%)	Acceptance Limits (%)
dibromofluoromethane	107.1	76 - 114
toluene-d8	98.3	88 - 110
bromofluorobenzene	99.9	86 - 115

U = Below quantitation limit

Laboratory Number:	9630-01
Field ID:	Bottom Composite-1
Date Extracted:	05/05/99
Date Analyzed:	05/12/99
Matrix:	Solid

POLYNUCLEAR AROMATIC HYDROCARBONS
Method Reference: EPA SW 846, 3rd Edition. Method 8270

	Concentration (ug/L)	Quantitation Limit (ug/L)
naphthalene	U	0.05
acenaphthylene	U	0.05
acenaphthene	U	0.05
fluorene	U	0.05
phenanthrene	U	0.05
anthracene	U	0.05
fluoranthene	U	0.05
pyrene	U	0.05
benzo(a)anthracene	U	0.05
chrysene	U	0.05
benzo(b)fluoroanthene	U	0.05
benzo(k)fluoroanthene	U	0.05
benzo(a)pyrene	U	0.05
indeno(1,2,3-cd)pyrene	U	0.05
dibenzo(a,h)anthracene	U	0.05
benzo(g,h,i)perylene	U	0.05

SURROGATE STANDARDS	Recovery (%)	Acceptance Limits (%)
2-fluorobiphenyl	82	30-115
o-terphenyl	92	18-137

U = Below quantitation limit

TOTAL PETROLEUM HYDROCARBONS
Method Reference: EPA SW 846, 3rd Edition. Method 8100, modified.

Lab Number:	9630-01
Field ID:	Bottom Composite-1
Date Extracted:	05/07/99
Date Analyzed:	04/29/99
Matrix:	Solid

Fraction:	Concentration (ug/g dry wt)	Quantitation Limit (ug/g dry wt)
Gasoline range organics	U	50
Diesel range organics	U	50
No. 6/lube oil range organics	U	100

U = Below quantitation limit

Portsmouth, NH 03801

CHAIN OF CUSTODY DOCUMENTATION

Client: Gemini Geotechnical	Contact: Judith Meagher	Project Name: [illegible] School	PAGE 1 OF 1
Report To: Judith Meagher	Address: One Oak Street, Portsmouth, NH 03801		Phone/FAX: (603) 427-0141
Invoice To: Linda Saltamacchia	Address:		P.O.# 9516GNH Quote #

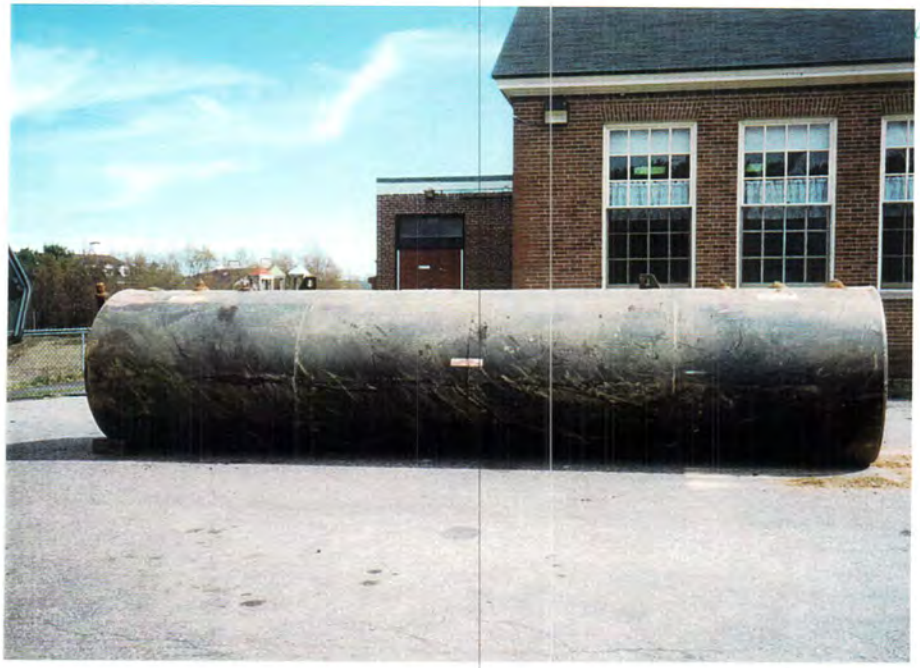
PROTOCAL: ___RCRA ___SDWA ___NPDES ___OTHER:

Lab Number: (assigned by laboratory)	Your Field ID: (must agree with container)	Date Sampled	Time Sampled	Sampled By	Grab/ compos-ite(G/C)	Container Size (mL)	Container Type (P/G/T)	Field Preser-vation	Matrix S=Soil W=Water	Analyses Requested: Special Instructions:
9630-01	Bottom Composite	4/29/97		JM	C	2-40mL	G	—	S	(8260), (8270), (8100) VOC, PAH, TPH as fuel oil

Relinquished By: Judith Meagher	Date: 4/29/97	Time: 15:30	Received By: [signature]	Date: 4/29/97	Time: 15:30
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Comments:

Sherburne School
Sherburne Road
Portsmouth, New Hampshire



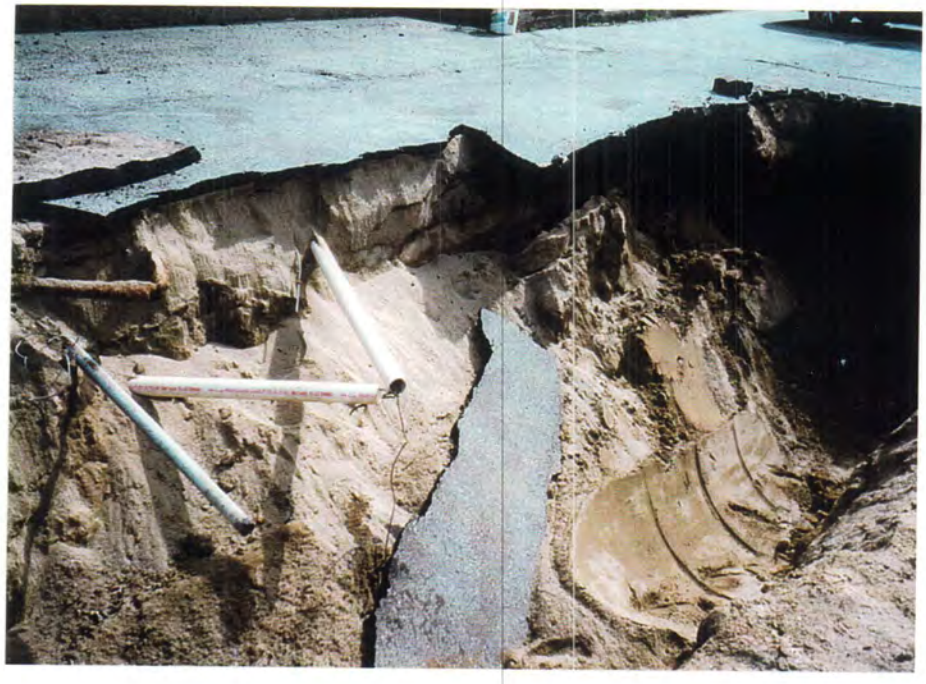
View of the UST after removal from the excavation.

Close-up view of the UST after removal from the excavation.

View of the excavation as seen looking southwest.

Sherburne School
Sherburne Road
Portsmouth, New Hampshire

View of the excavation as seen looking northeast.



View of the excavation as seen looking south.

Closure Report Review

A. JUN 7, 1999 : Date Closure Report Received

0110059

DES ID: 0
SHERBURNE SCHOOL
PORTSMOUTH

Owner Information :
PUBLIC WORKS DEPT
700 ISLINGTON STRE
PORTSMOU NH 3801

Tank Closure Information:
#2 HEATING OIL 4000 gallon tank **Date Closed:** Apr 29, 1999

B. June 8, 1999 **Date Submitted For Initial Review**

Closure Reviewer:	C Burke	Date: 6/17/99
Field Screening:	[Y] ✓ [N]	
Analytical Results:	[Y] ✓ [N]	
Release Indicated:	[Y] [N] ✓	
Contaminated Soils Stockpiled:	[Y] [N] ✓	cu.yds.
~~NFA~~ / SIR / SCR / Soil		Reviewer

C. _____ **Date Submitted to UST Compliance**

Compliance Reviewer:		Date:
Compliance with Env-Wm 1401:	☐	
Non Compliance with Env-Wm 1401	☐	

D. _____ **Date Fowarded to PM**

Soil / SIR / SCR / ~~NFA~~		Reviewer: C Burke

UST Closure Documents - Tank #1

WHILE YOU WERE OUT

To Rick Berry

Date 8-30-89 Time 12:15

M Karen Levitt

of BRIGGS

Phone No. 431-2870

Telephoned		Came To See You	
Returned Your Call		Wants To See You	
Will Call Again		Please Call	✓

MESSAGE

Sheburn School
Portsmouth

Contamination - She thinks that the contamination is over

N.H. FORM A-29
P&P WHSE STOCK NO. 4200

Taken By: Lynn

not coming from the
tank, but from
some other place

Lynn L

GROUNDWATER PROTECTION BUREAU

Portsmouth

Record of Telephone Conversation

Date of Conversation: 8-30-89 Time: 1507 a.m./p.m.
Bureau Staff: BTH Title: E4
Other Party's Name: Karen Levitt Telephone #: 431-2870
Affiliation/Company: Briggs
Site: Sherburne School, Portsmouth Sherburne Avenue.

SUMMARY OF CONVERSATION

Removed a tank today, the soil looked good but got high (up to 70 ppm on the OVM) readings doesn't smell like fuel oil.

The new tank has been installed and the piping is underway.

The dirty soil will be on poly by today/tomorrow it is oily soil & no holes in tank.

There was a small CITGO station across the street within 500 to 1,000 feet the tanks were shut down and according to the owner/manager (??) they were waiting for a delivery. She thinks that the contamination may be coming from there or another off site location.

0059
#1

BRIGGS

361 Hanover Street, Portsmouth, NH 03801 > Telephone (603) 431-2870

October 2, 1989
Project No. 91362NH

Portsmouth School Department
Office of the Superintendent
Clough Drive
Portsmouth, New Hampshire 03801

Attn: Mr. Henry Smith

Re: Report on Removal and Replacement of Underground Storage Tanks
Portsmouth School Department
Wentworth and Sherburne Schools
Portsmouth, New Hampshire

Dear Mr. Smith:

In accordance with your authorization through Purchase Order No. 24391, Briggs Associates, Inc. has performed engineering design services and environmental review for the removal of two underground storage tanks in the City of Portsmouth during 1989. These tanks include :

Facility	Existing Size	Est. Age	Fuel	New Size
Wentworth School	4,000 gal.	28 yrs.	No. 2	4,000 gal.
Sherburne School	4,000 gal.	28 yrs	No. 2	4,000 gal.

The design and installation of the new tanks were performed in accordance with New Hampshire Regulation Ws 411 and the requirements of the Department of Environmental Services (DES) for underground fuel storage tanks. The purpose of this report is to present a description of the field activities related to the tank removal and provide documentation concerning the new tanks and their installation.

Site Description

The Wentworth School is located on Granite Street, near the intersection of Woodbury Avenue (43°5'5"N, 70°47'8"E). The Sherburne School is located on Sherburne Road, near the intersection of Borthwick Avenue (43°3'38"N, 70°48'6"E). See Figure 1, the Site Location Plan.

The nearest surface water bodies to the Wentworth School and the Sherburne School are the Piscataqua River and the North Mill Pond respectively. The Wentworth School is located approximately 3/4 miles southwest of the River and the Sherburne School is located approximately 1 and 2/3 miles southwest of North Mill Pond.

The Wentworth School consists of a long irregular shaped building which faces Woodbury Avenue to the southwest. The tank removal and installation operation was completed to the rear of the school in a grassy area outside the boiler room. The site topography is gently rolling with a slight grade sloping to the southwest towards Granite Street and Woodbury Avenue. A playground is located to the southeast of the tank and a large field surrounds the school on three sides. The boiler room is located approximately 15 ft to the southeast of the tank, in a basement level of the school. The vent pipe is located approximately 10 ft to the south of the tank, along the exterior school wall.

The Sherburne School consists of a U-shaped complex with a paved parking area and access drive to the northeast and northwest of the building. The school is aligned in a northwest-southeast direction with the tank removal and installation operation located to the southeast of the school. The site topography slopes gently to the southeast. The boiler room is located approximately 30 ft to the northwest of the tank, in a basement level of the school. The vent pipe is located approximately 10 ft to the southwest of the tank, along the exterior school wall.

Tank Excavation and Removal

General

The finished tank excavation areas and the excavated soils were inspected and screened for total volatile organic compounds (VOCs) with a portable Organic Vapor Meter (OVM). The OVM is used to measure concentrations of total volatile organic compounds in air, which includes benzene, toluene and xylenes which are compounds contained in fuel oils and petroleum products. The soils were tested by analyzing the air from the head space developed in the jar soil samples. Soils which contained an oily residue were stockpiled separately and placed on plastic sheeting to prevent leeching to the surrounding soils. Soils which contained low levels of total volatile organics, but did not have an oily residue, were spread out and allowed to aerate before they were used as fill material around the replacement tank.

Soil samples from the contaminated stockpile were chemically analyzed in the laboratory to determine the contamination properties and necessary disposal arrangements. Refer to Table 2 for a summary of the analytical test results and Appendix C for the chemical analyses.

TABLE 2
Chemical Analysis of Soil Samples
Wentworth School, Portsmouth, NH
August 29, 1989

Sample No. 9680
Sample Location: Contaminated stockpile

Parameters	Results
E.P. Toxicity Barium, mg/L	<0.2
E.P. Toxicity Lead, mg/L	<0.05
Total Barium, mg/kg	31
Total Lead, mg/kg	9.7
Flash point	<160
PCB's	nondetectable
Volatile organic compounds	nondetectable

Sherburne School

A 4,000 gallon underground storage tank containing No. 2 fuel oil was removed by M.B. Maintenance of New Boston, New Hampshire on August 30, 1989. The tank was located northeast of the boiler room in a paved parking area. The tank was aligned in a northwest-southeast direction. The tank was approximately 28 years old and was in poor condition upon removal, with no obvious perforations, but very rusted and deeply pitted. The soils from the excavation consisted of gravelly and cobbley sand, with sandy clay as the natural soil. No groundwater was encountered in the excavation. The excavation was continued to a depth of approximately 9 ft and 24 ft in length. Photographs of the excavation area and the removed tank are included in Appendix B.

The soils from the bottom and sides of the tank excavation, as well as the stockpiled soils were screened with the OVM. Concentrations of total volatile organic compounds in the soils ranged from 0.8 ppm to 78.1 ppm. A strong petroleum odor was noted in the excavation. A summary of the OVM results is given in Table 3 below.

TABLE 3
OVM Analysis Results
Sherburne School, Portsmouth, NH
August 30, 1989

Sample Location	VOCs detected (ppm)
surface of tank	3.2
surface of tank	25.8
side of tank	0.8
side of tank	4.7
fill end of tank, near base	19.2
end of tank	3.6
end of tank, near base	17.4
end of tank, near base	17.8
beneath tank, near fill pipe	0.8
beneath tank at opposite end	78.1
beneath tank at opposite end	40.5
beneath tank middle	4.0
base of excavation	40.2
base of excavation	21.9
base of excavation at 12 ft	2.3

Approximately 50 cubic yards of contaminated soil have been stockpiled on and covered with clean plastic sheeting to prevent leeching to the surrounding soil by rainwater. The soils were chemically analyzed in the laboratory to determine the contaminant properties and necessary disposal arrangements. The results of the chemical analyses are summarized in Table 4 below and the laboratory reports are included in Appendix D to this report.

TABLE 4
Chemical Analyses, Soil
Sherburne School, Portsmouth
August 30, 1989

Sample No. 9681
Sample Location : Contaminated Stockpile

Parameters	Results
Total petroleum hydrocarbons	2600 mg/kg
Volatile organic compounds	nondetected
GC Fingerprint	No. 6 fuel oil

Installation of New Tanks

The design and installation of the new tanks were performed in accordance with New Hampshire Regulation Ws 411 and the requirements of the Department of Environmental Services (DES) for underground fuel storage tanks. Copies of the installation permits are included in Appendix E.

New tanks of comparable size were installed at the Wentworth School and the Sherburne School by M.B. Maintenance immediately following the excavation of the existing tanks. The tanks are constructed with cathodically protected and coated double walled steel, with an inner wall leak detection system and ball float overfill prevention. The tanks were furnished by Drummond Weldsteel Works, Inc. of Lebanon, NH, and conform to the requirements of Underwriters Laboratory U.L. 58 and sti-P_3® specifications of the Steel Tank Institute. The New Hampshire DES permits for the installation of the new tanks were issued by Mr. Tim Denison and are included as Appendix E to this report.

Each of the underground storage tank installations was completed using clean fill from the excavation and several loads of off-site fill. The tanks were connected to the boiler rooms by galvanized steel and copper suction and return pipes sheathed in protective PVC. A galvanized steel vent pipe was connected to each tank which runs to an outside wall of the school. All pipe elbows were composed of galvanized steel and pure copper. Photographs of the tank installations are included in Appendices A and B.

Wentworth School

A 4,000 gallon underground storage tank was installed in the location of the removed 4,000 gallon underground storage tank on August 29 and 30, 1989. The excavation was completed to a depth of approximately 9 ft to a natural clay layer. The tank was not placed on jersey barriers or strapped in place because no groundwater was encountered in the excavation. The completed installation was filled with several off-site loads of clean sand and the backfill material was soaked.

Sherburne School

A 4,000 gallon underground storage tank was installed in the location of the removed tank on September 1 and 4, 1989. The excavation was completed to a depth of approximately 12 ft below the surface grade. No groundwater was encountered in the excavation and, therefore, the tank was not placed on Jersey barriers or held in place with strapping. The completed installation was filled with several off-site loads of clean sand and the backfill material was soaked.

Conclusions

Based on the data presented in this report, it is our professional opinion that the tanks were satisfactorily removed and installed in compliance with all applicable New Hampshire State environmental and petroleum underground storage tank regulations and policies. It is also our opinion that the majority of soils affected by the fuel oil from both the Wentworth and Sherburne Schools were removed from the excavation. The stockpiled soils remaining on each site will be disposed accordingly. Although no groundwater was encountered in either excavation, the presence of petroleum saturated soils indicates that the release may have affected the groundwater. We recommend that an Environmental Site Assessment be performed for both sites in order to address the groundwater quality. We also recommend that this report be submitted to the DES for their concurrence with our recommendations.

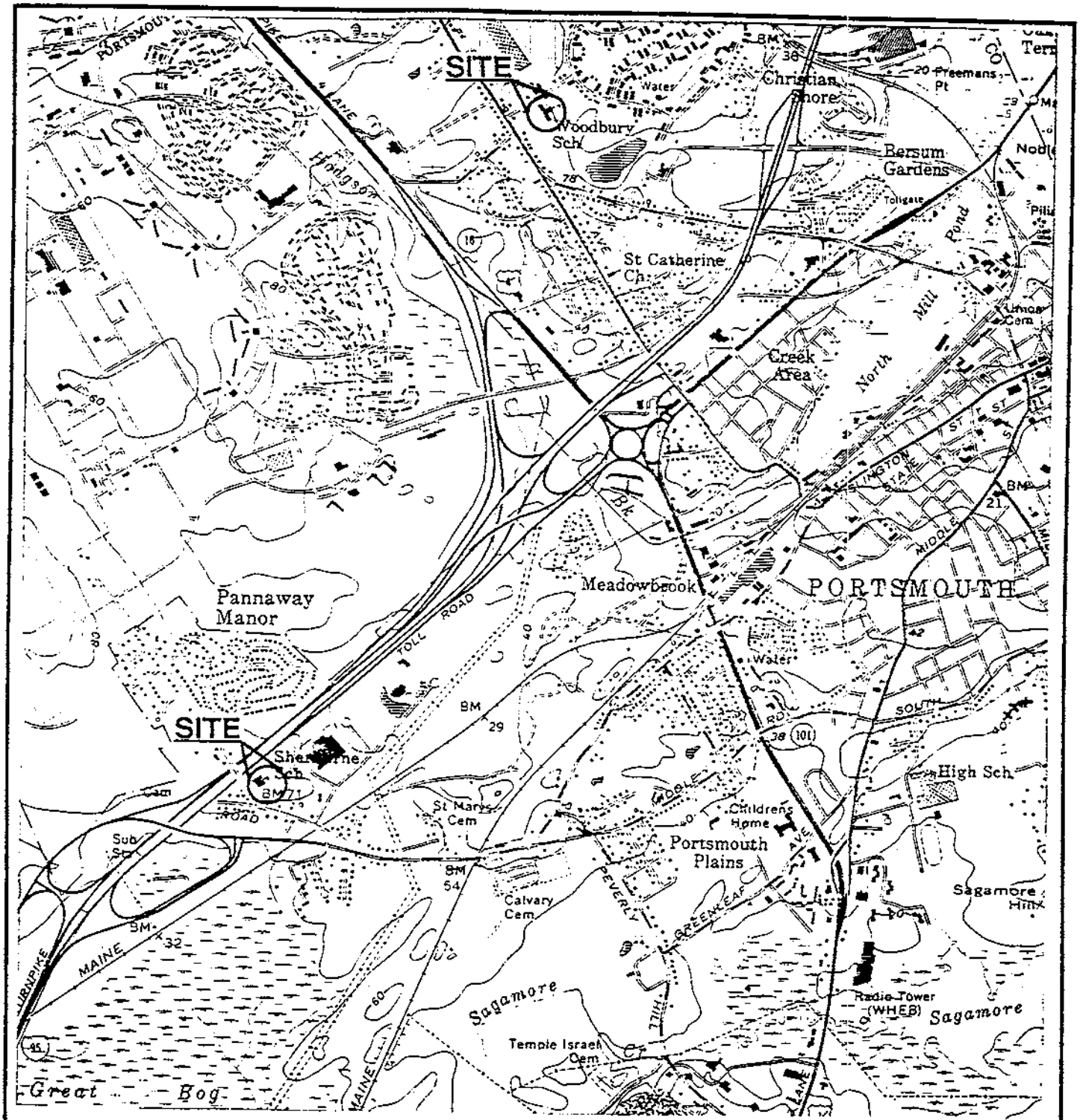
Very truly yours,
BRIGGS ASSOCIATES, INC.

Karen D. Leavitt

Karen D. Leavitt
Environmental Geologist

Dolores M. Branco
Manager, Geotechnical Department

KDL:DMB:kl
Attachments



PORTSMOUTH, N.H. - ME. QUADRANGLE
7.5 Minute Series, 1956
United States Department of the Interior, Geologis Survey
National Geodetic Vertical Datum 1929

WENTWORTH: 43°5'5"N, 70°47'8"E
SHERBURNE: 43°3'38"N, 70°48'6"E

SITE LOCATION PLAN
PORTSMOUTH SCHOOL DISTRICT
PORTSMOUTH, NEW HAMPSHIRE

BRIGGS ASSOCIATES

DRAWN BY: KDL	SCALE: 1:24,000	PROJ. NO.: 91362NH
CHECKED : DMB	DATE: 9/27/89	FIGURE: 1

BRIGGS

400 Hingham Street, P. O. Box 369, Rockland, MA 02370-0369 ➤ (617) 871-6040

FINAL REPORT

PREPARED FOR: Portsmouth Schools
Sherburne School

PROJECT NUMBER: 91362

SAMPLE NUMBER: 9681

DATE PREPARED: September 21, 1989

APPROVED BY:

Leanne E.S. Cobb
Laboratory Manager

BRIGGS ASSOCIATES, INC
400 HINGHAM STREET
ROCKLAND, MA 02370
(617) 871-6040

CLIENT NAME: PORTSMOUTH SCH/SHERBURNE
SAMPLE TYPE: SOIL
SAMPLE DATE: 8/30/89
DATE RECEIVED: 9/08/89

PROJECT NUMBER: 91362
REPORT DATE: 9/21/89
COLLECTED BY: BRIGGS

SAMPLE NUMBER	SAMPLE LOCATION	TOTAL PETROLEUM HYDROCARBONS, MG/KG
9681	CONTAMINATED STOCKPILE	2600

GC FINGERPRINT: SAMPLE APPEARS TO CONTAIN #6 FUEL OIL.

BRIGGS ASSOCIATES, INC.
400 HINGHAM STREET
ROCKLAND, MA 02370
(617) 871-6040

VOLATILE ORGANICS ANALYSIS
EPA METHOD 624/8240

CLIENT NAME:	PORTSMOUTH SCH./SHERBURNE	PROJECT NUMBER:	91362
SAMPLE TYPE:	SOIL	DATE OF ANALYSIS:	9/13/89
SAMPLE DATE:	8/30/89	DATE OF REPORT:	9/21/89
DATE RECEIVED:	9/08/89	COLLECTED BY:	BRIGGS

SAMPLE NUMBER: 9681
SAMPLE LOCATION: CONTAMINATED STOCKPILE

	CONCENTRATION: UG/KG (ppb)
Acrolein	ND
Acrylonitrile	ND
2-Chloroethylvinylether	ND
Chloromethane	ND
Bromomethane	ND
Vinyl Chloride	ND
Chloroethane	ND
Methylene Chloride	ND
Trichlorofluoromethane	ND
1,1-Dichloroethene	ND
1,1-Dichloroethane	ND
1,2-Dichloroethene	ND
Chloroform	ND
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	ND
Carbontetrachloride	ND
Bromodichloromethane	ND
1,2-Dichloropropane	ND
c,t-1,3-Dichloropropene	ND
Trichloroethene	ND
Dibromochloromethane	ND
Benzene	ND
t-1,3-Dichloropropene	ND
1,1,2-Trichloroethane	ND
Bromoform	ND
Tetrachloroethene	ND
1,1,2,2-Tetrachloroethane	ND
Toluene	ND
Chlorobenzene	ND
Ethylbenzene	ND
Xylenes	ND
1,3-Dichlorobenzene	ND
1,2-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND

ND = NOT DETECTED
DETECTION LIMIT 20 UG/KG

* Estimated value, below quantitation limit.
** U.S. EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

BRIGGS ASSOCIATES LABORATORY
400 HINGHAM STREET
ROCKLAND, MA 02370

LABORATORY INFORMATION

LABORATORY CERTIFICATION STATUS

Expires October 15, 1989

PRIMARY PARAMETERS AND CATEGORIES

FULL CERTIFICATION: Trace Metals, Fluoride, Trihalomethanes, Corrosivity Series, Sodium

PROVISIONAL CERTIFICATION: Pesticides, Nitrate

SECONDARY PARAMETERS AND CATEGORIES

FULL CERTIFICATION: Metals, Minerals, Nutrients, Demand, PCB, Pesticides, Volatile Aromatics

PROVISIONAL CERTIFICATION: Volatile Halocarbons, Cyanide, Oil and Grease, Phenolics

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. The information contained in this report is, to the best of my knowledge, accurate and complete.

BRIGGS ASSOCIATES, INC.
400 HINGHAM STREET
ROCKLAND, MA 02370
(617) 871-6040

CHAIN OF COUSTODY

CLIENT NAME: Portsmouth School Dept.

PROJECT NAME: ~~Sherburne~~ School

PROJECT #: 9120-NH

COLLECTED BY: K. Leavitt

ANALYSES

FIELD SAMPLE #	COLLECTION DATE	TIME	SAMPLE TYPE *	STATION / LOCATION	TOTAL NUMBER OF CONTAINERS	COMPOSITE	GRAB	TPH	VOA	Fingerprint						REMARKS	LAB I.D.
	8/30/89		S	Contaminated Stockpile	3			✓	✓	✓							

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME:
Kaben Leavitt				

RECEIVED BY:	DATE/TIME:	REC'D FOR LAB BY:	DATE/TIME	*SAMPLE TYPES:
		[signature]		SL – SOIL WW – WASTEWATER GW – GROUNDWATER DW – DRINKINGWATER O – OIL

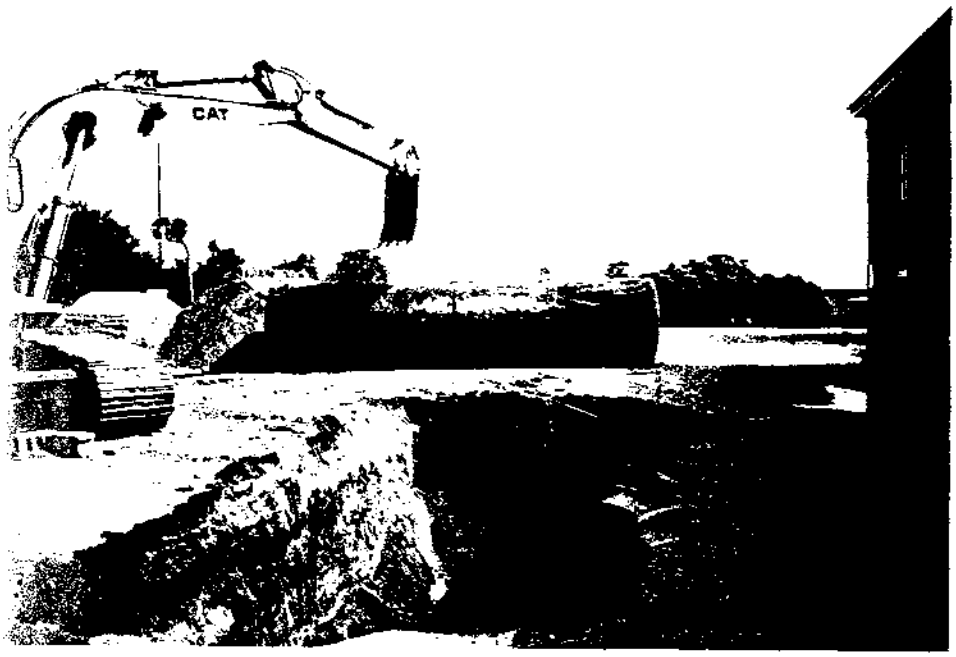
0659

TANK REMOVAL
SHERBURNE SCHOOL
PORTSMOUTH SCHOOL DISTRICT
PORTSMOUTH, NH

Site as viewed showing the old coal bin adjacent to the excavation.

Site as viewed showing the side of the tank next to the coal bin.

Site as viewed showing the underground storage tank prior to excavation.

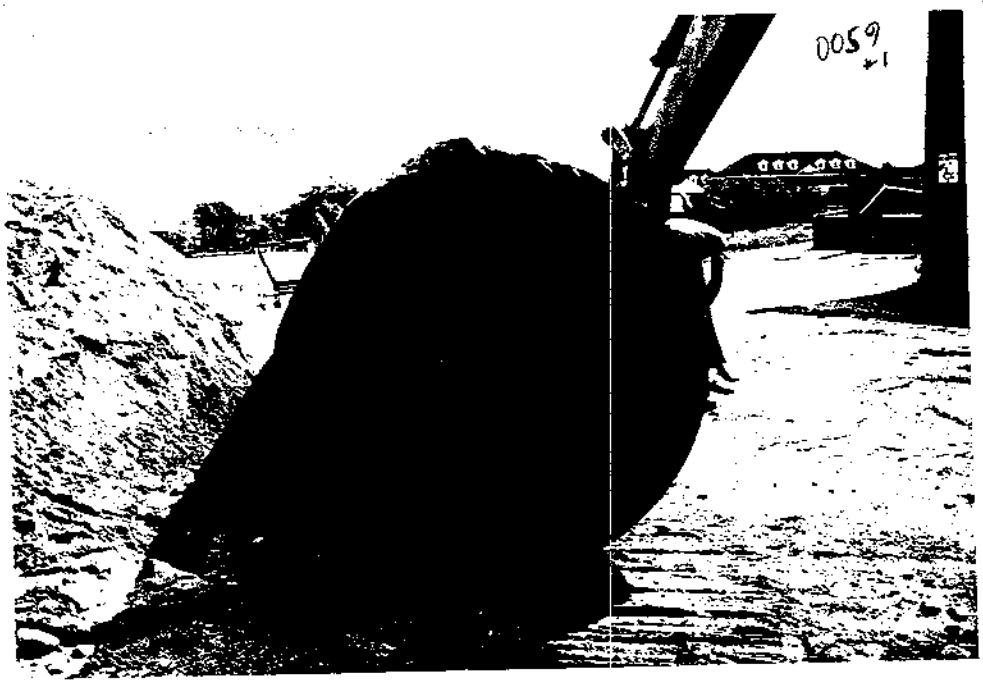


Site as viewed showing the removed underground storage tank.

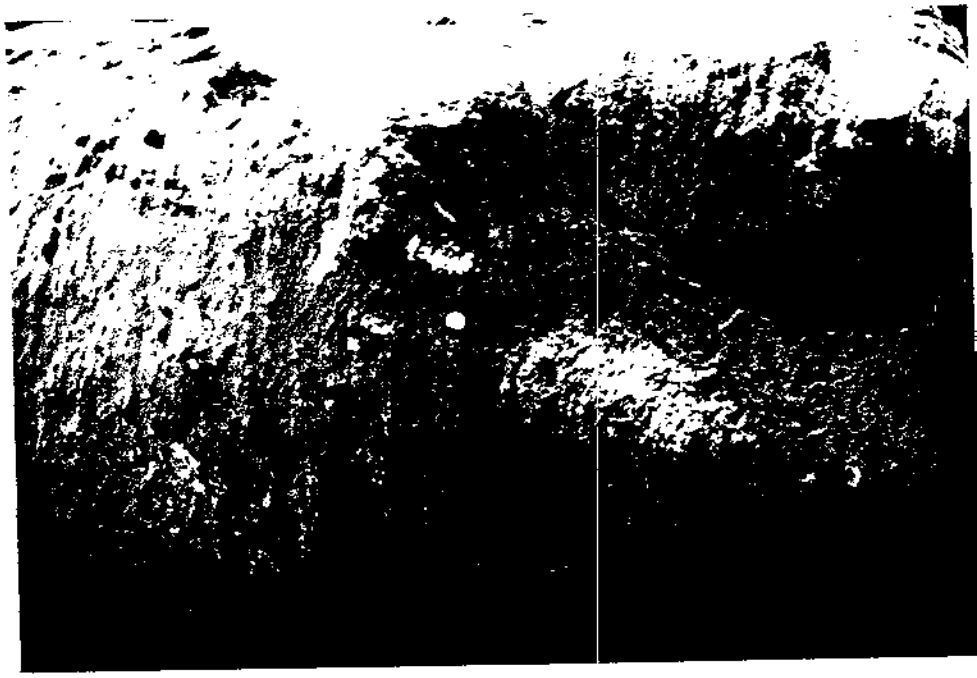
Site as viewed showing the excavation following the tank removal.

Site as viewed showing the end of the removed underground storage tank.

TANK REMOVAL
SHERBURNE SCHOOL
PORTSMOUTH SCHOOL DISTRICT
PORTSMOUTH, NH

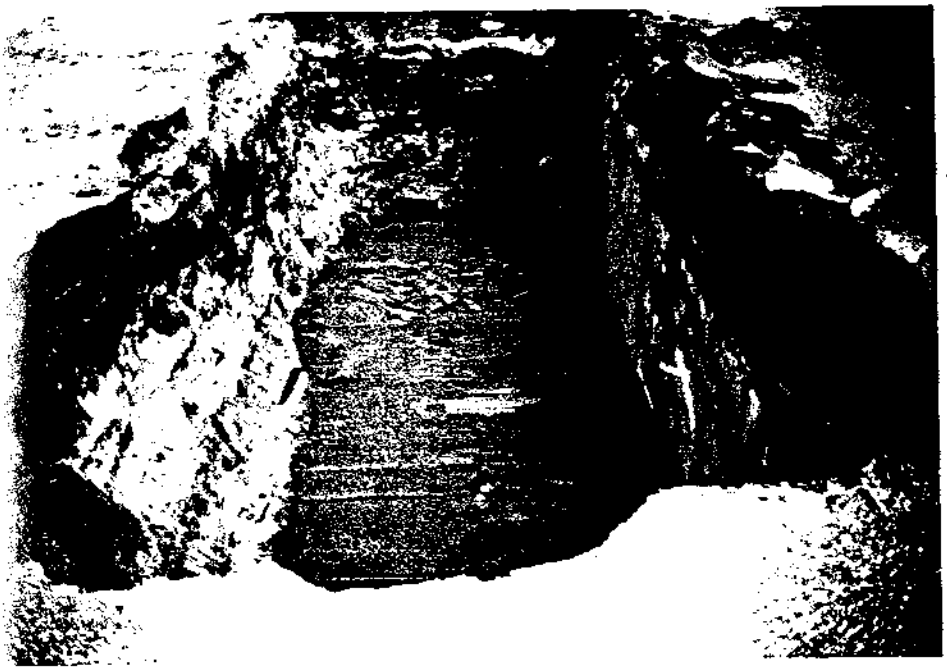


Site as viewed showing the fill end of the removed underground storage tank.



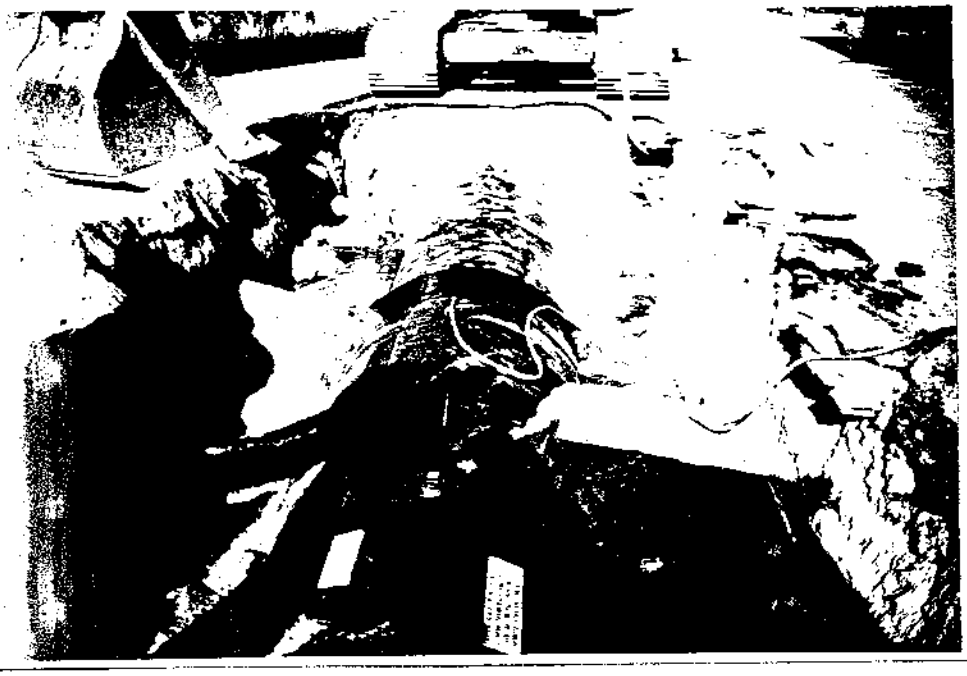
Site as viewed showing the deep pits on the tank surface.

Site as viewed showing the excavation after the removal of the contaminated soils.



Site as viewed showing the final depth of excavation.

Site as viewed showing the new tank in place.



Site as viewed showing the new backfill material being soaked.

TANK REMOVAL
SHERBURNE SCHOOL
PORTSMOUTH SCHOOL
DISTRICT
PORTSMOUTH, NH

Site as viewed showing the piping on the newly installed tank.
(2 Photos)

UST Registration Documents

Notification for Underground Storage Tanks

STATE USE ONLY

ID NUMBER 0-110059

DATE RECEIVED 5/3/91

A. Date Entered Into Computer 5/14/91

B. Data Entry Clerk Initials SH

C. Owner Was Contacted to Clarify Responses. Comments

State Agency Name and Address DEPT. OF ENVIRONMENTAL SERVICES
WATER SUPPLY + POLLUTION CONTROL DIV.

TYPE OF NOTIFICATION

☒ A. NEW FACILITY ☐ B. AMENDED ☐ C. CLOSURE

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must be completed for each location containingunderground storage tanks. If more than four (4) tanks are owned at this location, photocopy the following sheets, and staple continuation sheets to the form.

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity) PUBLIC WORKS DEPT PORTSMOUTH
City of PORTS. - School DEPT.

Street Address 700 ISLINGTON ST.
CLOUGH DR.

City PORTS. State N.H. ZIP Code 03801

County ROCKINGHAM.

Phone Number (Include Area Code) 603-427-1530 ~~603-431-5080~~

II. LOCATION OF TANK(S)

If same as Section I, mark box here ☐

Facility Name or Company Site Identifier, as applicable
SHERBURNE School

Street Address (P.O. Box not acceptable)
SHERBURNE RD.

City PORTS. State N.H. ZIP Code 03801

County ROCKINGHAM

Give the geographic location of the tank by degrees, minutes, and seconds (Example: Lat 42 , 35 , 12 N Long 66 , 24 , 17 W)

Latitude 43° 3' 38" N Longitude 70° 46' 6" E

III. TYPE OF OWNER

☐ Federal Gov't. ☐ Commercial
☐ State Government ☐ Private
☒ Local Government

IV. INDIAN LANDS

Tanks are located on land within an Indian Reservation or on other trust lands ☐

Tanks are owned by native American nation, tribe, or individual ☐

Tribe or Nation:

V. TYPE OF FACILITY

Select the Appropriate Facility Description

___ Gas Station	X Local Government	___ Contractor	2 INACTIVE
___ Petroleum Distributor	___ State Government	___ Trucking/Transport	
___ Air Taxi (Airline)	___ Federal - Non-Military	___ Utilities	
___ Aircraft Owner	___ Federal - Military	___ Farm or Residential	
___ Auto Dealership	___ Commercial	X Other (Explain) School	
___ Railroad	___ Industrial		

VI. CONTACT PERSON IN CHARGE OF TANKS

Name	Job Title	Address	Phone Number (Include Area Code)
Tom RICHTA			427-1530
~~Robert Finney~~	MAINT. SUPERVISOR	CLOUGH DR.	~~603-431-5080~~

V. CERTIFICATION (Read and sign after completing all sections)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted informationis true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature	Date Signed
Robert Finney MAINT. SUPERVISOR	Robert Finney	4-30-91

VIII. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)				
Tank Identification Number 011059	Tank No. 1	Tank No. ____	Tank No. ____	Tank No. ____
Status of Tank (mark only one) — Currently in Use	X			
Temporarily Out of Use				
Permanently Out of Use (Remember to fill out section IX)	/			
Newly Installed				
Amendment of Information				
2. Date of Installation	Sept. 1-4-1989			
3. Estimated Total Capacity (gallons)	4000			
4. Material of Construction (Mark all that apply)				
Asphalt Coated or Bare Steel				
Cathodically Protected Steel	X			
Lined Interior				
Epoxy Coated Steel				
Composite (Steel with Fiberglass)				
Fiberglass Reinforced Plastic				
Double Walled	X			
Polyethylene Tank Jacket				
Concrete				
Excavation Liner				
Unknown				
Other, Please Specify				
Has tank been repaired?				
5. Piping (Material) (Mark all that apply) — Bare Steel				
Galvanized Steel	X			
Fiberglass Reinforced Plastic				
Copper	X			
Cathodically Protected				
Double Walled				
Secondary Containment				
Unknown				
Other, Please Specify				
6. Piping (Type) (Mark all that apply) — Suction: no valve at tank				
Suction: valve at tank	X			
Pressure				
Gravity Fed				
Has piping been repaired?				

Tank Identification Number	Tank No. 2	Tank No.	Tank No.	Tank No.
7. Substance Currently or Last Stored in Greatest Quantity by Volume				
Gasoline	☐	☐	☐	☐
Diesel	☐	☐	☐	☐
Gasohol	☐	☐	☐	☐
Kerosene	☐	☐	☐	☐
Heating Oil	☒	☐	☐	☐
Used Oil	☐	☐	☐	☐
Other, Please Specify	☐	☐	☐	☐
	_____	_____	_____	_____
	_____	_____	_____	_____
Hazardous Substance	☐	☐	☐	☐
CERCLA name and/or,	_____	_____	_____	_____
CAS number	_____	_____	_____	_____
Mixture of Substances	☐	☐	☐	☐
Please Specify	_____	_____	_____	_____
	_____	_____	_____	_____
Tank is currently empty	☐	☐	☐	☐
IX. TANKS PERMANENTLY OUT OF USE, OR CHANGE IN SERVICE				
1. Closing of Tank				
A. Estimated date last used (mo /day/year)	_____	_____	_____	_____
B. Estimate date tank closed (mo /day/year)	04-29-99	_____	_____	_____
C. Tank was removed from ground	☑	☐	☐	☐
D. Tank was closed in ground	☐	☐	☐	☐
E. Tank filled with inert material	☐	☐	☐	☐
F. Change in service	☐	☐	☐	☐
2. Site Assessment Completed	☑	☐	☐	☐
Estimated date of action (mo /day/year)	RECD 06-07-99	_____	_____	_____
Evidence of a leak detected	☐	☐	☐	☐

X. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW AND UPGRADED TANKS AT THIS LOCATION)

Tank Identification Number	Tank No. 2	Tank No.	Tank No.	Tank No.
1. Installation				
A. Installer certified by tank and piping manufacturers	☐	☐	☐	☐
B. Installer certified or licensed by the implementing agency	☐	☐	☐	☐
C. Installation inspected by a registered engineer	☐	☐	☐	☐
D. Installation inspected and approved by implementing agency	☒	☐	☐	☐
E. Manufacturer's installation checklists have been completed	☐	☐	☐	☐
F. Another method allowed by State agency. Please specify.	☐	☐	☐	☐
2 Release Detection (Mark all that apply)				
A. Manual tank gauging	☒	☐	☐	☐
B. Tank tightness testing	☐	☐	☐	☐
C. Monthly inventory controls	☒	☐	☐	☐
D. Automatic tank gauging	☒	☐	☐	☐
E. Vapor monitoring	☐	☐	☐	☐
F. Groundwater monitoring	☐	☐	☐	☐
G. Interstitial monitoring double walled tank	☐	☐	☐	☐
H. Interstitial Monitoring/ secondary containment	☒	☐	☐	☐
I. Automatic line leak detectors	☐	☐	☐	☐
J. Line tightness testing	☒	☐	☐	☐
K. Other method allowed by Implementing Agency Please Specify.	☐ Cl f-05-13-98	☐	☐	☐
3. Spill and Overfill Protection				
A. Overfill device installed	☐	☐	☐	☐
B. Spill device installed	☐	☐	☐	☐

XI. FINANCIAL RESPONSIBILITY (Not applicable to on premises use heating oil tanks.)

I have met the financial responsibility requirements in accordance with 40 CFR Subpart H ☐

Check All that Apply

☐	Self Insurance	☐	Surety Bond	☐	Trust Fund
☐	Risk Retention Group	☐	Letter of Credit	☐	Other Method Allowed, Specify
☐	Guarantee	☐	State Funds		

OATH: I certify that the information concerning installationprovided in section X is true to the best of my belief and knowledge.

Installer: _____ (Name) _____ (Signature) _____ (Date)

_____ (Position) _____ (Company)

Notification for Underground Storage Tanks

FORM APPROVED OMB NO. 2050-0068 APPROVAL EXPIRES 8-30-88

STATE USE ONLY	
ID Number	0110059
Date Received	3/14/86

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means –

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. **This form must by completed for each location containing underground storage tanks.** If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: 2

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)

Portsmouth School Dept.

Street Address

Clough Drive

County

Rockingham

City | State | ZIP Code

Portsmouth | N.H. | 03801

Area Code | Phone Number

603 | 431-5080 or 4367100

Type of Owner *(Mark all that apply ☒)*

- ☒ Current
- ☐ Former
- ☒ State or Local Gov't
- ☐ Federal Gov't (GSA facility I.D. no. _____)
- ☐ Private or Corporate
- ☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☐)

Facility Name or Company Site Identifier, as applicable

Sherburne School

Street Address or State Road, as applicable

Sherburne Rd.

County

Rockingham

City (nearest) | State | ZIP Code

Portsmouth | N.H. | 03801

Indicate number of tanks at this location: 1 (2 INACTIVE)

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☐) | Job Title | Area Code | Phone Number

Henry W. Smith | Maintenance Supervisor | 603 | 431-5080 or 436-7100

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location.

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative	Signature	Date Signed
Henry W. Smith Maintenance Supervisor	Henry W. Smith	3-12-86

CONTINUE ON REVERSE SIDE

Owner Name (from Section I) Portsmouth School Dept. Location (from Section II) Sherburne School Page No. 1 of 1 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	Tank No. 1	Tank No.	Tank No.	Tank No.	Tank No.
1. Status of Tank (Mark all that apply ☒)					
Currently in Use	☒	☐	☐	☐	☐
Temporarily Out of Use	☐	☐	☐	☐	☐
Permanently Out of Use	☑	☐	☐	☐	☐
Brought into Use after 5/8/86	☐	☐	☐	☐	☐
2. Estimated Age (Years)	28				
3. Estimated Total Capacity (Gallons)	4000				
4. Material of Construction (Mark one ☒)					
Steel	X	☐	☐	☐	☐
Concrete	☐	☐	☐	☐	☐
Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify	REMOVED ~9/89				
5. Internal Protection (Mark all that apply ☒)					
Cathodic Protection	☐	☐	☐	☐	☐
Interior Lining (e.g., epoxy resins)	☐	☐	☐	☐	☐
None	X S.K. 10-7-89	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify					
6. External Protection (Mark all that apply ☒)					
Cathodic Protection	☐	☐	☐	☐	☐
Painted (e.g., asphaltic)	☐	☐	☐	☐	☐
Fiberglass Reinforced Plastic Coated	☐	☐	☐	☐	☐
None	X	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify					
7. Piping (Mark all that apply ☒)					
Bare Steel	☐	☐	☐	☐	☐
Galvanized Steel	☐	☐	☐	☐	☐
Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
Cathodically Protected	☐	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify	Copper				
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)					
a. Empty	☐	☐	☐	☐	☐
b. Petroleum					
Diesel	☐	☐	☐	☐	☐
Kerosene	☐	☐	☐	☐	☐
Gasoline (including alcohol blends)	☐	☐	☐	☐	☐
Used Oil	☐	☐	☐	☐	☐
Other, Please Specify	2Fuel				
c. Hazardous Substance	☐	☐	☐	☐	☐
Please Indicate Name of Principal CERCLA Substance					
OR					
Chemical Abstract Service (CAS) No.					
Mark box ☒ if tank stores a mixture of substances	☐	☐	☐	☐	☐
d. Unknown	☐	☐	☐	☐	☐
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	/	/	/	/	/
b. Estimated quantity of substance remaining (gal.)					
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)	☐	☐	☐	☐	☐

ADDITIONAL INFORMATION per Ws 411.05 regarding existing underground storage tank facilities. 0059

Please provide as much information as is possible. The research of files and/or contacting previous owners may be required.

1. Indicate all previous owners and lessees with names and current addresses.

None

2. Provide a detailed description of the facility; the physical dimensions of the tanks, number of fill boxes, number and types of fittings attached to tanks, complete description of underground piping system, type of cathodic protection, date each tank was manufactured, installed, relined, inspected along with the tank manufacturer. The date and results of the latest tightness test performed on all tanks at the facility.

approx size of tank 24' x 5' Tank located around pavement side of school (west.) #2 Fuel used.

3. The estimated life expectancy of all inground tanks and appurtenances.

Tank will be tested in June. Tanks should be good 3-4 yrs

4. Description and date(s) of past discharges or disposal of petroleum based products, remedial actions, ground and surface water monitoring results, and closure plans.

last Tank Check Sept. ok very small amount of water showing.

5. Detailed site plan and facility layout.

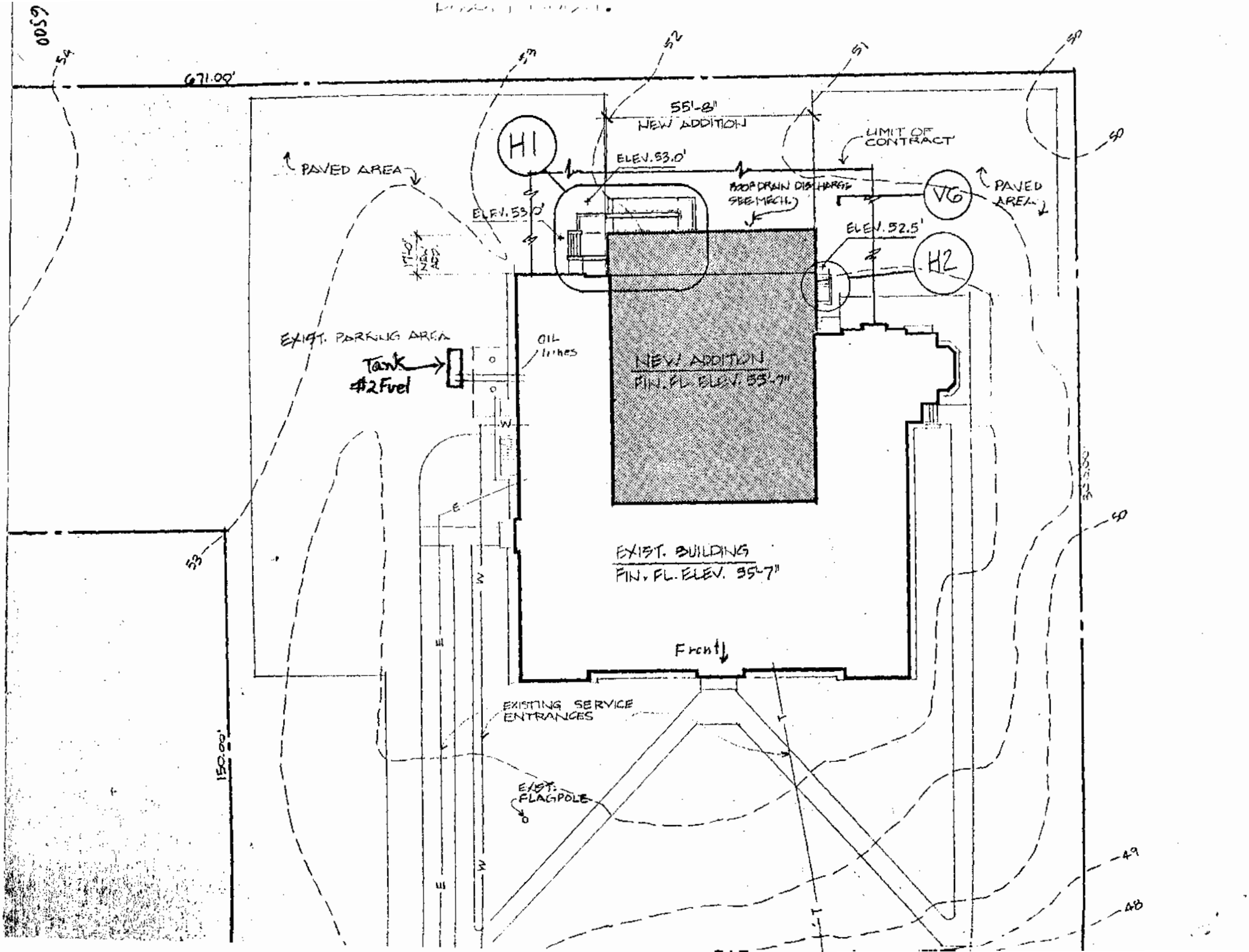
6. Existing groundwater protection monitoring programs. Tanks checked at least 4 times per year.

7. Other information relevant to the facility. All Tanks will be checked + tested this June or July

Facility Name Sherburne School Owner's Name Portsmouth School Dept

Town/City Portsmouth NH Date 3-12-86

Please attach this form to the "Notification for Underground Storage Tanks" form (EPA form 7530-1) and submit to the N.H.W.S.P.C.C.


671.00'
55'-8"
NEW ADDITION
H1
ELEV. 53.0'
LIMIT OF CONTRACT
PAVED AREA
ROOF DRAIN DISCHARGE SEE MECH.
V6
PAVED AREA
ELEV. 53.0'
ELEV. 52.5'
H2
EXIST. PARKING AREA
Tank #2 Fuel
OIL lines
NEW ADDITION
FIN. FL. ELEV. 55'-7"
EXIST. BUILDING
FIN. FL. ELEV. 55'-7"
Front
EXISTING SERVICE ENTRANCES
EXIST. FLAGPOLE
150.00'
54
53
52
51
50
49
48

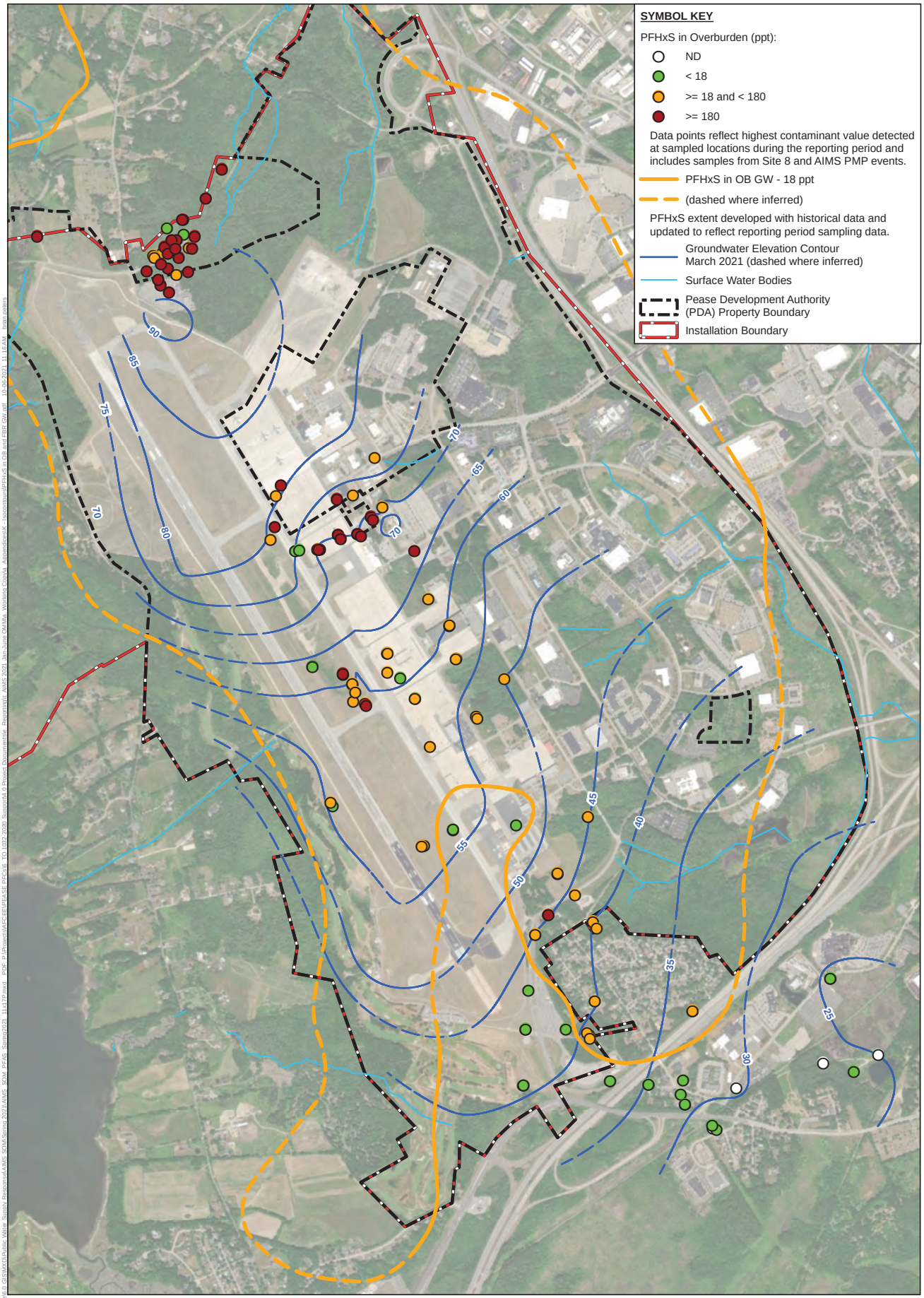
Groundwater Flow Maps and PFOA/PFOS Results for On Site Monitoring Well

SYMBOL KEY

Air Force Civil Engineer Center

N

DRAFT Figure
Potentiometric Contours AIMS PMP



Air Force Civil Engineer Center
2261 Hughes Ave., Suite 163
JBSA Lackland, TX 78236

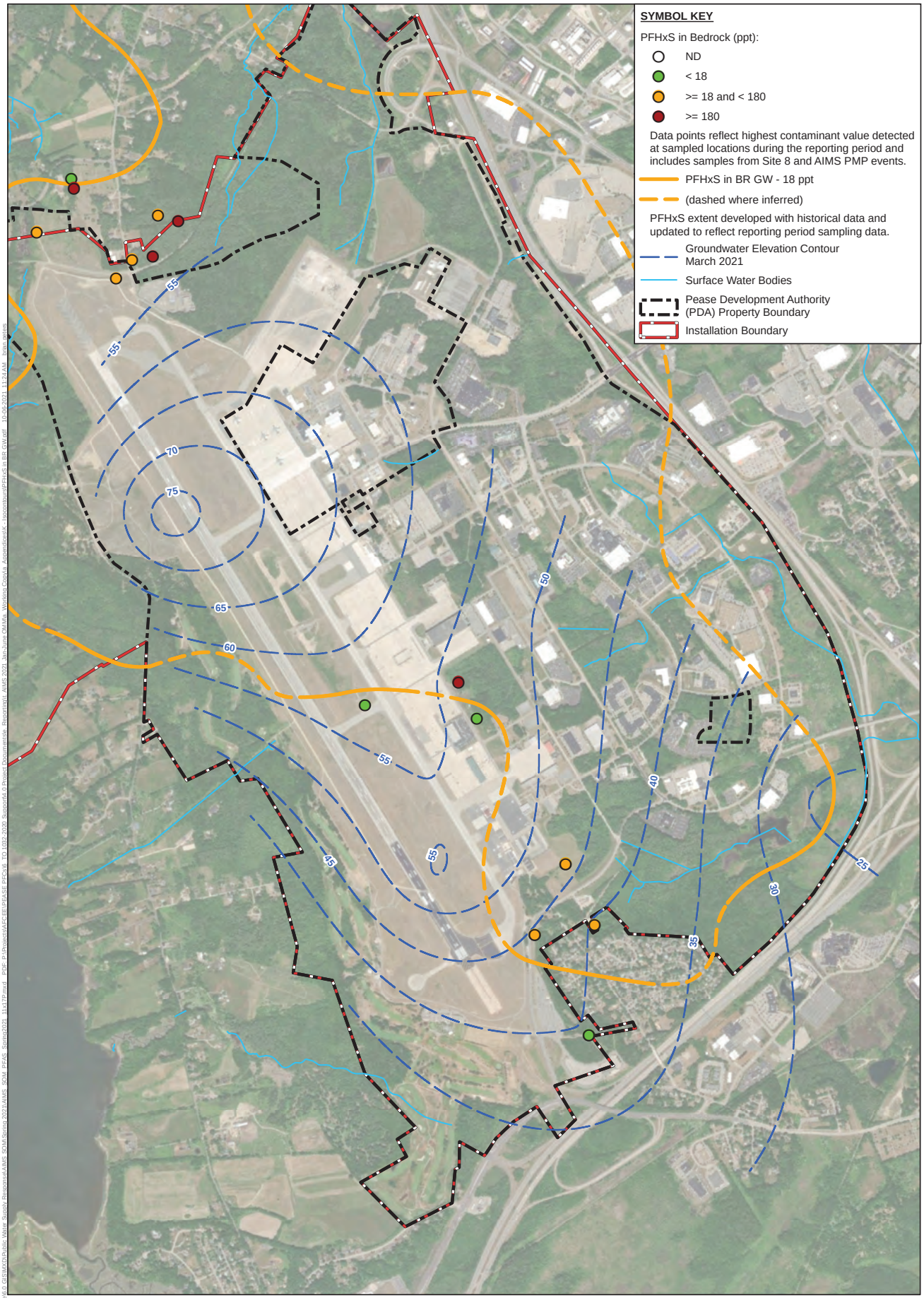
PFHxS in Overburden and Fractured Bedrock Groundwater
Airfield Interim Mitigation System Optimization, Maintenance, and Monitoring Report
January - June 2021
Former Pease Air Force Base, Portsmouth, New Hampshire

0 150 300 600 900 1,200 1,500 Meters
0 700 1,400 2,800 4,200 5,600 Feet

N

NOTES:
-Aerial Imagery obtained through ESRI Online Services

2021-10-06	Rev:	AIMS_SOM_PFAS_Spring2021_11x17P
Drawn: MSB	Chk:	PROJ: 775361601



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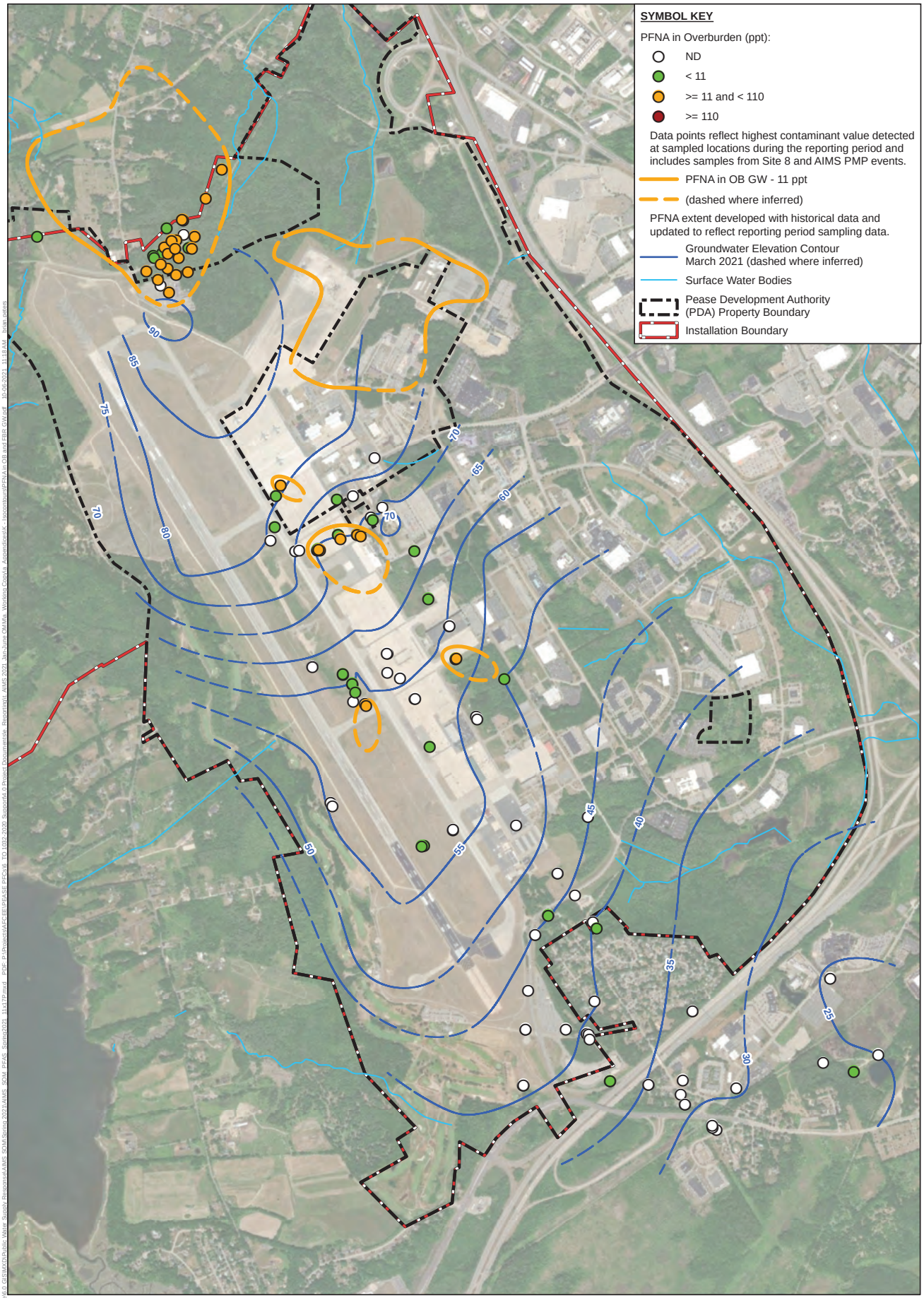

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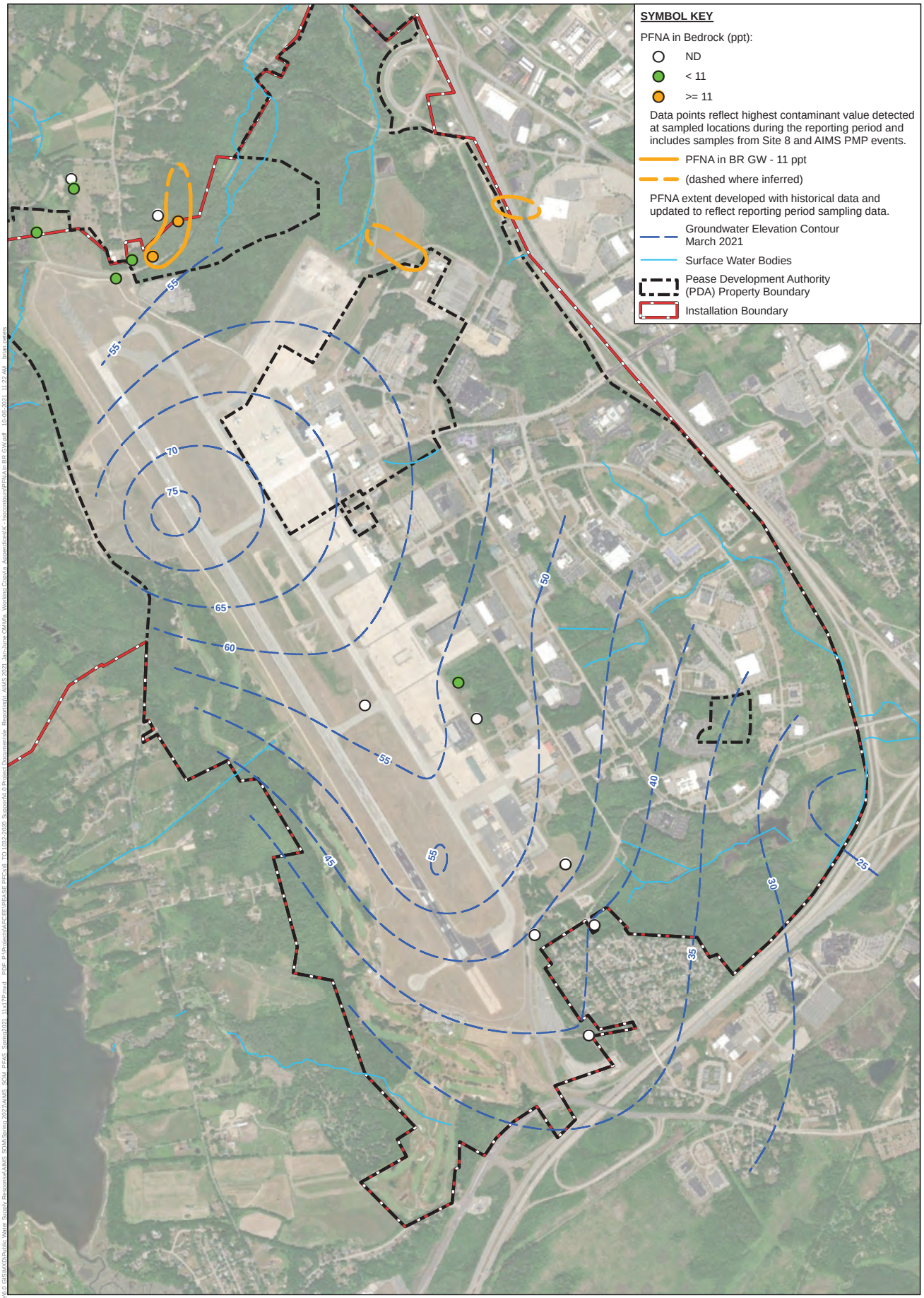

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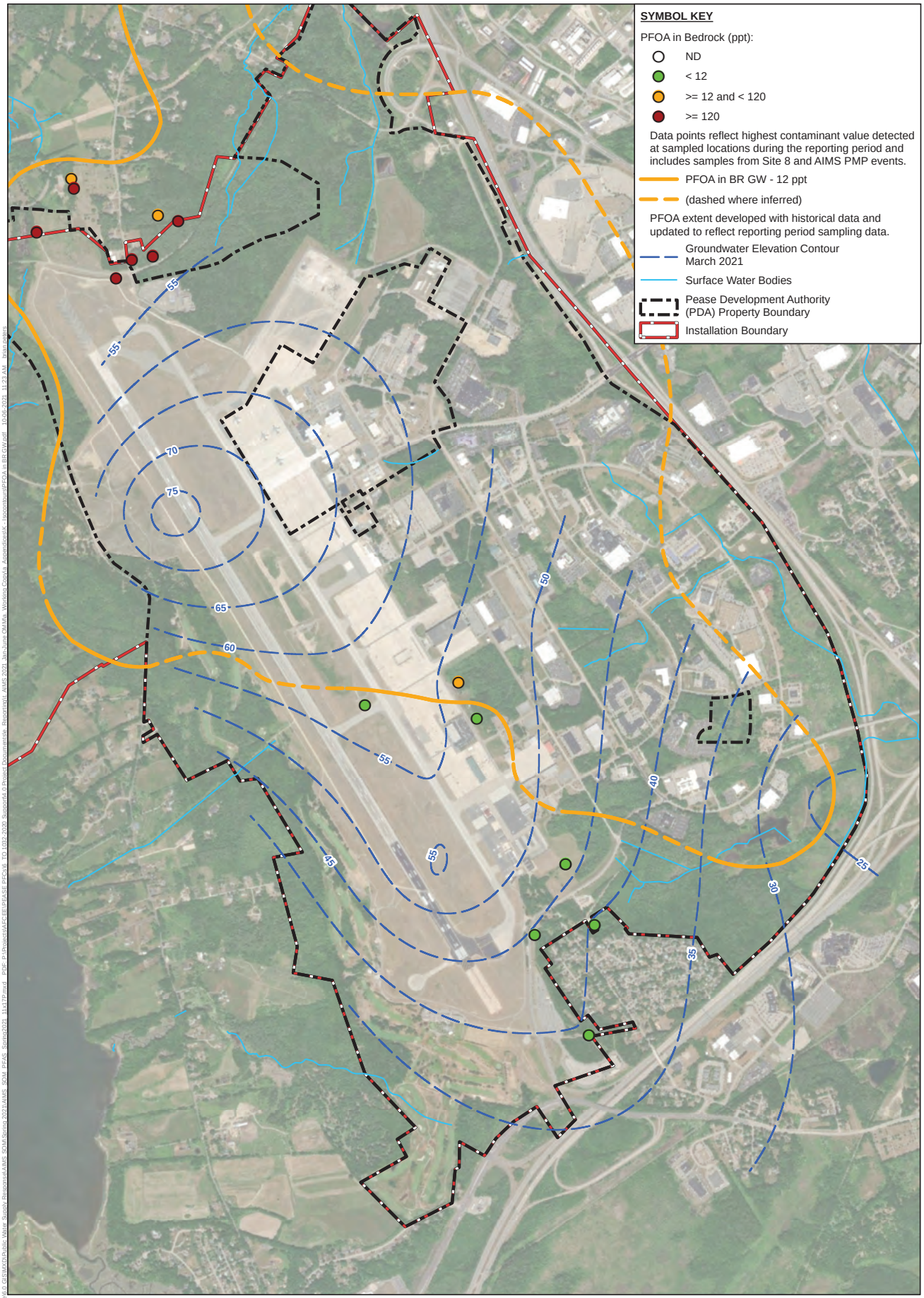

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PFOA in Bedrock Groundwater
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0 700 1,400 2,800 4,200 5,600 Feet

N

NOTES:
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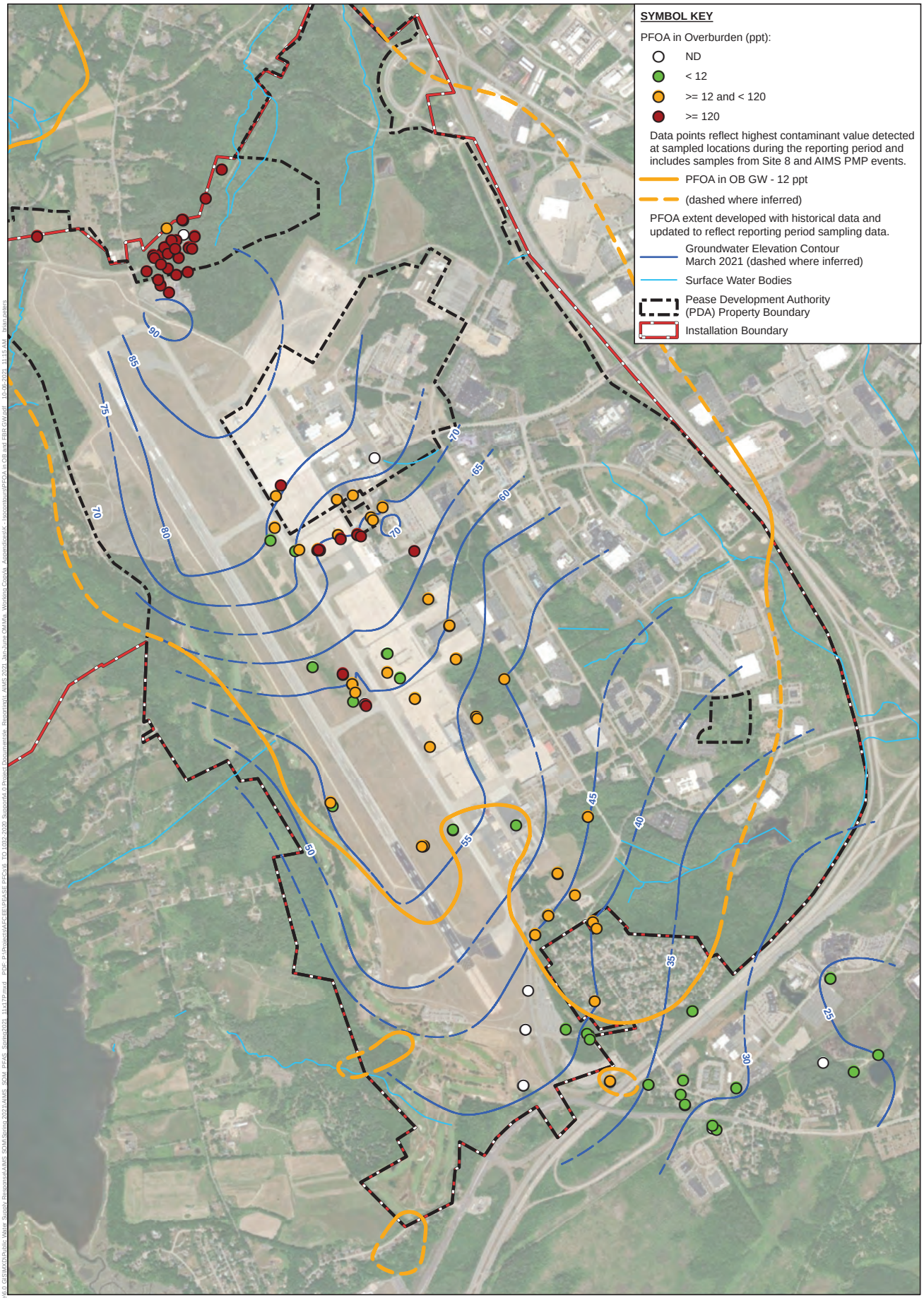

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NOTES:
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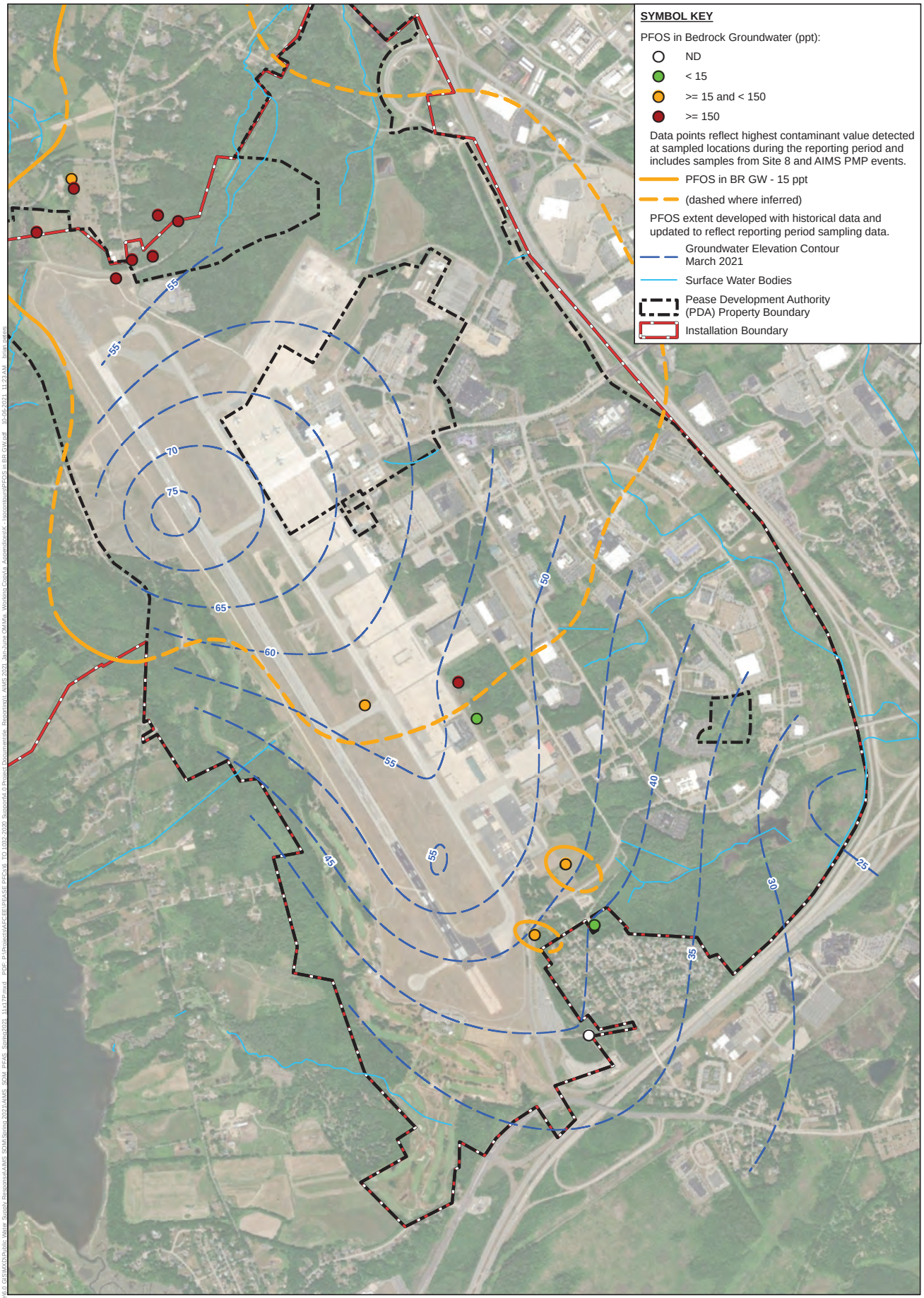

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PFOS in Bedrock Groundwater

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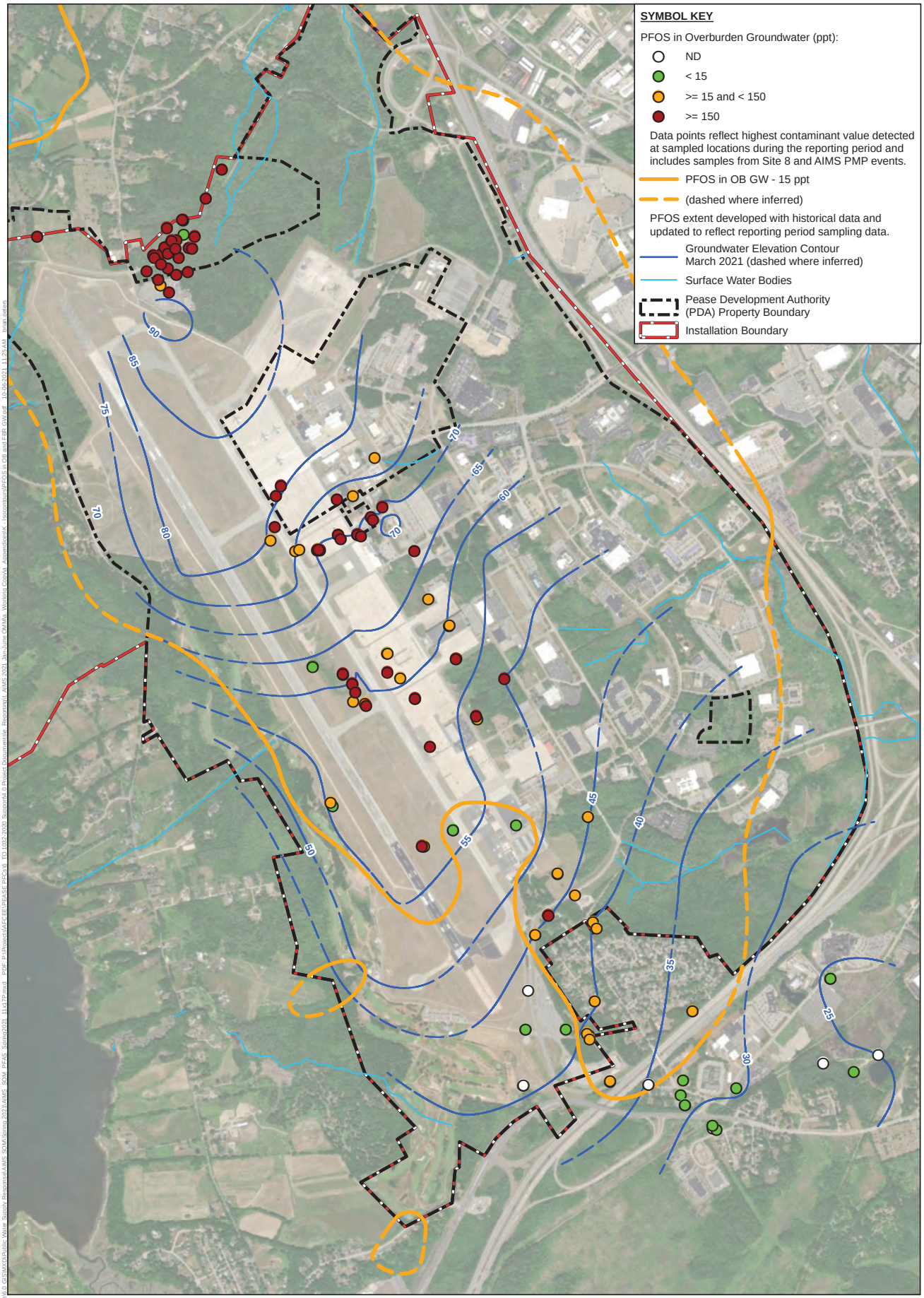

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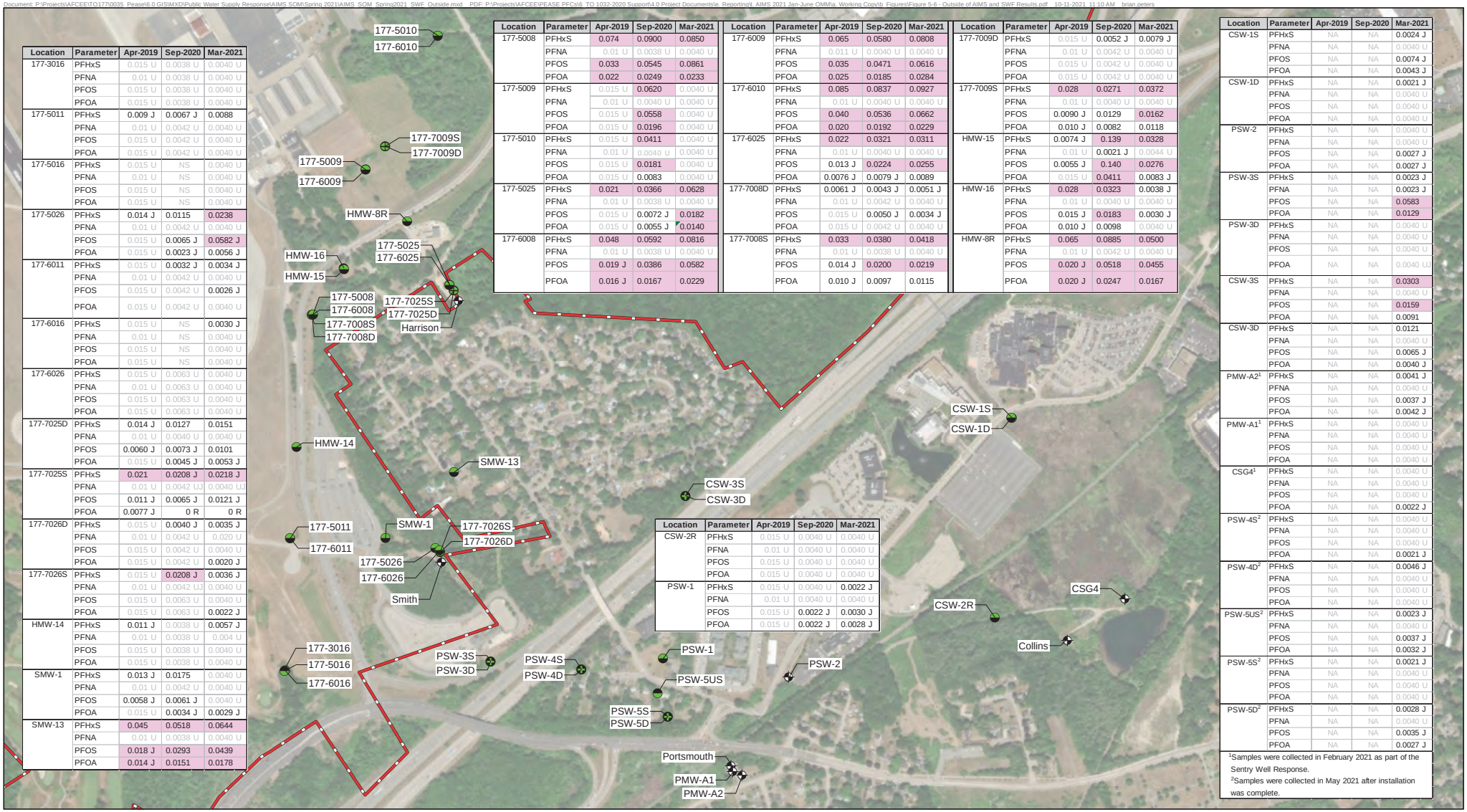


Location	Parameter	Apr-2019	Sep-2020	Mar-2021
177-3016	PFHxS	0.015 U	0.0038 U	0.0040 U
	PFNA	0.01 U	0.0038 U	0.0040 U
	PFOS	0.015 U	0.0038 U	0.0040 U
	PFOA	0.015 U	0.0038 U	0.0040 U
177-5011	PFHxS	0.009 J	0.0067 J	0.0088
	PFNA	0.01 U	0.0042 U	0.0040 U
	PFOS	0.015 U	0.0042 U	0.0040 U
	PFOA	0.015 U	0.0042 U	0.0040 U
177-5016	PFHxS	0.015 U	NS	0.0040 U
	PFNA	0.01 U	NS	0.0040 U
	PFOS	0.015 U	NS	0.0040 U
	PFOA	0.015 U	NS	0.0040 U
177-5026	PFHxS	0.014 J	0.0115	0.0238
	PFNA	0.01 U	0.0042 U	0.0040 U
	PFOS	0.015 U	0.0065 J	0.0582 J
	PFOA	0.015 U	0.0023 J	0.0056 J
177-6011	PFHxS	0.015 U	0.0032 J	0.0034 J
	PFNA	0.01 U	0.0042 U	0.0040 U
	PFOS	0.015 U	0.0042 U	0.0026 J
	PFOA	0.015 U	0.0042 U	0.0040 U
177-6016	PFHxS	0.015 U	NS	0.0030 J
	PFNA	0.01 U	NS	0.0040 U
	PFOS	0.015 U	NS	0.0040 U
	PFOA	0.015 U	NS	0.0040 U
177-6026	PFHxS	0.015 U	0.0063 U	0.0040 U
	PFNA	0.01 U	0.0063 U	0.0040 U
	PFOS	0.015 U	0.0063 U	0.0040 U
	PFOA	0.015 U	0.0063 U	0.0040 U
177-7025D	PFHxS	0.014 J	0.0127	0.0151
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.0060 J	0.0073 J	0.0101
	PFOA	0.015 U	0.0045 J	0.0053 J
177-7025S	PFHxS	0.021	0.0208 J	0.0218 J
	PFNA	0.01 U	0.0042 UJ	0.0040 UJ
	PFOS	0.011 J	0.0065 J	0.0121 J
	PFOA	0.0077 J	0 R	0 R
177-7026D	PFHxS	0.015 U	0.0040 J	0.0035 J
	PFNA	0.01 U	0.0042 U	0.020 U
	PFOS	0.015 U	0.0042 U	0.0040 U
	PFOA	0.015 U	0.0042 U	0.0020 J
177-7026S	PFHxS	0.015 U	0.0208 J	0.0036 J
	PFNA	0.01 U	0.0042 UJ	0.0040 U
	PFOS	0.015 U	0.0063 U	0.0040 U
	PFOA	0.015 U	0.0063 U	0.0022 J
HMW-14	PFHxS	0.011 J	0.0038 U	0.0057 J
	PFNA	0.01 U	0.0038 U	0.004 U
	PFOS	0.015 U	0.0038 U	0.0040 U
	PFOA	0.015 U	0.0038 U	0.0040 U
SMW-1	PFHxS	0.013 J	0.0175	0.0040 U
	PFNA	0.01 U	0.0042 U	0.0040 U
	PFOS	0.0058 J	0.0061 J	0.0040 U
	PFOA	0.015 U	0.0034 J	0.0029 J
SMW-13	PFHxS	0.045	0.0518	0.0644
	PFNA	0.01 U	0.0038 U	0.0040 U
	PFOS	0.018 J	0.0293	0.0439
	PFOA	0.014 J	0.0151	0.0178

Location	Parameter	Apr-2019	Sep-2020	Mar-2021
177-5008	PFHxS	0.074	0.0900	0.0850
	PFNA	0.01 U	0.0038 U	0.0040 U
	PFOS	0.033	0.0545	0.0861
	PFOA	0.022	0.0249	0.0233
177-5009	PFHxS	0.015 U	0.0620	0.0040 U
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.015 U	0.0558	0.0040 U
	PFOA	0.015 U	0.0196	0.0040 U
177-5010	PFHxS	0.015 U	0.0411	0.0040 U
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.015 U	0.0181	0.0040 U
	PFOA	0.015 U	0.0083	0.0040 U
177-5025	PFHxS	0.021	0.0366	0.0628
	PFNA	0.01 U	0.0038 U	0.0040 U
	PFOS	0.015 U	0.0072 J	0.0182
	PFOA	0.015 U	0.0055 J	0.0140
177-6008	PFHxS	0.048	0.0592	0.0816
	PFNA	0.01 U	0.0038 U	0.0040 U
	PFOS	0.019 J	0.0386	0.0582
	PFOA	0.016 J	0.0167	0.0229

Location	Parameter	Apr-2019	Sep-2020	Mar-2021
177-6009	PFHxS	0.065	0.0580	0.0808
	PFNA	0.011 U	0.0040 U	0.0040 U
	PFOS	0.035	0.0471	0.0616
	PFOA	0.025	0.0185	0.0284
177-6010	PFHxS	0.085	0.0837	0.0927
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.040	0.0536	0.0662
	PFOA	0.020	0.0192	0.0229
177-6025	PFHxS	0.022	0.0321	0.0311
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.013 J	0.0224	0.0255
	PFOA	0.0076 J	0.0079 J	0.0089
177-7008D	PFHxS	0.0061 J	0.0043 J	0.0051 J
	PFNA	0.01 U	0.0042 U	0.0040 U
	PFOS	0.015 U	0.0050 J	0.0034 J
	PFOA	0.015 U	0.0042 U	0.0040 U
177-7008S	PFHxS	0.033	0.0380	0.0418
	PFNA	0.01 U	0.0038 U	0.0040 U
	PFOS	0.014 J	0.0200	0.0219
	PFOA	0.010 J	0.0097	0.0115

Location	Parameter	Apr-2019	Sep-2020	Mar-2021
177-7009D	PFHxS	0.015 U	0.0052 J	0.0079 J
	PFNA	0.01 U	0.0042 U	0.0040 U
	PFOS	0.015 U	0.0042 U	0.0040 U
	PFOA	0.015 U	0.0042 U	0.0040 U
177-7009S	PFHxS	0.028	0.0271	0.0372
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.0090 J	0.0129	0.0162
	PFOA	0.010 J	0.0082	0.0118
HMW-15	PFHxS	0.0074 J	0.139	0.0328
	PFNA	0.01 U	0.0021 J	0.0044 U
	PFOS	0.0055 J	0.140	0.0276
	PFOA	0.015 U	0.0411	0.0083 J
HMW-16	PFHxS	0.028	0.0323	0.0038 J
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.015 J	0.0183	0.0030 J
	PFOA	0.010 J	0.0098	0.0040 U
HMW-8R	PFHxS	0.065	0.0885	0.0500
	PFNA	0.01 U	0.0042 U	0.0040 U
	PFOS	0.020 J	0.0518	0.0455
	PFOA	0.020 J	0.0247	0.0167

Location	Parameter	Apr-2019	Sep-2020	Mar-2021
CSW-2R	PFHxS	0.015 U	0.0040 U	0.0040 U
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.015 U	0.0040 U	0.0040 U
	PFOA	0.015 U	0.0040 U	0.0040 U
PSW-1	PFHxS	0.015 U	0.0040 U	0.0022 J
	PFNA	0.01 U	0.0040 U	0.0040 U
	PFOS	0.015 U	0.0022 J	0.0030 J
	PFOA	0.015 U	0.0022 J	0.0028 J

Location	Parameter	Apr-2019	Sep-2020	Mar-2021
CSW-1S	PFHxS	NA	NA	0.0024 J
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0074 J
	PFOA	NA	NA	0.0043 J
CSW-1D	PFHxS	NA	NA	0.0021 J
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0040 U
	PFOA	NA	NA	0.0040 U
PSW-2	PFHxS	NA	NA	0.0040 U
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0027 J
	PFOA	NA	NA	0.0027 J
PSW-3S	PFHxS	NA	NA	0.0023 J
	PFNA	NA	NA	0.0023 J
	PFOS	NA	NA	0.0583
	PFOA	NA	NA	0.0129
PSW-3D	PFHxS	NA	NA	0.0040 U
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0040 U
	PFOA	NA	NA	0.0040 UJ
CSW-3S	PFHxS	NA	NA	0.0303
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0159
	PFOA	NA	NA	0.0091
CSW-3D	PFHxS	NA	NA	0.0121
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0065 J
	PFOA	NA	NA	0.0040 J
PMW-A2[1]	PFHxS	NA	NA	0.0041 J
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0037 J
	PFOA	NA	NA	0.0042 J
PMW-A1[1]	PFHxS	NA	NA	0.0040 U
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0040 U
	PFOA	NA	NA	0.0040 U
CSG4[1]	PFHxS	NA	NA	0.0040 U
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0040 U
	PFOA	NA	NA	0.0022 J
PSW-4S[2]	PFHxS	NA	NA	0.0040 U
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0040 U
	PFOA	NA	NA	0.0021 J
PSW-4D[2]	PFHxS	NA	NA	0.0046 J
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0040 U
	PFOA	NA	NA	0.0040 U
PSW-5US[2]	PFHxS	NA	NA	0.0023 J
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0037 J
	PFOA	NA	NA	0.0032 J
PSW-5S[2]	PFHxS	NA	NA	0.0021 J
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0040 U
	PFOA	NA	NA	0.0040 U
PSW-5D[2]	PFHxS	NA	NA	0.0028 J
	PFNA	NA	NA	0.0040 U
	PFOS	NA	NA	0.0035 J
	PFOA	NA	NA	0.0027 J

[1]Samples were collected in February 2021 as part of the Sentry Well Response.
[2]Samples were collected in May 2021 after installation was complete.

SYMBOL KEY

- Overburden Upper Sand Monitoring Well
- Overburden Lower Sand Monitoring Well
- Overburden Monitoring Well
- Fractured Bedrock Monitoring Well
- Deep Bedrock Monitoring Well
- Installation Boundary
- Concentration exceeds NH AGQS values

PFHxS = Perfluorohexanesulfonic Acid
PFNA = Perfluorononanoic Acid
PFOS = Perfluorooctanesulfonic Acid
PFOA = Perfluorooctanoic Acid

J = The result is an estimated value.
U = Chemical was analyzed for, but was not detected.
NA = Wells only sampled during Annual event in March.
NH AGQS = New Hampshire Ambient Groundwater Quality Standards
NS = Not sampled
R = Sample is considered unusable due to QC failures.
Grey text indicates the parameter was not analyzed or not detected
All concentrations in µg/L (micrograms per liter)

Air Force Civil Engineer Center
2261 Hughes Ave., Suite 163
JBSA Lackland, TX 78236

N

0 150 300 450 600 Meters
0 300 600 1,200 1,800 2,400 Feet

Figure 5-6
Outside of AIMS Influence and Southern Well Field Area
Groundwater PFHxS, PFNA, PFOS, and PFOA Results
Airfield Interim Mitigation System Optimization, Maintenance, and Monitoring Report January - June 2021
Former Pease Air Force Base, Portsmouth, New Hampshire

NOTES:
-Aerial Imagery obtained through ESRI Online Services

2021-10-11 | AIMS_SOM_Spring2021_SWF_Outside
Drawn: BJP | Chk: | PROJ: 775361601

Appendix J
Historical Performance Monitoring PFAS Analytical Results

Optimization, Maintenance, and Monitoring Report
January - June 2021
Former Pease Air Force Base
Portsmouth, New Hampshire

Analyte:				6:2 Fluorotelomer sulfonate (6:2 FTS)	8:2 Fluorotelomer sulfonate (8:2 FTS)	Perfluorobutanesulfonic acid (PFBS)	Perfluorobutanoic acid (PFBA)	Perfluoroheptanesulfonic (PFHpS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonamide (PFOSA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	PFOS+PFOA
			NH AGQS:	NA	NA	NA	NA	NA	NA	0.018	NA	0.011	NA	0.015	0.012	NA	NA
Location	Sample ID	Sample	Sample	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	CSW-2R-GW_20210325	3/25/2021	N	0.0080 U	0.0080 U	0.0040 U	0.0080 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.008 U
CSW-3S	CSW-3S-GW_20210325	3/25/2021	N	0.0080 U	0.0080 U	0.0048 J	0.0040 J	0.0040 U	0.0047 J	0.0303	0.0093	0.0040 U	0.0040 U	0.0159	0.0091	0.0089	0.0250
CSW-3D	CSW-3D-GW_20210325	3/25/2021	N	0.0080 U	0.0080 U	0.0028 J	0.0084 J	0.0040 U	0.0024 J	0.0121	0.0052 J	0.0040 U	0.0040 U	0.0065 J	0.0040 J	0.0116	0.0105 J
HMW-14	HMW-14-GW_20190404	4/4/2019	N	0.015 U	0.015 U	0.015 U	0.015 U	0.01 U	0.015 U	0.011 J	0.015 U	0.01 U	0.015 U	0.015 U	0.015 U	0.0050 J	ND
	HMW-14-GW_20190926	9/26/2019	N	0.015 U	0.015 U	0.015 U	0.015 U	0.010 U	0.015 U	0.015 U	0.015 U	0.010 U	0.015 U	0.015 U	0.015 U	0.010 U	0.030 U
	HMW-14-GW_20200323	3/23/2020	N	0.0083 U	0.0083 U	0.0042 U	0.0083 U	0.0042 U	0.0042 U	0.0053 J	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0084 U
	HMW-14-GW_20200925	9/25/2020	N	0.0077 U	0.0077 U	0.0038 U	0.0077 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.0076 U
	HMW-14-GW_20210325	3/25/2021	N	0.0106 J	0.0080 U	0.0040 U	0.0080 U	0.0040 U	0.0040 U	0.0052 J	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040	0.008 U
	DUP20-GW_20210325	3/25/2021	FD	0.0102 J	0.0080 U	0.0040 U	0.0080 U	0.0040 U	0.0040 U	0.0057 J	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.008 U
HMW-15	HMW-15-GW_20190404	4/4/2019	N	0.015 U	0.015 U	0.015 U	0.0095 J	0.01 U	0.015 U	0.0074 J	0.015 U	0.01 U	0.015 U	0.0055 J	0.015 U	0.0095 J	0.0055 J
	HMW-15-GW_20190612	6/12/2019	N	0.015 U	0.015 U	0.015 U	0.013 J	0.0068 J	0.0089 J	0.038	0.016 J	0.010 U	0.015 U	0.026	0.014 J	0.016 J	0.040 J
	DUP-31-GW_20190612	6/12/2019	FD	0.015 U	0.015 U	0.015 U	0.013 J	0.0068 J	0.010 J	0.046	0.020 J	0.010 U	0.015 U	0.033	0.018 J	0.019 J	0.051 J
	HMW-15-GW_20190917	9/17/2019	N	0.015 U	0.015 U	0.015 U	0.015 J	0.010 U	0.012 J	0.072	0.026	0.010 U	0.015 U	0.044	0.024	0.027	0.068
	HMW-15-GW_20191204	12/4/2019	N	0.015 U	0.015 U	0.015 U	0.015 U	0.010 U	0.015 U	0.017 J	0.015 U	0.010 U	0.015 U	0.0054 J	0.015 U	0.0056 J	0.0054 J
	HMW-15-GW_20200114	1/14/2020	N	0.015 U	0.015 U	0.011 J	0.021	0.0085 J	0.031	0.23	0.079	0.010 U	0.015 U	0.16	0.072	0.072	0.23
	HMW-15-GW_20200325	3/25/2020	N	0.0083 U	0.0083 U	0.0042 U	0.0083 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0042 U	0.0084 U
	HMW-15-GW_20200624	6/24/2020	N	0.0077 U	0.0077 U	0.0106	0.0213	0.0100 J	0.0298	0.212	0.0724	0.0033 J	0.0038 U	0.241 J	0.077	0.0664	0.318 J
	HMW-15-GW_20200929	9/29/2020	N	0.0080 U	0.0080 U	0.0079 J	0.0139 J	0.0059 J	0.0179	0.139	0.0433	0.0021 J	0.0040 U	0.140	0.0411	0.0430	0.181
	HMW-15-GW_20210323	3/23/2021	N	0.0088 U	0.0088 U	0.0034 J	0.0116 J	0.0044 U	0.0047 J	0.0328	0.0099	0.0044 U	0.0044 U	0.0276	0.0083 J	0.0114	0.0359
HMW-16	HMW-16-GW_20190422	4/22/2019	N	0.015 U	0.015 U	0.015 U	0.015 U	0.01 U	0.015 U	0.028	0.0097 J	0.01 U	0.015 U	0.015 J	0.010 J	0.0083 J	0.025 J
	HMW-16-GW_20190612	6/12/2019	N	0.015 U	0.015 U	0.015 U	0.0091 J	0.010 U	0.015 U	0.022	0.0092 J	0.010 U	0.015 U	0.013 J	0.0087 J	0.0090 J	0.022 J
	HMW-16-GW_20190917	9/17/2019	N	0.015 U	0.015 U	0.015 U	0.015 U	0.010 U	0.015 U	0.024	0.0079 J	0.010 U	0.015 U	0.013 J	0.0079 J	0.0087 J	0.021 J
	HMW-16-GW_20191204	12/4/2019	N	0.015 U	0.015 U	0.011 J	0.022	0.0070 J	0.035	0.25	0.086	0.010 U	0.015 U	0.18	0.080	0.080	0.26
	HMW-16-GW_20200114	1/14/2020	N	0.015 U	0.015 U	0.015 U	0.015 U	0.010 U	0.015 U	0.019 J	0.015 U	0.010 U	0.015 U	0.015 U	0.020 U	0.0065 J	0.035 U
	HMW-16-GW_20200325	3/25/2020	N	0.0083 U	0.0083 U	0.0023 J	0.0047 J	0.0042 U	0.0035 J	0.0230	0.0080 J	0.0042 U	0.0042 U	0.0170	0.0072 J	0.0082 J	0.0242
	HMW-16-GW_20200624	6/24/2020	N	0.0077 U	0.0077 U	0.0025 J	0.0053 J	0.0038 U	0.0046 J	0.0300	0.0103	0.0038 U	0.0038 U	0.0165	0.0084	0.0111	0.0249
	HMW-16-GW_20200929	9/29/2020	N	0.0080 U	0.0080 U	0.0022 J	0.0046 J	0.0040 U	0.0048 J	0.0323	0.0096	0.0040 U	0.0040 U	0.0183	0.0098	0.0119	0.0281
	HMW-16-GW_20210324	3/24/2021	N	0.0080 U	0.0080 U	0.0040 U	0.0063 J	0.0040 U	0.0020 J	0.0038 J	0.0040 U	0.0040 U	0.0040 U	0.0030 J	0.0040 U	0.0108	0.0030 J
HMW-8R	HMW-8R-GW_20190404	4/4/2019	N	0.0084 J	0.015 U	0.015 U	0.010 J	0.01 U	0.011 J	0.065	0.023	0.01 U	0.015 U	0.020 J	0.020 J	0.024	0.040 J
	HMW-8R-GW_20190612	6/12/2019	N	0.0089 J	0.015 U	0.0065 J	0.012 J	0.0072 J	0.013 J	0.074	0.026	0.010 U	0.015 U	0.027	0.024	0.027	0.051
	DUP-32-GW_20190612	6/12/2019	FD	0.0076 J	0.015 U	0.0061 J	0.012 J	0.0073 J	0.012 J	0.072	0.026	0.010 U	0.015 U	0.026	0.023	0.026	0.049
	HMW-8R-GW_20190918	9/18/2019	N	0.031 J	0.015 UJ	0.0075 J	0.015 J	0.010 UJ	0.016 J	0.070 J	0.028 J	0.010 UJ	0.015 UJ	0.027 J	0.024 J	0.030 J	0.051 J
	HMW-8R-GW_20191204	12/4/2019	N	0.0060 J	0.015 U	0.015 U	0.0092 J	0.010 U	0.0099 J	0.075	0.026	0.010 U	0.015 U	0.026	0.024	0.028	0.050
	DUP-53-GW_20191204	12/4/2019	FD	0.0085 J	0.015 U	0.015 U	0.0095 J	0.010 U	0.011 J	0.076	0.026	0.010 U	0.015 U	0.028	0.024	0.028	0.052
	HMW-8R-GW_20200325	3/25/2020	N	0.0143 J	0.0083 U	0.0037 J	0.0104 J	0.0042 U	0.0104	0.0605	0.0225	0.0042 U	0.0042 U	0.0345	0.0214	0.0231	0.0559
	HMW-8R-GW_20200624	6/24/2020	N	0.0108 J	0.0077 U	0.0051 J	0.0105 J	0.0025 J	0.0101	0.0681	0.0237	0.0038 U	0.0038 U	0.0361	0.0231	0.0262	0.0592
	HMW-8R-GW_20200930	9/30/2020	N	0.0050 J	0.0083 U	0.0046 J	0.0107 J	0.0032 J	0.0125	0.0885	0.0283	0.0042 U	0.0042 U	0.0518	0.0247	0.0321	0.0765
	HMW-8R-GW_20210325	3/25/2021	N	0.0333	0.0080 U	0.0029 J	0.0111 J	0.0033 J	0.0089	0.0500	0.0164	0.0040 U	0.0040 U	0.0455	0.0167	0.0185	0.0622
PSW-1	PSW-1-GW_20190404	4/4/2019	N	0.015 U	0.015 U	0.015 U	0.015 U	0.01 U	0.015 U	0.015 U	0.015 U	0.01 U	0.015 U	0.015 U	0.015 U	0.01 U	ND
	PSW-1-GW_20190917	9/17/2019	N	0.015 U	0.015 U	0.013 J	0.0076 J	0.010 U	0.0073 J	0.015 U	0.0084 J	0.010 U	0.015 U	0.015 U	0.0079 J	0.0074 J	0.0079 J
	DUP-49-GW_20190917	9/17/2019	FD	0.015 U	0.015 U	0.013 J	0.0073 J	0.010 U	0.015 U	0.015 U	0.0079 J	0.010 U	0.015 U	0.015 U	0.0080 J	0.0069 J	0.0080 J
	PSW-1-GW_20200325	3/25/2020	N	0.0091 U	0.0091 U	0.0045 U	0.0091 U	0.0045 U	0.0045 U	0.0032 J	0.0027 J	0.0045 U	0.0045 U	0.0045 U	0.0044 J	0.0045 U	0.0044 J
	PSW-1-GW_20200929	9/29/2020	N	0.0080 U	0.0080 U	0.0040 U	0.0080 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0022 J	0.0022 J	0.0022 J	0.0044 J
	DUP85-GW_20200929	9/29/2020	FD	0.0080 U	0.0080 U	0.0040 U	0.0080 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0023 J	0.0080 U
	PSW-1-GW_20210325	3/25/2021	N	0.0080 U	0.0080 U	0.0035 J	0.0080 U	0.0040 U	0.0040 U	0.0022 J	0.0020 J	0.0040 U	0.0040 U	0.0030 J	0.0028 J	0.0020 J	0.0058 J
PSW-2	PSW-2-GW_20210325	3/25/2021	N	0.0080 U	0.0080 U	0.0037 J	0.0080 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.020 U	0.0027 J	0.0027 J	0.0040 U	0.0054 J
PSW-3S	PSW-3S-GW_20210325	3/25/2021	N	0.0080 U	0.0080 U	0.0040 U	0.0080 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0021 J	0.0040 U	0.0565	0.0118	0.0040 U	0.0683
	DUP19-GW_20210325	3/25/2021	FD	0.0080 U	0.0080 U	0.0040 U	0.0080 U	0.0040 U	0.0040 U	0.0023 J	0.0040 U	0.0023 J	0.0040 U	0.0583	0.0129	0.0040 U	0.0712
PSW-3D	PSW-3D-GW_20210325	3/25/2021	N	0.0043 J	0.0080 U	0.0040 U	0.0185	0.0040 U	0.0040 UJ	0.0040 U	0.0040 U	0.0040 U	0 R	0.0040 U	0.0040 UJ	0.0305	0.008 U
PSW-4S	PSW-4S-GW_20210518	5/18/2021	N	0.0080 U	0.0080 U	0.0040 U	0.234	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0021 J	0.0041 J	0.0042 J

Prepared By: AKN, 8/19/2021
QA/QC By: LJD 10/4/2021

MAROS Mann-Kendall Statistics Summary

Project: Pease AFB - PWS
User Name: Haley Plante
Location: Portsmouth
State: New Hampshire

Time Period: 7/24/2014 **to** 5/24/2021
Consolidation Period: No Time Consolidation
Consolidation Type: Average
Duplicate Consolidation: Maximum
ND Values: Specified Detection Limit
J Flag Values : Actual Value

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
PFHXS								
177-3016	T	6	0	0.00	0	42.3%	Yes	ND
177-5008	S	15	15	0.43	75	100.0%	No	I
177-5009	T	12	8	0.94	0	47.3%	No	S
177-5010	T	6	2	1.60	3	64.0%	No	NT
177-5011	T	6	6	0.35	-1	50.0%	No	S
177-5016	T	4	1	1.60	-3	72.9%	No	NT
177-5025	T	16	16	0.27	24	84.7%	No	NT
177-5026	T	15	14	0.38	14	73.7%	No	NT
177-6008	T	16	16	0.40	87	100.0%	No	I
177-6009	T	13	13	0.17	21	88.6%	No	NT
177-6010	T	9	9	0.06	-20	97.8%	No	D
177-6011	T	9	5	0.87	0	46.0%	No	S
177-6016	T	4	2	0.85	5	89.6%	No	NT
177-6025	T	16	16	0.17	54	99.2%	No	I
177-6026	T	15	6	1.27	-63	99.9%	No	D
177-7008D	T	17	11	1.01	-14	70.1%	No	NT
177-7008S	T	15	15	0.20	74	100.0%	No	I
177-7009D	T	14	7	0.95	12	72.3%	No	NT
177-7009S	T	10	10	0.20	-18	93.4%	No	PD
177-7025D	T	14	14	0.20	-15	77.5%	No	S
177-7025S	T	14	14	0.10	-8	64.6%	No	S
177-7026D	T	17	9	0.90	5	56.4%	No	NT
177-7026S	T	15	6	1.38	-11	68.7%	No	NT
CSW-1D	T	6	1	0.93	5	76.5%	No	NT
CSW-1S	T	6	1	1.03	5	76.5%	No	NT
CSW-2R	T	23	3	1.53	-3	52.1%	No	NT

MAROS Mann-Kendall Statistics Summary

Project: Pease AFB - PWS **User Name:** Haley Plante

Location: Portsmouth **State:** New Hampshire

PFHXS

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
CSW-3D	T	3	3	0.00	0	0.0%	No	N/A
CSW-3S	T	3	3	0.00	0	0.0%	No	N/A
HMW-16	T	9	9	0.36	2	54.0%	No	NT
PSW-1	T	22	7	1.20	27	76.6%	No	NT
PSW-2	T	6	0	0.00	0	42.3%	Yes	ND
PSW-3D	T	3	1	0.00	0	0.0%	No	N/A
PSW-3S	T	3	1	0.00	0	0.0%	No	N/A
PSW-4D	T	1	1	0.00	0	0.0%	No	N/A
PSW-4S	T	1	0	0.00	0	0.0%	Yes	ND
PSW-5D	T	1	1	0.00	0	0.0%	No	N/A
PSW-5S	T	1	1	0.00	0	0.0%	No	N/A
PFNA								
177-3016	T	6	0	0.00	0	42.3%	Yes	ND
177-5008	S	15	0	0.00	0	48.0%	Yes	ND
177-5009	T	12	0	0.00	0	47.3%	Yes	ND
177-5010	T	6	0	0.00	0	42.3%	Yes	ND
177-5011	T	6	0	0.00	0	42.3%	Yes	ND
177-5016	T	4	0	0.00	0	37.5%	Yes	ND
177-5025	T	16	0	0.00	0	48.2%	Yes	ND
177-5026	T	15	0	0.00	0	48.0%	Yes	ND
177-6008	T	16	0	0.00	0	48.2%	Yes	ND
177-6009	T	13	0	0.00	0	47.6%	Yes	ND
177-6010	T	9	0	0.00	0	46.0%	Yes	ND
177-6011	T	9	0	0.00	0	46.0%	Yes	ND
177-6016	T	4	0	0.00	0	37.5%	Yes	ND
177-6025	T	16	0	0.00	0	48.2%	Yes	ND
177-6026	T	15	0	0.00	0	48.0%	Yes	ND
177-7008D	T	17	0	0.00	0	48.4%	Yes	ND
177-7008S	T	15	0	0.00	0	48.0%	Yes	ND
177-7009D	T	14	0	0.00	0	47.8%	Yes	ND
177-7009S	T	10	0	0.00	0	46.4%	Yes	ND
177-7025D	T	14	0	0.00	0	47.8%	Yes	ND
177-7025S	T	14	0	0.00	0	47.8%	Yes	ND

MAROS Mann-Kendall Statistics Summary

Project: Pease AFB - PWS **User Name:** Haley Plante

Location: Portsmouth **State:** New Hampshire

PFNA

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
177-7026D	T	17	0	0.00	0	48.4%	Yes	ND
177-7026S	T	15	0	0.00	0	48.0%	Yes	ND
CSW-1D	T	6	0	0.00	0	42.3%	Yes	ND
CSW-1S	T	6	0	0.00	0	42.3%	Yes	ND
CSW-2R	T	23	0	0.00	0	48.9%	Yes	ND
CSW-3D	T	3	0	0.00	0	0.0%	Yes	ND
CSW-3S	T	3	0	0.00	0	0.0%	Yes	ND
HMW-16	T	9	0	0.00	0	46.0%	Yes	ND
PSW-1	T	22	0	0.00	0	48.9%	Yes	ND
PSW-2	T	6	0	0.00	0	42.3%	Yes	ND
PSW-3D	T	3	0	0.00	0	0.0%	Yes	ND
PSW-3S	T	3	2	0.00	0	0.0%	No	N/A
PSW-4D	T	1	0	0.00	0	0.0%	Yes	ND
PSW-4S	T	1	0	0.00	0	0.0%	Yes	ND
PSW-5D	T	1	0	0.00	0	0.0%	Yes	ND
PSW-5S	T	1	0	0.00	0	0.0%	Yes	ND
PFOA								
177-3016	T	6	0	0.00	0	42.3%	Yes	ND
177-5008	S	15	15	0.37	71	100.0%	No	I
177-5009	T	12	8	0.87	-4	58.0%	No	S
177-5010	T	6	2	1.39	-1	50.0%	No	NT
177-5011	T	6	0	0.00	0	42.3%	Yes	ND
177-5016	T	4	1	1.62	-3	72.9%	No	NT
177-5025	T	16	15	0.45	22	82.5%	No	NT
177-5026	T	15	7	1.18	35	95.4%	No	I
177-6008	T	16	16	0.42	64	99.8%	No	I
177-6009	T	13	13	0.15	19	86.1%	No	NT
177-6010	T	9	9	0.15	3	58.0%	No	NT
177-6011	T	9	0	0.00	0	46.0%	Yes	ND
177-6016	T	4	0	0.00	0	37.5%	Yes	ND
177-6025	T	16	14	0.42	-10	65.5%	No	S
177-6026	T	15	1	2.45	-14	73.7%	No	NT
177-7008D	T	17	3	1.86	-31	89.0%	No	NT

MAROS Mann-Kendall Statistics Summary

Project: Pease AFB - PWS **User Name:** Haley Plante

Location: Portsmouth **State:** New Hampshire

PFOA

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
177-7008S	T	15	14	0.30	26	89.0%	No	NT
177-7009D	T	14	1	1.87	-1	50.0%	No	NT
177-7009S	T	10	10	0.25	-6	66.8%	No	S
177-7025D	T	14	6	1.07	31	95.0%	No	I
177-7025S	T	12	9	0.64	-17	86.0%	No	S
177-7026D	T	17	3	1.52	17	74.2%	No	NT
177-7026S	T	15	3	1.12	19	81.0%	No	NT
CSW-1D	T	6	0	0.00	0	42.3%	Yes	ND
CSW-1S	T	6	2	1.25	9	93.2%	No	PI
CSW-2R	T	23	0	0.00	0	48.9%	Yes	ND
CSW-3D	T	3	3	0.00	0	0.0%	No	N/A
CSW-3S	T	3	3	0.00	0	0.0%	No	N/A
HMW-16	T	9	7	0.56	-7	72.8%	No	S
PSW-1	T	22	7	1.39	86	99.3%	No	I
PSW-2	T	6	1	1.38	5	76.5%	No	NT
PSW-3D	T	3	0	0.00	0	0.0%	Yes	ND
PSW-3S	T	3	3	0.00	0	0.0%	No	N/A
PSW-4D	T	1	0	0.00	0	0.0%	Yes	ND
PSW-4S	T	1	1	0.00	0	0.0%	No	N/A
PSW-5D	T	1	1	0.00	0	0.0%	No	N/A
PSW-5S	T	1	0	0.00	0	0.0%	Yes	ND
PFOS								
177-3016	T	6	0	0.00	0	42.3%	Yes	ND
177-5008	S	15	15	0.55	87	100.0%	No	I
177-5009	T	12	8	1.08	6	63.1%	No	NT
177-5010	T	6	1	2.17	3	64.0%	No	NT
177-5011	T	6	0	0.00	0	42.3%	Yes	ND
177-5016	T	4	0	0.00	0	37.5%	Yes	ND
177-5025	T	16	9	1.02	44	97.4%	No	I
177-5026	T	15	10	1.59	-1	50.0%	No	NT
177-6008	T	16	16	0.38	69	99.9%	No	I
177-6009	T	13	13	0.43	62	100.0%	No	I
177-6010	T	9	9	0.18	15	92.5%	No	PI

MAROS Mann-Kendall Statistics Summary

Project: Pease AFB - PWS **User Name:** Haley Plante

Location: Portsmouth **State:** New Hampshire

PFOS

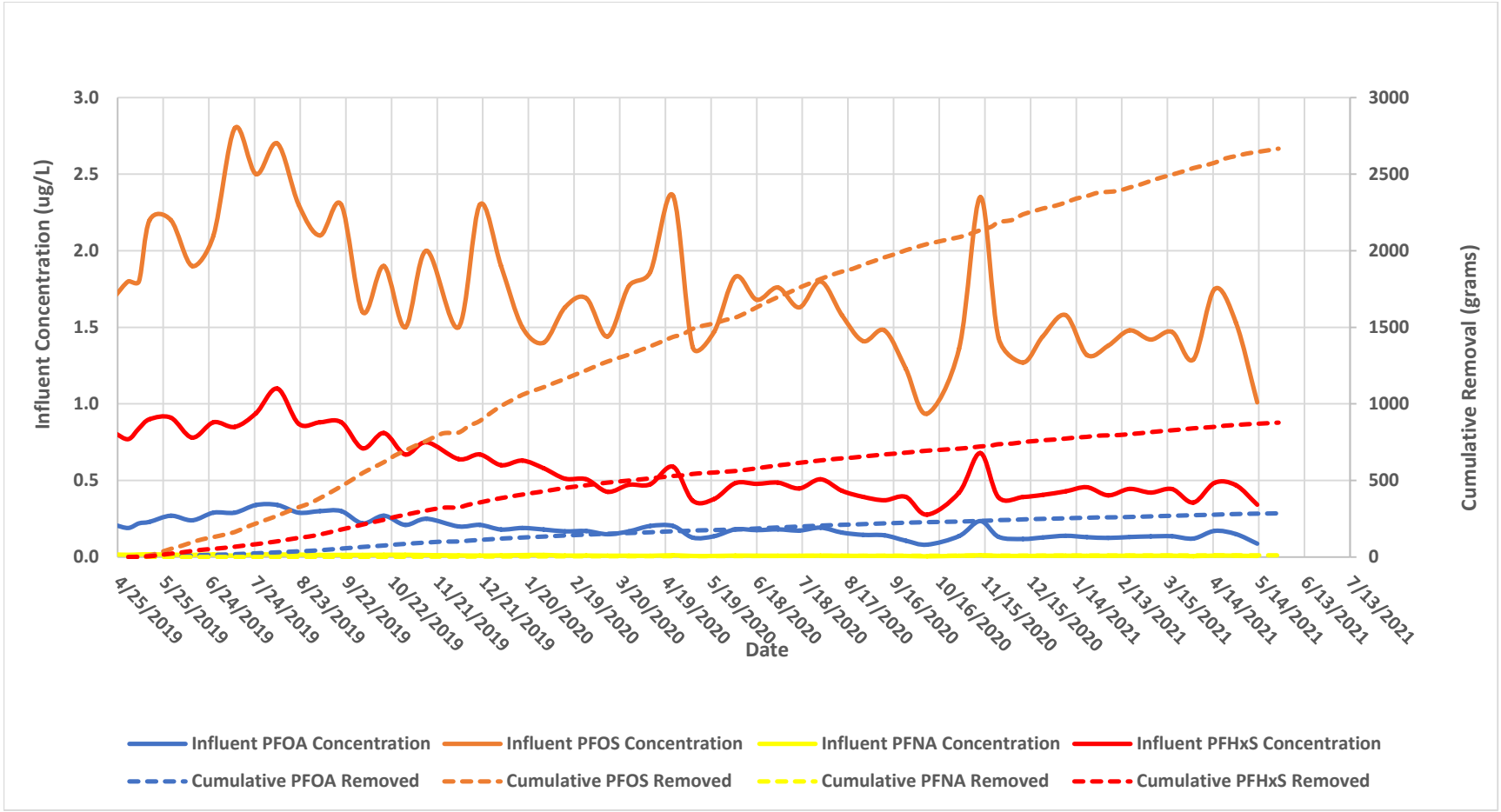
Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
177-6011	T	9	1	1.18	8	76.2%	No	NT
177-6016	T	4	0	0.00	0	37.5%	Yes	ND
177-6025	T	16	16	0.26	73	100.0%	No	I
177-6026	T	15	2	2.15	-27	89.9%	No	NT
177-7008D	T	17	9	1.29	-5	56.4%	No	NT
177-7008S	T	15	15	0.15	24	87.0%	No	NT
177-7009D	T	14	2	2.05	-23	88.3%	No	NT
177-7009S	T	10	9	0.46	-2	53.5%	No	S
177-7025D	T	14	10	0.66	25	90.4%	No	PI
177-7025S	T	14	13	0.40	-20	84.8%	No	S
177-7026D	T	17	2	2.75	-7	59.6%	No	NT
177-7026S	T	15	1	0.02	-10	66.9%	No	S
CSW-1D	T	6	0	0.00	0	42.3%	Yes	ND
CSW-1S	T	6	5	0.54	3	64.0%	No	NT
CSW-2R	T	23	0	0.00	0	48.9%	Yes	ND
CSW-3D	T	3	3	0.00	0	0.0%	No	N/A
CSW-3S	T	3	3	0.00	0	0.0%	No	N/A
HMW-16	T	9	8	0.51	3	58.0%	No	NT
PSW-1	T	22	3	1.89	42	87.5%	No	NT
PSW-2	T	6	1	1.23	5	76.5%	No	NT
PSW-3D	T	3	0	0.00	0	0.0%	Yes	ND
PSW-3S	T	3	3	0.00	0	0.0%	No	N/A
PSW-4D	T	1	0	0.00	0	0.0%	Yes	ND
PSW-4S	T	1	0	0.00	0	0.0%	Yes	ND
PSW-5D	T	1	1	0.00	0	0.0%	No	N/A
PSW-5S	T	1	0	0.00	0	0.0%	Yes	ND

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A)-Due to insufficient Data (< 4 sampling events); Source/Tail (S/T)

The Number of Samples and Number of Detects shown above are post-consolidation values.

Figure 3-1
AIMS PFOS, PFOA, PFNA, and PFHxS Concentrations
and Cumulative Mass Removal

Aifield Interim Mitigation System
Optimization, Maintenance, and Monitoring Report
January-June 2021
Former Pease Air Force Base
Portsmouth, NH



Site Closure Documents for Adjacent Sites

The State of New Hampshire
Department of Environmental Services

Michael P. Nolin
Commissioner

February 15, 2006

Mr. Michael McDonnell
Heron Realty Trust
P.O. Box 186
Seabrook, NH 03874

CERTIFICATE OF NO FURTHER ACTION

Subject Site: PORTSMOUTH – Former Sherburne Store
DES Site #199906086, Project #13391, Project Type LUST, WLP #3

Dear Mr. McDonnell:

The New Hampshire Department of Environmental Services (DES) has reviewed the report prepared by Nobis Engineering, Inc. dated December 29, 2005 entitled, "Groundwater Monitoring-December 2005." This report, prepared on your behalf, transmits analytical data for the December 2005 sampling event at the subject site. A request for site closure is also included in the report. This information was compared with the criteria for issuance of a *Certificate of No Further Action* as contained in New Hampshire Code of Administrative Rules Env-Wm 1600 *Standards For Reporting and Remediation Of Oil Discharges*. These criteria are outlined below:

1. Any human health hazards associated with direct exposure to contaminants have been eliminated;

2. Any necessary activity and use restrictions have been implemented;

3. Any known sources of groundwater contamination have been eliminated;

4. All on-site and off-site dissolved contamination levels in monitoring wells sampled meet groundwater quality criteria as specified in Env-Wm 1403;

5. Any penalties or fines issued under the New Hampshire Statutes for Oil Spillage, Underground Storage Facilities, or Hazardous Waste Management have been paid;

6. Any invoices associated with the department's recoverable costs have been paid, have been waived, or payment can be made by direct transfer from the State's petroleum reimbursement fund(s); and,

7. Any fees or costs due under the Brownfields Program have been paid.

DES has concluded that the conditions at this site meet the above closure criteria. Therefore, in accordance with Env-Wm 1606.03, DES hereby issues this *Certificate of No Further Action* for this site. Through issuance of this *Certificate of No Further Action*, DES certifies that no additional investigation, remedial measures, or groundwater monitoring shall be required at this site. Accordingly, DES will remove this site from our active project list and close the regulatory site file.

DES reserves the right, under New Hampshire Code of Administrative Rules Env-Wm 1600 *Standards For Reporting and Remediation Of Oil Discharges*, to require additional investigations, remedial measure, or groundwater monitoring if further information indicating the need for such work becomes known.

Site Closure Activities

Your consultant should decommission the site's groundwater monitoring wells. To facilitate completion of the monitoring well decommissioning work and for future reimbursement of the associated costs, please use DES' Unit-Based and Project-Based Costs for Monitoring Well Decommissioning as detailed in our *Guidance Manual-Policies, Rules & Procedures for Reimbursement*.

Cost Recovery

Previously we determined you to be strictly liable for payment of DES costs incurred for management of cleanup of your site. Please be advised that DES is authorized by statute to seek recovery of these costs, and we do so immediately prior to termination of regulatory management or at a change in project status. These costs will be paid directly to DES from the Petroleum Reimbursement Fund Program. If you wish to receive a detailed statement of these costs, please e-mail Ms. Joyce Bledsoe, P.G., at jbledsoe@des.state.nh.us or call (603) 271-8740, referencing the Reference line information in this letter.

If you should have any questions, please contact me immediately.

Sincerely,

Charles Berube, P.G.
Oil Remediation and Compliance Bureau
Tel: (603) 271-3644
Fax: (603) 271-2181
Email: cberube@des.state.nh.us

cc: Gary Lynn, P.E., Supervisor, ORCB (via email)
Portsmouth Health Officer
Nobis Engineering, Inc.

cb/ams
F:\ORCB\199906086.106.Berube.doc

The State of New Hampshire
Department of Environmental Services

Michael P. Nolin
Commissioner

January 23, 2006

Kevin Chenard
Supervisor
High Liner Foods, Inc.
1 Highliner Avenue
Portsmouth, New Hampshire 03802-0839

CERTIFICATE OF NO FURTHER ACTION

Subject: **PORTSMOUTH – High Liner Foods, Inc.**
DES Site #198606056, Project #15180, Project Type SPILL/RLS, WLP #3

Dear Mr. Chenard:

The New Hampshire Department of Environmental Services (DES) has reviewed the report prepared by GZA GeoEnvironmental, Inc. dated January 9, 2006 entitled, "Initial Site Characterization." This report, prepared on your behalf, transmits analytical data for the December 15, 2005 sampling event at the subject site. A request for site closure is also included in the report. This information was compared with the criteria for issuance of a ***Certificate Of No Further Action*** as contained in New Hampshire Code of Administrative Rules Env-Wm 1600 ***Standards For Reporting and Remediation Of Oil Discharges***. These criteria are outlined below:

1. Any human health hazards associated with direct exposure to contaminants have been eliminated; and

2. Any known sources of groundwater contamination have been eliminated.

DES has concluded that the conditions at this site meet the above closure criteria. Therefore, in accordance with Env-Wm 1606.03, DES hereby issues this ***Certificate Of No Further Action*** for this site. Through issuance of this ***Certificate Of No Further Action***, DES certifies that no additional investigation, remedial measures, or groundwater monitoring shall be required at this site. Accordingly, DES will remove this site from our active project list and close the regulatory site file.

DES reserves the right, under New Hampshire Code of Administrative Rules Env-Wm 1600 ***Standards For Reporting and Remediation Of Oil Discharges***, to require additional investigations, remedial measure, or groundwater monitoring if further information indicating the need for such work becomes known.

If you should have any questions, please contact me immediately.

Sincerely,

William R. Evans
Oil Remediation and Compliance Bureau
Tel: (603) 271-2873
Fax: (603) 271-2181
Email: bevans@des.state.nh.us

cc: Gary Lynn, P.E., Supervisor, ORCB (via email)
Portsmouth Health Officer
Kenneth Boivin, GZA GeoEnvironmental, Inc.

WRE/lsl
H:\ORCB\BEvans\highliner closure.ltr.doc

State of New Hampshire

DEPARTMENT OF ENVIRONMENTAL SERVICES

29 HAZEN DRIVE, P.O. BOX 95
CONCORD, NEW HAMPSHIRE 03301

Site Visit Report

Type of Facility: **Carpet Cleaning**

Date: **September 1, 2017**

Name & Location: Stanley Maddock
K & M Carpet Cleaning
898 Greenland Road,
Portsmouth, NH 03801
Phone# (603) 436-8328

NHDES Staff: Mitchell Locker
DWGB
(603) 271-2858

Subject: Discharge of Commercial/Industrial Wastewater to Ground Surface at Residence.

The NH Department of Environmental Services (NHDES) received a complaint referral from City of Portsmouth (City)) and local residents concerning K & M Carpet Cleaning (K&M) and the dumping of carpet cleaning wastewater onto the ground in a residential area (Picture #1). There had been previous complaints of this same issue and the City authority is reported to have notified the business owner Stanley Maddock, that the wastewater needs proper disposal. Transportation and disposal into the Municipal WWTF did occur for some time after but none recently.

Picture #1

NHDES conducted a site visit at 2:08 pm on September 1, 2017 –

Stanley Maddock was not available but NHDES did have discussions with a resident who noted that K & M operates the business out of the residence at 898 Greenland Road. The property is a rental and is owned by the next door neighbor, Ray & Shirley Mullaly, 980 Greenland Road, Portsmouth, NH.

The property owners were not available during the site visit. The resident stated the carpet cleaning wastewater is regularly dumped on site.

NHDES walked around the front of the property between the house and road (van parking area - Picture 2) and saw some ground discoloration and several piles of solids, debris, hair and fiber. Any release may have infiltrated on-site. NHDES did not see any obvious indication of runoffos wastewater to the road or adjacent storm water catch basins.

Picture #2

The front of the house had a pile of hoses –(Picture #3).

The site is very close to the road and the resident had concerns of the potential health issues for the residents and neighbors. NHDES left the site at 2:38 pm

On September 5, 2017 at 1:56 pm, Mr. Maddock called NHDES. In this follow-up conversation, he stated that no wastewater is discharged on-site onto or into the ground. He also stated that he connects the disposal hose to the house's basement sewer line connection and pumps the carpet cleaning wastewater into the municipal sewer. He explained that the piles of solids in the yard were from a filter trap he has emptied out. He also noted that the piles of debris would be cleaned up and put in the garbage.

NHDES also received a following call that same afternoon by a resident to report that carpet cleaning wastewater had been released the morning of September 5, 2017.

NHDES has received no additional evidence or photos verifying either claim.

The city of Portsmouth's Heath Department and Public Works Department has been notified that NHDES has been to the site.

M. Locker
Drinking Water & Groundwater Bureau
Groundwater Recharge Program

MDL/ml S:\...\...\...Programs\uic\2017mdl\NOV_enforcement\201709004 site visit
e-copy:
Brandon Kernen, DWGB
Robert Bishop, HWCS - RCRA - Inspection
Peter Sandin, HWRB

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

September 6, 2017

STANLEY MADDOCK
K & M CARPET CLEANING
898 GREENLAND ROAD
PORTSMOUTH, NH 03801

CORRESPONDENCE (NDW)

SUBJECT: **PORTSMOUTH** – K & M Carpet Cleaners, 898 Greenland Road, Complaint Follow-up, Discharge of Wastewater to Ground / Groundwater
Site# 201709004 / RSN# 38087 / Activity# 249010

Dear Mr. Maddock:

This is a NH Department of Environmental Services' (NHDES) follow up to a site visit conducted at the subject property on September 1, 2017. During the site visit NHDES received permission to inspect the area where the K & M van was parked. There were obvious piles of solids, debris, hair and fiber in the area indicating that discharges have occurred at the site. Further discussions with a resident supported the report that discharge of carpet cleaning wastes and/or wastewater have occurred at some time at the residential site.

Carpet cleaning and treatment can generate high concentrations of harmful bacteria and other contaminants including Per- and Polyfluoroalkyl Substances (PFAS) which are regulated contaminants under the NH Code of Administrative Rules, Env-Or 600 *Contaminated Site Management* rules (Table 600-1, Ambient Groundwater Quality Standards) and prohibited from discharge to the ground or groundwater. PFAS compounds are a serious concern and the NHDES, the City of Portsmouth and other regulatory entities are acutely aware of the potential for groundwater contamination from PFAS and other contaminants and place a high priority on this issue.

Therefore please be advised that any discharge of water or solids from carpet cleaning or similar commercial or industrial activities to the ground or groundwater is prohibited. If there is evidence of a release or a business' activities cause soil or groundwater contamination, NHDES will take necessary action to identify the source, stop discharges, investigate the site, and if necessary initiate enforcement actions on the business and property owner.

The options for disposal of this wastewater are as follows:

(1) for single family residential sites, discharge to the residential septic system or sewer connection.

(2) for wastewater generated at commercial, industrial or institutional sites or wastewater from combined sources, the disposal is limited to a wastewater treatment facility. Both transportation and disposal into a wastewater treatment facility or discharge into a locally approved sewer connection are acceptable.

Future violations or failure to manage wastewater appropriately will result in NHDES issuing a Letter of Deficiency (LOD), Administrative Order (AO), seeking an Administrative Fines, and/or referring the violation to the N.H. Department of Justice. Any further enforcement actions taken by the NHDES will be posted on the NHDES website for a period of five years.

Should you have any questions regarding this letter please contact me at the Water Division at (603) 271-2858 or by e-mail at *mitchell.locker@des.nh.gov*.

Sincerely,

Mitchell D. Locker, P.G.
Drinking Water & Groundwater Bureau
Groundwater Recharge Program

MDL/ml \ S:\WD-DWG\...\...\2017mdl\NOV_enforcemtnt\201709004 lod
e-copy: Stephen Roy, DWGB
Emily Jones, DWGB - Enforcement Section
copy: Peter Rice, Director, DPW, Peverly Hill Road, Portsmouth, NH 03801
Kim McNamara, Portsmouth Health Department, 1 Junkins Ave., Portsmouth
Raymond & Shirley Mullaly, Property Owner 890 Greenland Road, Portsmouth

APPENDIX 9.6

Interview Documentations

User Questionnaire for All Appropriate Inquiry

AS REQUIRED by ASTM Standard E1527-13

User Name (Entity): PORTSMOUTH HOUSING AUTHORITY

User Contact Information:

Address 245 MIDDLE ST.

City PORTSMOUTH

State N.H.

Phone/Fax Numbers 603-957-8317

Site Information:

Site Name: SHERBURNE SCHOOL / LISTER ACADEMY

Address: 35 SHERBURNE ROAD

City: PORTSMOUTH

State: N.H.

The person who will use the Phase One should provide the following information. Please fill in this form to the best of your ability, explaining any Yes answers on a separate sheet of paper. Without these answers, our report would have to note that the Phase One is incomplete.

1. **Environmental Cleanup Liens.** ASTM requires the User to check for environmental liens that may be filed or recorded against the subject property under federal, tribal, state or local law. Such liens might be listed in the "exceptions to coverage" in the property's title insurance commitment or policy.

   Have you checked for these environmental cleanup liens? ☐ Yes ☑ No

   Are you aware of any such liens against the subject property? ☐ Yes ☑ No

2. **Activity and Use Limitations (AULs).** These include engineering controls (e.g., slurry walls, caps) and land use restrictions or institutional controls (e.g., deed restrictions, covenants) that may be in place at the site or filed under federal, tribal, state or local law. The title commitment or policy might also list AULs.

   Are you aware of any possible AULs involving the subject site? ☐ Yes ☑ No

3. **Specialized Knowledge.** This involves personal knowledge or experience related to the subject property or nearby properties.

   Do you have any specialized knowledge that might indicate the past or present use of any chemicals, oil, *heating oil*, degreasers, gasoline, or other hazardous substances on the subject or nearby properties? ☐ Yes ☑ No

4. **Fair Market Value (FMV).** A purchase price significantly below FMV may indicate an environmental problem. Please note that this question does not require an appraisal of the property. If the price is significantly below FMV, the User should consider whether it might be because contamination may be present at the property.

   Is the purchase price significantly below fair market value? ☐ Yes ☑ No

5. **Obvious Indicators.** This involves past or present spills, stains, releases, cleanups, etc. on or near the site.

   Do you know of any obvious indicators of possible contamination on or near the site? ☐ Yes ☑ No

6. **Common Knowledge.** Please use a separate sheet if necessary.

a. Describe the past uses of the property: PROPERTY IS CURRENTLY BEING USED AS A SCHOOL

b. Describe any specific chemicals that may have been present at the property: NONE

c. Describe any other information that may help us identify possible contamination: NONE

Your Signature

1-4-2023
Date

# of separate sheets attached: 0
Explain Yes answers on a separate sheet.

MARK D. LENTZ
Please Print Name

FACILITIES DIRECTOR
Entity PORTSMOUTH HOUSING AUTHORITY

APPENDIX 9.7

Special Contractual Conditions
(empty)

APPENDIX 9.8

Qualifications of the Environmental Professional

TODD A. SCHEFFER, P.G.

143 Rochester Hill Road
Rochester, NH 03867
(603) 330-3537

PROFESSIONAL EXPERIENCE

SRW ENVIRONMENTAL CONSULTING, LLC - Principal 10/07 - Present

I am responsible for performing environmental consulting services, site supervision, data collection and analysis and report preparation. Projects include radon testing/mitigation, environmental site assessments, NEPA Environmental Review assessments and training (for Responsible Entities), storage tank closure assessments, managing environmental corrective actions, remedial plan implementation, and compliance consulting.

ARC ENVIRONMENTAL CONSULTANTS, INC. - Project Manager/Vice President 02/98 – 10/07

I was a project manager responsible for performing environmental consulting services, site supervision, data collection and analysis and report preparation. Projects include environmental site assessments, HUD Environmental Review assessments, storage tank closure assessments, managing environmental corrective actions, remedial plan implementation, and compliance consulting.

MSG CONSULTING, INC. - Project Manager 04/93 – 01/98

As a project manager I was responsible for performing all consulting services including project management, site supervision, data collection and analysis, and report preparation. Projects included environmental site assessments, storage tank closure assessments, remedial action planning and implementation, compliance consulting.

RYAN-MURPHY INC. - Project Estimator 05/92 – 04/93

I was an estimator for on-site soil remediation projects, including volume, contamination concentration/mass calculations, contaminant characterization, and preliminary project costs. I also assisted in preparing air resource permit applications, performed marketing activities for a startup sales office.

CERTIFICATION

Licensed Professional Geologist, State of New Hampshire (ID # 265)
National Radon Proficiency Program Residential Measurement Provider (ID # 107362 RT)
National Radon Proficiency Program Residential Mitigation Provider (ID # 107467 RMT)
National Radon Proficiency Program Advanced Certification for Multi-Family Measurement

EDUCATION

UNIVERSITY OF NEW HAMPSHIRE 1987 - 1991
Degree: BS Civil Engineering
Concentration: Environmental Engineering

CONTINUING EDUCATION CREDITS
Over 24 hours bi-annually as required by PG Licensure
Over 24 hours bi-annually as required by NRPP Licensure (radon)
Ongoing, voluntary, NEPA Environmental Review Training (HUD/RD)