



89 Crawford Street  
Leominster, Massachusetts 01453  
Tel: 774.450.7177  
Fax: 888.835.0617  
www.lrt-llc.net

March 1, 2016

U.S. Environmental Protection Agency-Region 1  
5 Post Office Square, Suite 100  
Mail Code OEP06-4  
Boston, Massachusetts 02109-3912  
Attn.: Dewatering General Permit NOI Processing

**Reference:     Notice of Intent (NOI)  
                     Dewatering General Permit (DGP)  
                     Scituate Middle School  
                     606 Chief Justice Cushing Highway  
                     Scituate, Massachusetts**

To Whom It May Concern:

On behalf of J. Derenzo Company (JDC), Lockwood Remediation Technologies, LLC (LRT) has prepared this Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) Dewatering General Permit (DGP) (MAG070000). This NOI was prepared in accordance with the general requirements of the NPDES and related guidance documentation provided by the US Environmental Protection Agency (EPA). The completed NOI form is provided in Appendix A.

### **Site Information**

This NOI has been prepared for the management of water generated during the construction of a new middle school in Scituate, Massachusetts (the Site); please refer to Figure 1 for a locus map and an overview of the immediate area surrounding the Site. The work area, located at 606 Chief Justice Cushing Highway, is depicted in Figure 2 along with the proposed treated water discharge location.

### **Work Summary**

The work scope at the site includes the demolition of a portion of the existing high school to allow for the addition of the middle school. Also, construction on site will include a new auditorium, relocation/installation of utilities and a new parking lot. In order to complete portions of this work, dewatering is required. All water generated from the dewatering of the excavations will be pumped to a water treatment system, depicted in Figure 3, prior to discharge to a catch basin that flows into Tack Factory Pond. To characterize water from the excavation, LRT collected a representative groundwater sample from an excavation pit on February 24, 2016. This sample was analyzed for the parameters in accordance with the NPDES DGP, Appendix VIII. Laboratory data reports for this sample are provided in Appendix B.

### **Discharge and Receiving Surface Water Information**

A groundwater sample collected by LRT on February 24, 2016 was submitted for the following analyses: total suspended solids (TSS), selected metals, hardness, pH and chloride. The results of this sampling are below applicable Remediation General Permit (RGP) standards. Refer to Figure 3 for the water treatment system layout.

### **Consultation with Federal Services**

LRT reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS), the Massachusetts Division of Fisheries and Wildlife (MassWildlife; Natural Heritage and Endangered Species Program), and the U.S. National Parks Service Natural Historic Places (NPS). Based on this review, neither the Site nor the point where the proposed discharge reaches the receiving surface water body are Areas of Critical Environmental Concern (ACEC), Habitats of Rare Wetland Wildlife, Habitats of Rare Species, Estimated Habitats of Rare Wildlife, or listed as a National Historic Place.

### **Coverage under NPDES DGP**

It is our opinion that the proposed discharge is eligible for coverage under the NPDES DGP. On behalf of JDC, we are requesting coverage under the NPDES DGP for the discharge of wastewater during construction activities to Tack Factory Pond.

The enclosed NOI form provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services. For this project, JDC is the operator that has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications.

Please feel free to contact us at 774-450-7177 or at [plockwood@lrt-llc.net](mailto:plockwood@lrt-llc.net) if you have any questions or if you require additional information.

Sincerely,  
Lockwood Remediation Technologies, LLC

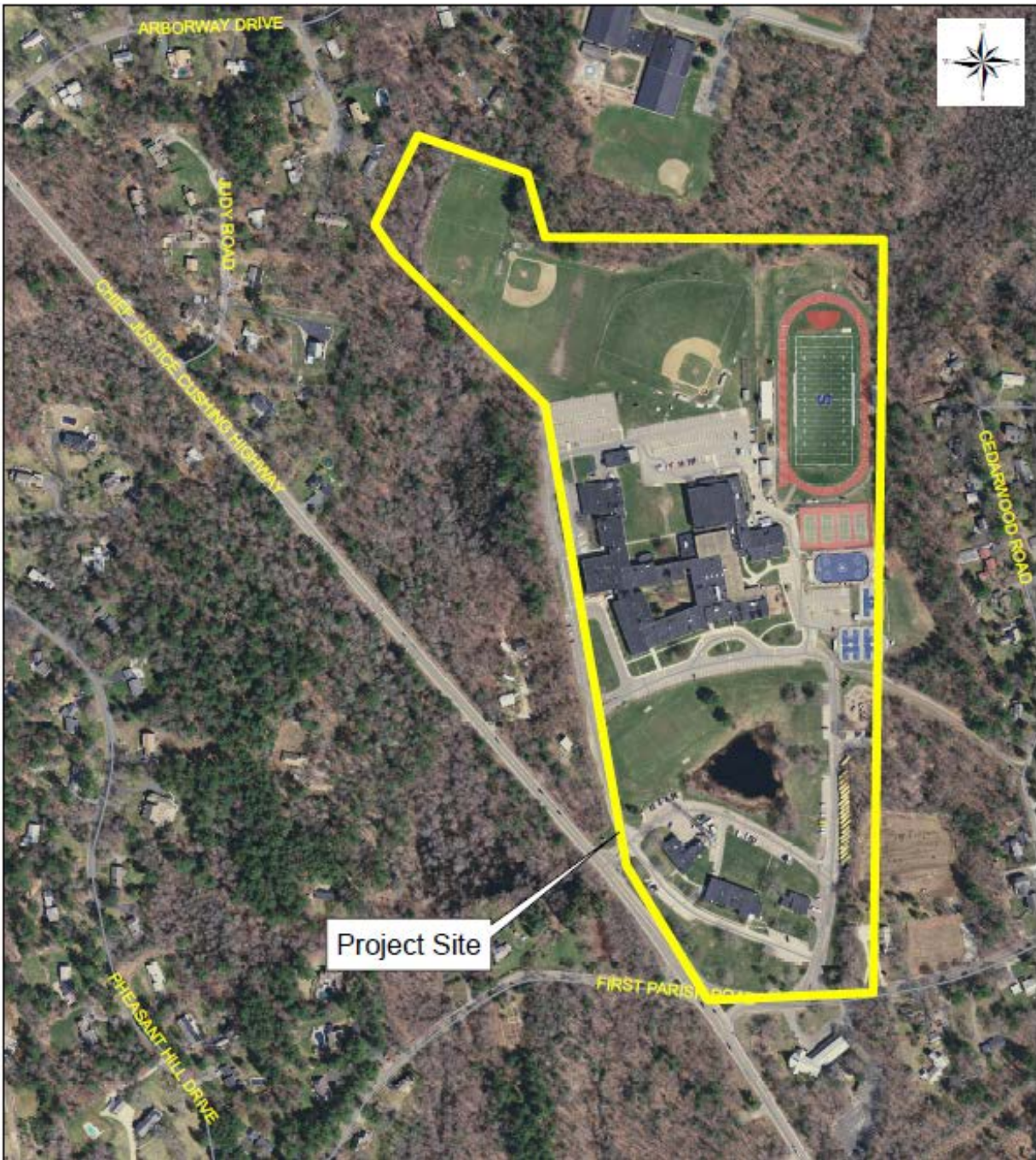
*Paul Lockwood*

Paul Lockwood  
President

### **Attachments:**

- Figure 1 Locus Plan
- Figure 2 Discharge Location
- Figure 3 Outfall Locations
- Figure 4 Water Treatment System Layout
- Appendix A – NOI Form
- Appendix B – Laboratory Data
- Appendix C – Supplemental Information

## Figures



**Site Location:**

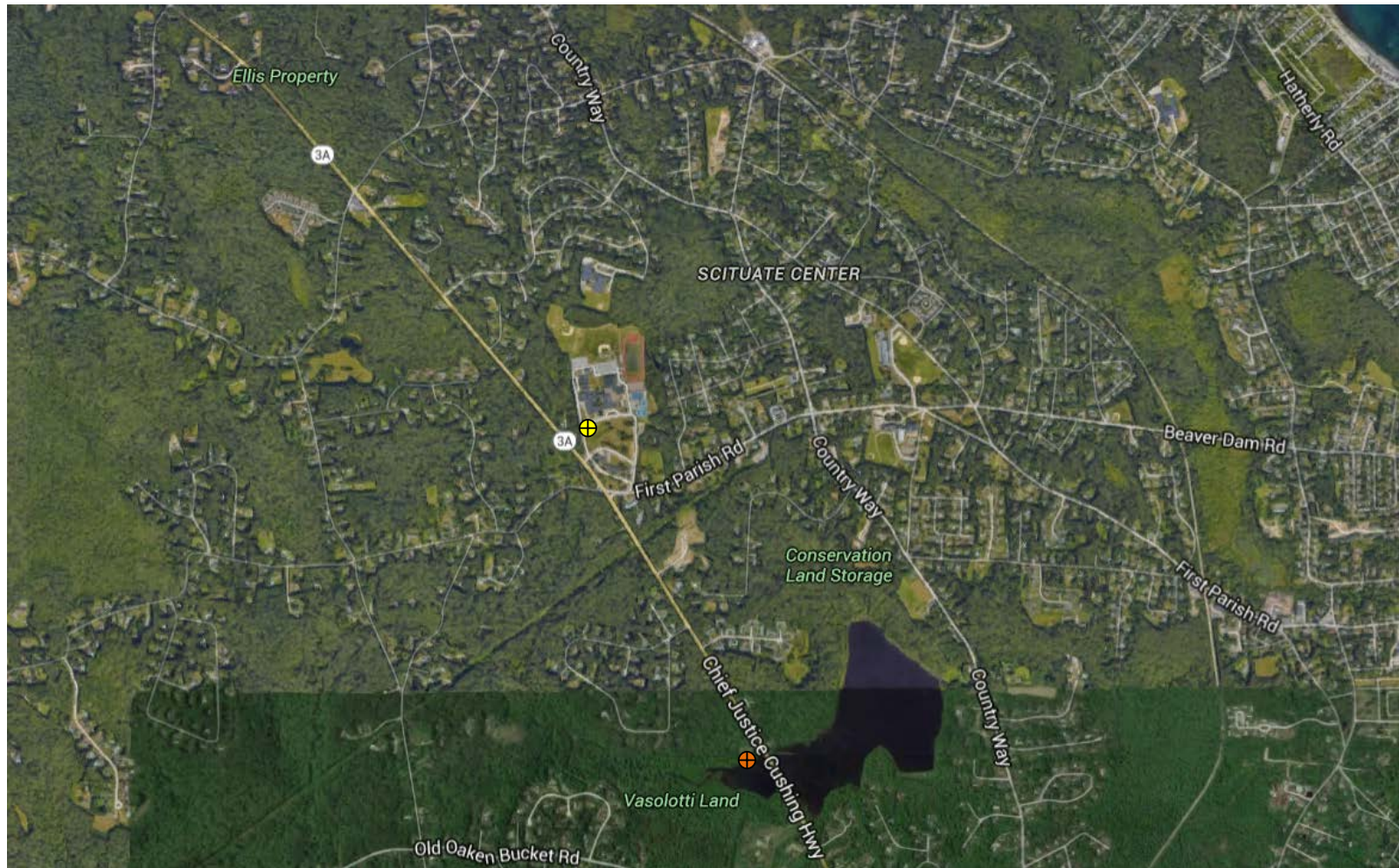
Latitude: 42.196622  
Longitude: -70.768643



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**Figure 1 – Locus Map**  
Scituate Middle School  
606 Chief Justice Cushing Highway  
Scituate, Massachusetts





Source: Google Maps

# **KEY**

Site                      ⊕  
 Discharge Location    ⊕



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**Figure 2 - Discharge Location**  
 Scituate Public Safety Facility  
 606 Chief Justice Cushing Highway  
 Scituate, Massachusetts



Source: Existing Conditions Plan by Ross Engineering Co. Inc. dated June 30, 2015

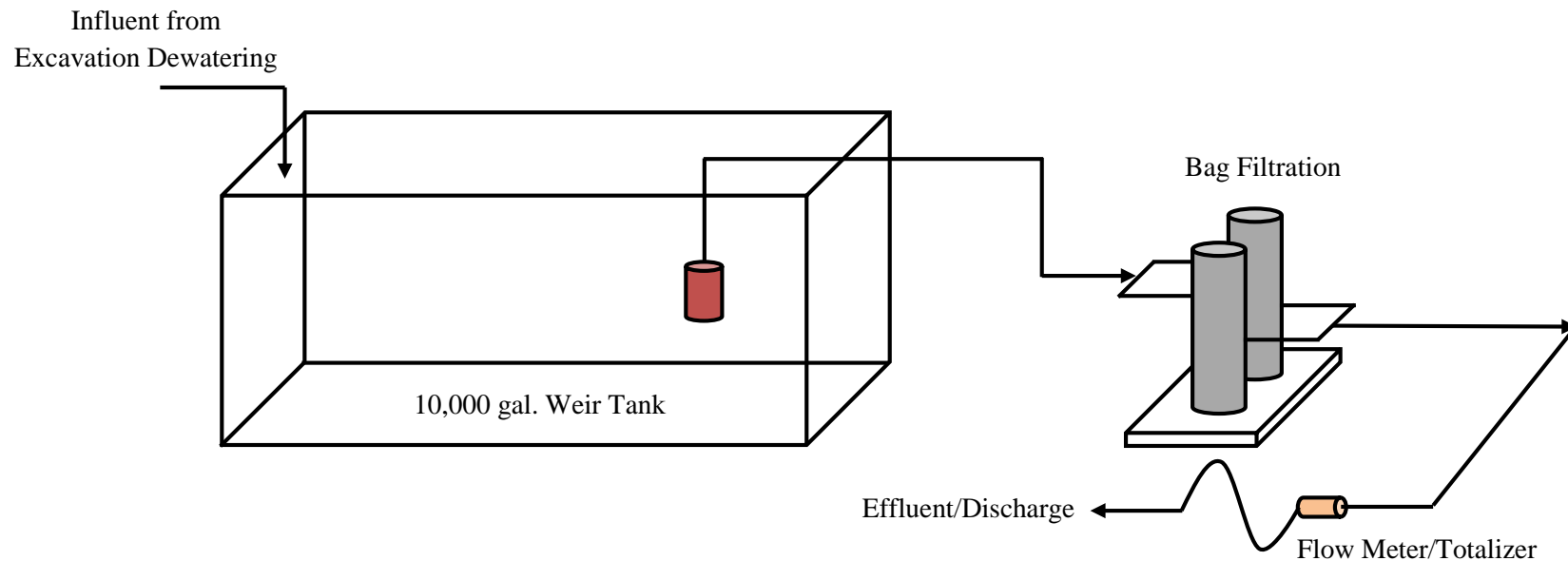
# **KEY**

Outfall 



89 Crawford Street  
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**Figure 3 - Outfall Locations**  
Scituate Public Safety Facility  
606 Chief Justice Cushing Highway  
Scituate, Massachusetts



**Notes:**

- 1.) Figure is not to scale.
- 2.) The water treatment system is rated for 50 gallons per minute.
- 3.) All dewatering effluent water shall be routed to the treatment system.



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**Figure 4 - Water Treatment System Layout**  
Scituate Public Safety Facility  
606 Chief Justice Cushing Highway  
Scituate, Massachusetts

## **Appendix A – NOI Form**



## II. Suggested Notice of Intent (NOI) Format

### 1. General facility information. Please provide the following information about the facility.

|   |                                     |                                   |  |
|---|-------------------------------------|-----------------------------------|--|
| a) Name of facility:  |                                     | Mailing Address for the Facility: |  |
| b) Location Address of the Facility (if different from mailing address):  | Facility Location                   | Type of Business:                 |  |
|   | longitude: _____<br>latitude: _____ | Facility SIC codes:               |  |
| c) Name of facility owner: _____ Owner's email: _____<br>Owner's Tel #: _____ Owner's Fax #: _____<br>Address of owner (if different from facility address)<br>Town of Scituate<br>600 Chief Justice Highway<br>Scituate, MA 02066<br>Owner is (check one): 1. Federal _____ 2. State _____ 3. Private _____ 4. Other _____ (Describe) _____  |                                     |                                   |  |
| Legal name of Operator, if not owner: _____<br>Operator Contact Name: _____<br>Operator Tel Number: _____ Fax Number: _____<br>Operator's email: _____<br>Operator Address (if different from owner) _____  |                                     |                                   |  |
| d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? _____  |                                     |                                   |  |
| e) Check Yes or No for the following:<br>1. Has a prior NPDES permit been granted for the discharge? Yes _____ No _____ If Yes, Permit Number: _____<br>2. Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes _____ No _____<br>3. Is the facility covered by an individual NPDES permit? Yes _____ No _____ If Yes, Permit Number _____<br>4. Is there a pending application on file with EPA for this discharge? Yes _____ No _____ If Yes, date of submittal: _____ |                                     |                                   |  |

**2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)**

a) Name of receiving water into which discharge will occur: \_\_\_\_\_  
State Water Quality Classification: \_\_\_\_\_ Freshwater: \_\_\_\_\_ Marine Water: \_\_\_\_\_

- b) Describe the discharge activities for which the owner/applicant is seeking coverage:
1. Construction dewatering of groundwater intrusion and/or storm water accumulation.
  2. Short-term or long-term dewatering of foundation sumps.
  3. Other.

c) Number of outfalls \_\_\_\_\_

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow \_\_\_\_\_ GPD  
Average Monthly Flow \_\_\_\_\_ GPD

e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH \_\_\_\_\_ Min pH \_\_\_\_\_

f.) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. Groundwater

g.) What treatment does the wastewater receive prior to discharge? Weir tank and bag filtration

h.) Is the discharge continuous? Yes \_\_\_\_\_ No \_\_\_\_\_ If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B) \_\_\_\_\_  
If (P), number of days or months per year of the discharge \_\_\_\_\_ and the specific months of discharge \_\_\_\_\_;  
If (I), number of days/year there is a discharge \_\_\_\_\_  
Is the discharge temporary? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, approximate start date of dewatering \_\_\_\_\_ approximate end date of dewatering \_\_\_\_\_

i.) Latitude and longitude of each discharge within 100 feet (See [http://www.epa.gov/tri/report/siting\\_tool](http://www.epa.gov/tri/report/siting_tool)): Outfall 1: long. \_\_\_\_\_ lat. \_\_\_\_\_; Outfall 2: long. \_\_\_\_\_ lat. \_\_\_\_\_; Outfall 3: long. \_\_\_\_\_ lat. \_\_\_\_\_. Outfall 4: long. -70.768018 lat. 42.197996 Outfall 5: long. -70.766940 lat. 42.19934

j.) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations \_\_\_\_\_ cfs  
(See Appendix VII for equations and additional information)

|  |
|--|
|  |
| <p><b>MASSACHUSETTS FACILITIES:</b> See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):</p> <p>k.) Does the discharge occur in an ACEC? Yes _____ No _____<br/>         If yes, provide the name of the ACEC: _____</p> |

**3. Contaminant Information**

|  |
|--|
| <p>a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC<sub>50</sub> in percent for aquatic organism(s)).</p> <p>b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.</p> |
|--|

**4. Determination of Endangered Species Act Eligibility:** Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

|   |
|---|
| <p>a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? _____</p> <p>b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation</p> |
|---|

**5. Documentation of National Historic Preservation Act requirements:** Please respond to the following questions:

|   |
|---|
| <p>a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes _____ No _____ ; Question 2: No _____ Yes _____</p> <p>b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No _____ If yes, attach the results of the consultation(s).</p> <p>c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? _____</p> <p>d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No _____ If yes, provide that name of the Indian Tribe associated with the property. _____</p> |
|---|

**6. Supplemental Information:** Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

**7. Signature Requirements:** The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Scituate Middle School

Operator signature:

Print Full Name and Title:

Date: 03/02/2016

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.



## **Appendix B – Laboratory Data**

- ☒ Final Report  
☐ Re-Issued Report  
☐ Revised Report

Report Date:  
29-Feb-16 16:36

## Laboratory Report

Lockwood Remediation Technologies, LLC  
89 Crawford Street  
Leominster, MA 01453  
Attn: Paul Lockwood

Project: Scituate Middle School - Scituate, MA  
Project #: 2-1345

| <u>Laboratory ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Date Sampled</u> | <u>Date Received</u> |
|----------------------|-------------------------|---------------|---------------------|----------------------|
| SC18465-01           | EX022416                | Ground Water  | 24-Feb-16 10:30     | 25-Feb-16 13:50      |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.  
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110  
Connecticut # PH-0777  
Florida # E87936  
Maine # MA138  
New Hampshire # 2538  
New Jersey # MA011  
New York # 11393  
Pennsylvania # 68-04426/68-02924  
Rhode Island # LAO00098  
USDA # S-51435



Authorized by:



June O'Connor  
Laboratory Director

Eurofins Spectrum Analytical holds certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.

Please note that this report contains 10 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

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*Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.*

## CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.3 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

Analyses for Total Hardness, pH, and Total Residual Chlorine fall under the state of Pennsylvania code Chapter 252.6 accreditation by rule.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

### **SM3500-Cr-B/7196A**

#### **Samples:**

SC18465-01                      EX022416

---

This sample was analyzed outside the EPA recommended holding time per client request.

Hexavalent Chromium

## Sample Acceptance Check Form

Client: Lockwood Remediation Technologies, LLC - MA  
Project: Scituate Middle School - Scituate, MA / 2-1345  
Work Order: SC18465  
Sample(s) received on: 2/25/2016

*The following outlines the condition of samples for the attached Chain of Custody upon receipt.*

|  | <u>Yes</u>                          | <u>No</u>                           | <u>N/A</u>                          |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| Were custody seals present?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Were custody seals intact?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Were samples received at a temperature of $\leq 6^{\circ}\text{C}$ ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Were samples refrigerated upon transfer to laboratory representative?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Were sample containers received intact?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Were samples accompanied by a Chain of Custody document?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample? | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Did sample container labels agree with Chain of Custody document?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Were samples received within method-specific holding times?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |



### Summary of Hits

**Lab ID:** SC18465-01

**Client ID:** EX022416

| Parameter | Result | Flag | Reporting Limit | Units      | Analytical Method |
|-----------|--------|------|-----------------|------------|-------------------|
| Calcium   | 3.71   |      | 0.100           | mg/l       | EPA 200.7         |
| Iron      | 0.112  |      | 0.0150          | mg/l       | EPA 200.7         |
| Magnesium | 1.37   |      | 0.0100          | mg/l       | EPA 200.7         |
| Zinc      | 0.0072 |      | 0.0050          | mg/l       | EPA 200.7         |
| Chloride  | 12.0   |      | 1.00            | mg/l       | EPA 300.0         |
| Hardness  | 14.9   |      | 0.291           | mg/l CaCO3 | SM 2340B          |

*Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order*

Sample Identification

|                 |                         |               |                             |                 |
|-----------------|-------------------------|---------------|-----------------------------|-----------------|
| <b>EX022416</b> | <u>Client Project #</u> | <u>Matrix</u> | <u>Collection Date/Time</u> | <u>Received</u> |
| SC18465-01      | 2-1345                  | Ground Water  | 24-Feb-16 10:30             | 25-Feb-16       |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---------|------------|--------|------|-------|------|-----|----------|-------------|----------|----------|---------|-------|-------|
|---------|------------|--------|------|-------|------|-----|----------|-------------|----------|----------|---------|-------|-------|

**Total Metals by EPA 200/6000 Series Methods**

|              |                 |     |   |                      |     |         |
|--------------|-----------------|-----|---|----------------------|-----|---------|
| Preservation | Field Preserved | N/A | 1 | EPA 200/6000 methods | LNB | 1603367 |
|--------------|-----------------|-----|---|----------------------|-----|---------|

**Total Metals by EPA 200 Series Methods**

|           |           |           |  |      |         |         |   |                 |           |           |     |         |   |
|-----------|-----------|-----------|--|------|---------|---------|---|-----------------|-----------|-----------|-----|---------|---|
| 7440-38-2 | Arsenic   | < 0.0040  |  | mg/l | 0.0040  | 0.0024  | 1 | EPA 200.7       | 25-Feb-16 | 26-Feb-16 | TBC | 1603370 | X |
| 7440-70-2 | Calcium   | 3.71      |  | mg/l | 0.100   | 0.0642  | 1 | "               | "         | 29-Feb-16 | "   | "       | X |
| 7440-43-9 | Cadmium   | < 0.0025  |  | mg/l | 0.0025  | 0.0006  | 1 | "               | "         | 26-Feb-16 | "   | "       | X |
| 7440-47-3 | Chromium  | < 0.0050  |  | mg/l | 0.0050  | 0.0014  | 1 | "               | "         | "         | "   | "       | X |
| 7439-89-6 | Iron      | 0.112     |  | mg/l | 0.0150  | 0.0090  | 1 | "               | "         | "         | "   | "       | X |
| 7439-97-6 | Mercury   | < 0.00020 |  | mg/l | 0.00020 | 0.00009 | 1 | EPA 245.1/7470A | "         | 26-Feb-16 | TBC | 1603371 | X |
| 7439-95-4 | Magnesium | 1.37      |  | mg/l | 0.0100  | 0.0038  | 1 | EPA 200.7       | "         | 26-Feb-16 | TBC | 1603370 | X |
| 7440-02-0 | Nickel    | < 0.0050  |  | mg/l | 0.0050  | 0.0016  | 1 | "               | "         | "         | "   | "       | X |
| 7439-92-1 | Lead      | < 0.0075  |  | mg/l | 0.0075  | 0.0020  | 1 | "               | "         | 29-Feb-16 | "   | "       | X |
| 7440-36-0 | Antimony  | < 0.0060  |  | mg/l | 0.0060  | 0.0030  | 1 | "               | "         | 26-Feb-16 | "   | "       | X |
| 7782-49-2 | Selenium  | < 0.0150  |  | mg/l | 0.0150  | 0.0106  | 1 | "               | "         | "         | "   | "       | X |
| 7440-66-6 | Zinc      | 0.0072    |  | mg/l | 0.0050  | 0.0033  | 1 | "               | "         | "         | "   | "       | X |

**General Chemistry Parameters**

|                                |         |     |            |       |        |   |                    |                 |                 |     |           |
|--------------------------------|---------|-----|------------|-------|--------|---|--------------------|-----------------|-----------------|-----|-----------|
| Hardness                       | 14.9    | HD  | mg/l CaCO3 | 0.291 | 0.176  | 1 | SM 2340B           | 25-Feb-16       | 29-Feb-16       | TBC | [CALC]    |
| 16887-00-6 Chloride            | 12.0    |     | mg/l       | 1.00  | 0.0784 | 1 | EPA 300.0          | 25-Feb-16       | 25-Feb-16       | MJL | 1603372 X |
| 18540-29-9 Hexavalent Chromium | < 0.005 | 009 | mg/l       | 0.005 | 0.002  | 1 | SM3500-Cr-B/71 96A | 25-Feb-16 18:15 | 25-Feb-16 20:02 | TDD | 1603383   |
| Total Suspended Solids         | < 5.0   |     | mg/l       | 5.0   | 2.8    | 1 | SM2540D            | 26-Feb-16       | 27-Feb-16       | CMB | 1603406 X |

*This laboratory report is not valid without an authorized signature on the cover page*

# **Total Metals by EPA 200 Series Methods - Quality Control**

| Analyte(s)                               | Result   | Flag | Units | *RDL                             | Spike Level                                    | Source Result | %REC | %REC Limits | RPD  | RPD Limit |
|--|----------|------|-------|----------------------------------|--|---------------|------|-------------|------|-----------|
| <b>Batch 1603370 - EPA 200 Series</b>    |          |      |       |                                  |  |               |      |             |      |           |
| <b><u>Blank (1603370-BLK1)</u></b>       |          |      |       |                                  | <u>Prepared: 25-Feb-16 Analyzed: 29-Feb-16</u> |               |      |             |      |           |
| Magnesium                                | < 0.0100 |      | mg/l  | 0.0100                           |  |               |      |             |      |           |
| Lead                                     | < 0.0075 |      | mg/l  | 0.0075                           |  |               |      |             |      |           |
| Iron                                     | < 0.0150 |      | mg/l  | 0.0150                           |  |               |      |             |      |           |
| Zinc                                     | < 0.0050 |      | mg/l  | 0.0050                           |  |               |      |             |      |           |
| Selenium                                 | < 0.0150 |      | mg/l  | 0.0150                           |  |               |      |             |      |           |
| Nickel                                   | < 0.0050 |      | mg/l  | 0.0050                           |  |               |      |             |      |           |
| Antimony                                 | < 0.0060 |      | mg/l  | 0.0060                           |  |               |      |             |      |           |
| Chromium                                 | < 0.0050 |      | mg/l  | 0.0050                           |  |               |      |             |      |           |
| Calcium                                  | < 0.100  |      | mg/l  | 0.100                            |  |               |      |             |      |           |
| Cadmium                                  | < 0.0025 |      | mg/l  | 0.0025                           |  |               |      |             |      |           |
| Arsenic                                  | < 0.0040 |      | mg/l  | 0.0040                           |  |               |      |             |      |           |
| <b><u>LCS (1603370-BS1)</u></b>          |          |      |       |                                  | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |               |      |             |      |           |
| Zinc                                     | 1.29     |      | mg/l  | 0.0050                           | 1.25   |               | 103  | 85-115      |      |           |
| Iron                                     | 1.25     |      | mg/l  | 0.0150                           | 1.25   |               | 100  | 85-115      |      |           |
| Magnesium                                | 1.27     |      | mg/l  | 0.0100                           | 1.25   |               | 102  | 85-115      |      |           |
| Antimony                                 | 1.22     |      | mg/l  | 0.0060                           | 1.25   |               | 98   | 85-115      |      |           |
| Nickel                                   | 1.28     |      | mg/l  | 0.0050                           | 1.25   |               | 102  | 85-115      |      |           |
| Selenium                                 | 1.28     |      | mg/l  | 0.0150                           | 1.25   |               | 103  | 85-115      |      |           |
| Lead                                     | 1.33     |      | mg/l  | 0.0075                           | 1.25   |               | 107  | 85-115      |      |           |
| Cadmium                                  | 1.23     |      | mg/l  | 0.0025                           | 1.25   |               | 99   | 85-115      |      |           |
| Chromium                                 | 1.29     |      | mg/l  | 0.0050                           | 1.25   |               | 104  | 85-115      |      |           |
| Arsenic                                  | 1.26     |      | mg/l  | 0.0040                           | 1.25   |               | 101  | 85-115      |      |           |
| Calcium                                  | 6.15     |      | mg/l  | 0.100                            | 6.25   |               | 98   | 85-115      |      |           |
| <b><u>Duplicate (1603370-DUP1)</u></b>   |          |      |       | <b><u>Source: SC18465-01</u></b> | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |               |      |             |      |           |
| Nickel                                   | < 0.0050 |      | mg/l  | 0.0050                           |  | BRL           |      |             |      | 20        |
| Lead                                     | 0.0022   | J    | mg/l  | 0.0075                           |  | 0.0026        |      |             | 16.3 | 20        |
| Zinc                                     | 0.0067   |      | mg/l  | 0.0050                           |  | 0.0072        |      |             | 6    | 20        |
| Antimony                                 | < 0.0060 |      | mg/l  | 0.0060                           |  | BRL           |      |             |      | 20        |
| Magnesium                                | 1.42     |      | mg/l  | 0.0100                           |  | 1.37          |      |             | 3    | 20        |
| Iron                                     | 0.108    |      | mg/l  | 0.0150                           |  | 0.112         |      |             | 3    | 20        |
| Selenium                                 | < 0.0150 |      | mg/l  | 0.0150                           |  | BRL           |      |             |      | 20        |
| Calcium                                  | 3.77     |      | mg/l  | 0.100                            |  | 3.71          |      |             | 2    | 20        |
| Chromium                                 | < 0.0050 |      | mg/l  | 0.0050                           |  | BRL           |      |             |      | 20        |
| Cadmium                                  | < 0.0025 |      | mg/l  | 0.0025                           |  | BRL           |      |             |      | 20        |
| Arsenic                                  | < 0.0040 |      | mg/l  | 0.0040                           |  | BRL           |      |             |      | 20        |
| <b><u>Matrix Spike (1603370-MS1)</u></b> |          |      |       | <b><u>Source: SC18465-01</u></b> | <u>Prepared: 25-Feb-16 Analyzed: 29-Feb-16</u> |               |      |             |      |           |
| Lead                                     | 1.37     |      | mg/l  | 0.0075                           | 1.25   | 0.0026        | 109  | 70-130      |      |           |
| Iron                                     | 1.39     |      | mg/l  | 0.0150                           | 1.25   | 0.112         | 102  | 70-130      |      |           |
| Magnesium                                | 2.65     |      | mg/l  | 0.0100                           | 1.25   | 1.37          | 102  | 70-130      |      |           |
| Nickel                                   | 1.29     |      | mg/l  | 0.0050                           | 1.25   | BRL           | 103  | 70-130      |      |           |
| Antimony                                 | 1.25     |      | mg/l  | 0.0060                           | 1.25   | BRL           | 100  | 70-130      |      |           |
| Selenium                                 | 1.30     |      | mg/l  | 0.0150                           | 1.25   | BRL           | 104  | 70-130      |      |           |
| Zinc                                     | 1.31     |      | mg/l  | 0.0050                           | 1.25   | 0.0072        | 104  | 70-130      |      |           |
| Arsenic                                  | 1.28     |      | mg/l  | 0.0040                           | 1.25   | BRL           | 102  | 70-130      |      |           |
| Calcium                                  | 10.0     |      | mg/l  | 0.100                            | 6.25   | 3.71          | 101  | 70-130      |      |           |
| Chromium                                 | 1.34     |      | mg/l  | 0.0050                           | 1.25   | BRL           | 107  | 70-130      |      |           |
| Cadmium                                  | 1.23     |      | mg/l  | 0.0025                           | 1.25   | BRL           | 99   | 70-130      |      |           |
| <b><u>Post Spike (1603370-PS1)</u></b>   |          |      |       | <b><u>Source: SC18465-01</u></b> | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |               |      |             |      |           |
| Selenium                                 | 1.32     |      | mg/l  | 0.0150                           | 1.25   | BRL           | 106  | 85-115      |      |           |
| Iron                                     | 1.36     |      | mg/l  | 0.0150                           | 1.25   | 0.112         | 100  | 85-115      |      |           |
| Zinc                                     | 1.30     |      | mg/l  | 0.0050                           | 1.25   | 0.0072        | 103  | 85-115      |      |           |

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# **Total Metals by EPA 200 Series Methods - Quality Control**

| Analyte(s)                                  | Result         | Flag | Units | *RDL                             | Spike Level | Source Result   | %REC | %REC Limits | RPD | RPD Limit |
|---|----------------|------|-------|----------------------------------|-------------|---|------|-------------|-----|-----------|
| <b>Batch 1603370 - EPA 200 Series</b>       |                |      |       |                                  |             |   |      |             |     |           |
| <b><u>Post Spike (1603370-PS1)</u></b>      |                |      |       | <b><u>Source: SC18465-01</u></b> |             | <b><u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u></b> |      |             |     |           |
| Magnesium                                   | <b>2.65</b>    |      | mg/l  | 0.0100                           | 1.25        | 1.37  | 102  | 85-115      |     |           |
| Nickel                                      | <b>1.30</b>    |      | mg/l  | 0.0050                           | 1.25        | BRL   | 104  | 85-115      |     |           |
| Antimony                                    | <b>1.25</b>    |      | mg/l  | 0.0060                           | 1.25        | BRL   | 100  | 85-115      |     |           |
| Lead  | <b>1.31</b>    |      | mg/l  | 0.0075                           | 1.25        | 0.0026  | 105  | 85-115      |     |           |
| Cadmium                                     | <b>1.22</b>    |      | mg/l  | 0.0025                           | 1.25        | BRL   | 98   | 85-115      |     |           |
| Calcium                                     | <b>9.76</b>    |      | mg/l  | 0.100                            | 6.25        | 3.71  | 97   | 85-115      |     |           |
| Chromium                                    | <b>1.30</b>    |      | mg/l  | 0.0050                           | 1.25        | BRL   | 104  | 85-115      |     |           |
| Arsenic                                     | <b>1.29</b>    |      | mg/l  | 0.0040                           | 1.25        | BRL   | 104  | 85-115      |     |           |
| <b>Batch 1603371 - EPA200/SW7000 Series</b> |                |      |       |                                  |             |   |      |             |     |           |
| <b><u>Blank (1603371-BLK1)</u></b>          |                |      |       |                                  |             | <b><u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u></b> |      |             |     |           |
| Mercury                                     | < 0.00020      |      | mg/l  | 0.00020                          |             |   |      |             |     |           |
| <b><u>LCS (1603371-BS1)</u></b>             |                |      |       |                                  |             | <b><u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u></b> |      |             |     |           |
| Mercury                                     | <b>0.00520</b> |      | mg/l  | 0.00020                          | 0.00500     |   | 104  | 85-115      |     |           |
| <b><u>Duplicate (1603371-DUP1)</u></b>      |                |      |       | <b><u>Source: SC18465-01</u></b> |             | <b><u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u></b> |      |             |     |           |
| Mercury                                     | < 0.00020      |      | mg/l  | 0.00020                          |             | BRL   |      |             |     | 20        |
| <b><u>Matrix Spike (1603371-MS1)</u></b>    |                |      |       | <b><u>Source: SC18465-01</u></b> |             | <b><u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u></b> |      |             |     |           |
| Mercury                                     | <b>0.00490</b> |      | mg/l  | 0.00020                          | 0.00500     | BRL   | 98   | 80-120      |     |           |
| <b><u>Post Spike (1603371-PS1)</u></b>      |                |      |       | <b><u>Source: SC18465-01</u></b> |             | <b><u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u></b> |      |             |     |           |
| Mercury                                     | <b>0.00492</b> |      | mg/l  | 0.00020                          | 0.00500     | BRL   | 98   | 85-115      |     |           |



# General Chemistry Parameters - Quality Control

| Analyte(s)                                     | Result  | Flag | Units | *RDL                             | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit                                      |
|--|---------|------|-------|----------------------------------|-------------|---------------|------|-------------|-----|--|
| <b>Batch 1603372 - General Preparation</b>     |         |      |       |                                  |             |               |      |             |     |  |
| <b><u>Blank (1603372-BLK1)</u></b>             |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | < 1.00  |      | mg/l  | 1.00                             |             |               |      |             |     |  |
| <b><u>LCS (1603372-BS1)</u></b>                |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 20.7    |      | mg/l  | 1.00                             | 20.0        |               | 104  | 90-110      |     |  |
| <b><u>Calibration Blank (1603372-CCB1)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 0.515   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Blank (1603372-CCB2)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 0.504   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Blank (1603372-CCB3)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 0.505   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Blank (1603372-CCB4)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 0.504   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Blank (1603372-CCB5)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 0.504   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Blank (1603372-CCB6)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 0.504   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Blank (1603372-CCB7)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 0.504   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Blank (1603372-CCB8)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 0.505   |      | mg/l  |                                  |             |               |      |             |     |  |
| <b><u>Calibration Check (1603372-CCV1)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 20.9    |      | mg/l  | 1.00                             | 20.0        |               | 104  | 90-110      |     |  |
| <b><u>Calibration Check (1603372-CCV2)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 20.8    |      | mg/l  | 1.00                             | 20.0        |               | 104  | 90-110      |     |  |
| <b><u>Calibration Check (1603372-CCV3)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 20.9    |      | mg/l  | 1.00                             | 20.0        |               | 105  | 90-110      |     |  |
| <b><u>Calibration Check (1603372-CCV4)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 20.7    |      | mg/l  | 1.00                             | 20.0        |               | 104  | 90-110      |     |  |
| <b><u>Calibration Check (1603372-CCV5)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 20.7    |      | mg/l  | 1.00                             | 20.0        |               | 104  | 90-110      |     |  |
| <b><u>Calibration Check (1603372-CCV6)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 20.6    |      | mg/l  | 1.00                             | 20.0        |               | 103  | 90-110      |     |  |
| <b><u>Calibration Check (1603372-CCV7)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 20.7    |      | mg/l  | 1.00                             | 20.0        |               | 103  | 90-110      |     |  |
| <b><u>Calibration Check (1603372-CCV8)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 20.7    |      | mg/l  | 1.00                             | 20.0        |               | 103  | 90-110      |     |  |
| <b><u>Duplicate (1603372-DUP1)</u></b>         |         |      |       | <b><u>Source: SC18465-01</u></b> |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 12.1    |      | mg/l  | 1.00                             |             | 12.0          |      |             | 0.3 | 20   |
| <b><u>Matrix Spike (1603372-MS1)</u></b>       |         |      |       | <b><u>Source: SC18465-01</u></b> |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 20.1    |      | mg/l  | 1.00                             | 8.00        | 12.0          | 101  | 90-110      |     |  |
| <b><u>Matrix Spike Dup (1603372-MSD1)</u></b>  |         |      |       | <b><u>Source: SC18465-01</u></b> |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Chloride                                       | 20.0    |      | mg/l  | 1.00                             | 8.00        | 12.0          | 100  | 90-110      | 0.5 | 20   |
| <b><u>Reference (1603372-SRM1)</u></b>         |         |      |       |                                  |             |               |      |             |     | <u>Prepared: 25-Feb-16 Analyzed: 26-Feb-16</u> |
| Chloride                                       | 27.1    |      | mg/l  | 1.00                             | 25.0        |               | 109  | 90-110      |     |  |
| <b>Batch 1603383 - General Preparation</b>     |         |      |       |                                  |             |               |      |             |     |  |
| <b><u>Blank (1603383-BLK1)</u></b>             |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Hexavalent Chromium                            | < 0.005 |      | mg/l  | 0.005                            |             |               |      |             |     |  |
| <b><u>LCS (1603383-BS1)</u></b>                |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |
| Hexavalent Chromium                            | 0.050   |      | mg/l  | 0.005                            | 0.0500      |               | 99   | 90-111      |     |  |
| <b><u>Calibration Blank (1603383-CCB1)</u></b> |         |      |       |                                  |             |               |      |             |     | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |

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# General Chemistry Parameters - Quality Control

| Analyte(s)                                     | Result | Flag | Units | *RDL                             | Spike Level | Source Result | %REC | %REC Limits                                    | RPD | RPD Limit |
|--|--------|------|-------|----------------------------------|-------------|---------------|------|--|-----|-----------|
| <b>Batch 1603383 - General Preparation</b>     |        |      |       |                                  |             |               |      |  |     |           |
| <u><b>Calibration Blank (1603383-CCB1)</b></u> |        |      |       |                                  |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | -0.002 |      | mg/l  |                                  |             |               |      |  |     |           |
| <u><b>Calibration Blank (1603383-CCB2)</b></u> |        |      |       |                                  |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | -0.002 |      | mg/l  |                                  |             |               |      |  |     |           |
| <u><b>Calibration Check (1603383-CCV1)</b></u> |        |      |       |                                  |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | 0.050  |      | mg/l  | 0.005                            | 0.0500      |               | 101  | 90-110   |     |           |
| <u><b>Calibration Check (1603383-CCV2)</b></u> |        |      |       |                                  |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | 0.050  |      | mg/l  | 0.005                            | 0.0500      |               | 100  | 90-110   |     |           |
| <u><b>Duplicate (1603383-DUP1)</b></u>         |        |      |       | <u><b>Source: SC18465-01</b></u> |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | 0.002  | J    | mg/l  | 0.005                            |             | BRL           |      |  |     | 20        |
| <u><b>Matrix Spike (1603383-MS1)</b></u>       |        |      |       | <u><b>Source: SC18465-01</b></u> |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | 0.056  |      | mg/l  | 0.005                            | 0.0500      | BRL           | 111  | 85-115   |     |           |
| <u><b>Matrix Spike Dup (1603383-MSD1)</b></u>  |        |      |       | <u><b>Source: SC18465-01</b></u> |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | 0.054  |      | mg/l  | 0.005                            | 0.0500      | BRL           | 108  | 85-115   | 3   | 20        |
| <u><b>Reference (1603383-SRM1)</b></u>         |        |      |       |                                  |             |               |      | <u>Prepared &amp; Analyzed: 25-Feb-16</u>      |     |           |
| Hexavalent Chromium                            | 0.023  |      | mg/l  | 0.005                            | 0.0250      |               | 93   | 85-115   |     |           |
| <b>Batch 1603406 - General Preparation</b>     |        |      |       |                                  |             |               |      |  |     |           |
| <u><b>Blank (1603406-BLK1)</b></u>             |        |      |       |                                  |             |               |      | <u>Prepared: 26-Feb-16 Analyzed: 27-Feb-16</u> |     |           |
| Total Suspended Solids                         | < 5.0  |      | mg/l  | 5.0                              |             |               |      |  |     |           |
| <u><b>LCS (1603406-BS1)</b></u>                |        |      |       |                                  |             |               |      | <u>Prepared: 26-Feb-16 Analyzed: 27-Feb-16</u> |     |           |
| Total Suspended Solids                         | 100    |      | mg/l  | 10.0                             | 100         |               | 100  | 90-110   |     |           |

## Notes and Definitions

|     |   |
|-----|---|
| O09 | This sample was analyzed outside the EPA recommended holding time per client request.                 |
| dry | Sample results reported on a dry weight basis   |
| NR  | Not Reported  |
| RPD | Relative Percent Difference   |
| J   | Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). |
| HD  | Total Hardness is a calculation based on the reported values of Ca and Mg.                            |

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:  
Kimberly LaPlante  
Rebecca Merz



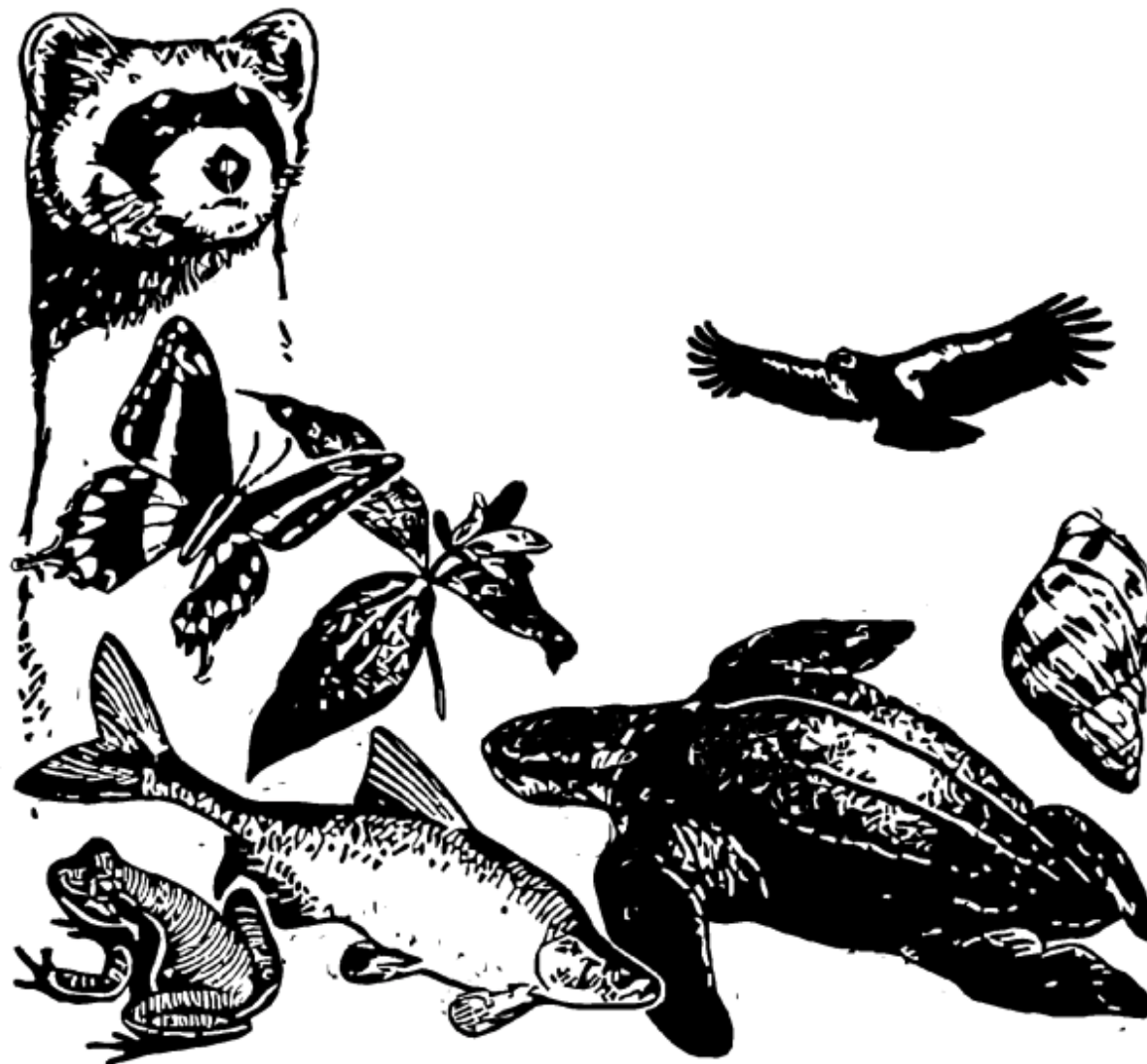
## **Appendix C – Supplemental Information**

# Scituate Middle School

## *IPaC Trust Resource Report*

Generated February 29, 2016 03:05 PM MST, IPaC v2.3.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



US Fish & Wildlife Service

# IPaC Trust Resource Report



NAME

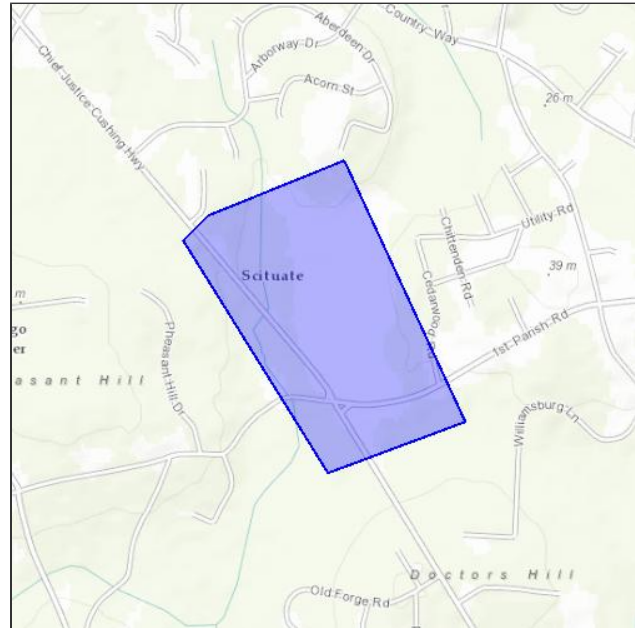
Scituate Middle School

LOCATION

Plymouth County, Massachusetts

IPAC LINK

<http://ecos.fws.gov/ipac/project/CKRSM-V3PVR-EWDFC-ZQ74F-EXFQS4>



## U.S. Fish & Wildlife Contact Information

Trust resources in this location are managed by:

### **New England Ecological Services Field Office**

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541



# Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the [Endangered Species Program](#) of the U.S. Fish & Wildlife Service.

**This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.**

For project evaluations that require FWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

[Section 7](#) of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

**A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from the Regulatory Documents section in IPaC.**

The list of species below are those that may occur or could potentially be affected by activities in this location:

## Birds

**Red Knot** *Calidris canutus rufa*

Threatened

CRITICAL HABITAT

**No critical habitat** has been designated for this species.

[https://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=B0DM](https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0DM)

## Mammals

**Northern Long-eared Bat** *Myotis septentrionalis*

Threatened

CRITICAL HABITAT

**No critical habitat** has been designated for this species.

[https://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=A0JE](https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE)

## Critical Habitats

**There are no critical habitats in this location**

# Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the [Bald and Golden Eagle Protection Act](#).

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

Additional information can be found using the following links:

- Birds of Conservation Concern  
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds  
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data  
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php>

The following species of migratory birds could potentially be affected by activities in this location:

|   |                              |
|---|------------------------------|
| <b>American Oystercatcher</b> <i>Haematopus palliatus</i>   | Bird of conservation concern |
| Season: Breeding<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0G8">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0G8</a> |                              |
| <b>American Bittern</b> <i>Botaurus lentiginosus</i>  | Bird of conservation concern |
| Season: Breeding<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0F3">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0F3</a> |                              |
| <b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i>   | Bird of conservation concern |
| Year-round<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B008">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B008</a>       |                              |
| <b>Black Skimmer</b> <i>Rynchops niger</i>  | Bird of conservation concern |
| Season: Breeding<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0EO">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0EO</a> |                              |
| <b>Black-billed Cuckoo</b> <i>Coccyzus erythrophthalmus</i>   | Bird of conservation concern |
| Season: Breeding<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HI">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HI</a> |                              |
| <b>Blue-winged Warbler</b> <i>Vermivora pinus</i>   | Bird of conservation concern |
| Season: Breeding  |                              |
| <b>Canada Warbler</b> <i>Wilsonia canadensis</i>  | Bird of conservation concern |
| Season: Breeding  |                              |

|  |                              |
|--|------------------------------|
| <b>Hudsonian Godwit</b> <i>Limosa haemastica</i><br>Season: Migrating  | Bird of conservation concern |
| <b>Least Bittern</b> <i>Ixobrychus exilis</i><br>Season: Breeding  | Bird of conservation concern |
| <b>Least Tern</b> <i>Sterna antillarum</i><br>Season: Breeding   | Bird of conservation concern |
| <b>Olive-sided Flycatcher</b> <i>Contopus cooperi</i><br>Season: Breeding<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0AN">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0AN</a> | Bird of conservation concern |
| <b>Peregrine Falcon</b> <i>Falco peregrinus</i><br>Season: Wintering<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0FU">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0FU</a>      | Bird of conservation concern |
| <b>Pied-billed Grebe</b> <i>Podilymbus podiceps</i><br>Year-round  | Bird of conservation concern |
| <b>Prairie Warbler</b> <i>Dendroica discolor</i><br>Season: Breeding   | Bird of conservation concern |
| <b>Purple Sandpiper</b> <i>Calidris maritima</i><br>Season: Wintering  | Bird of conservation concern |
| <b>Saltmarsh Sparrow</b> <i>Ammodramus caudatus</i><br>Season: Breeding  | Bird of conservation concern |
| <b>Seaside Sparrow</b> <i>Ammodramus maritimus</i><br>Season: Breeding   | Bird of conservation concern |
| <b>Short-eared Owl</b> <i>Asio flammeus</i><br>Season: Wintering<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HD">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HD</a>          | Bird of conservation concern |
| <b>Snowy Egret</b> <i>Egretta thula</i><br>Season: Breeding  | Bird of conservation concern |
| <b>Upland Sandpiper</b> <i>Bartramia longicauda</i><br>Season: Breeding<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HC">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HC</a>   | Bird of conservation concern |
| <b>Willow Flycatcher</b> <i>Empidonax traillii</i><br>Season: Breeding<br><a href="https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0F6">https://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0F6</a>    | Bird of conservation concern |
| <b>Wood Thrush</b> <i>Hylocichla mustelina</i><br>Season: Breeding   | Bird of conservation concern |
| <b>Worm Eating Warbler</b> <i>Helmitheros vermivorum</i><br>Season: Breeding   | Bird of conservation concern |

## Refuges

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

**There are no refuges in this location**

# Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

## DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

## Freshwater Forested/shrub Wetland

|                       |            |
|-----------------------|------------|
| <a href="#">PFO1E</a> | 20.3 acres |
| <a href="#">PFO1C</a> | 1.53 acres |
| <a href="#">PSS1E</a> | 0.752 acre |

## Freshwater Pond

|                       |            |
|-----------------------|------------|
| <a href="#">PUBHx</a> | 0.962 acre |
|-----------------------|------------|

A full description for each wetland code can be found at the National Wetlands Inventory website: <http://107.20.228.18/decoders/wetlands.aspx>



Based upon a discussion with Maria Tur of the U.S. Fish & Wildlife Service (USFWS), temporary dewatering activities at the site are not expected to impact the Red Knot and the Northern Long-eared Bat. Northern long-eared bats spend winter hibernating in caves and mines. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. During the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). There are no caves and mines located at the site. There are trees in the immediate vicinity of the site; however, tree removal is not part of the scope of work related to this Notice of Intent. Additionally, the developed area is not considered a suitable habitat for the Red Knot. Therefore, temporary dewatering activities at the site are not expected to impact the Red Knot and the Northern Long-eared Bat.



# MassDEP - Bureau of Waste Site Cleanup

## Site Information:

SCITUATE MIDDLE SCHOOL  
606 CHIEF JUSTICE CUSHING HIGHWAY SCITUATE, MA

### NAD83 UTM Meters:

4673515mN , 353936mE (Zone: 19)  
February 29, 2016

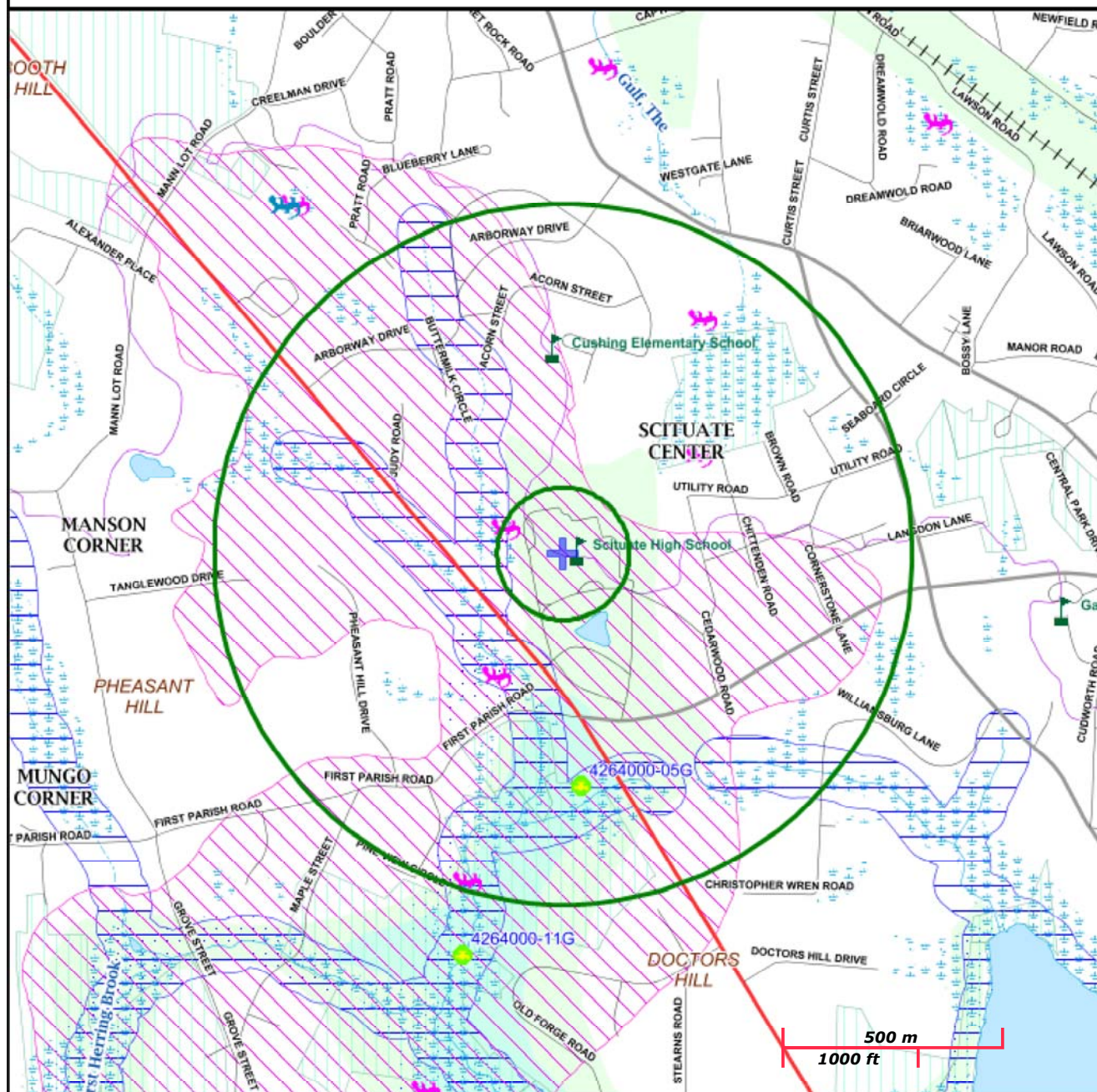
## Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at:  
<http://www.mass.gov/mgis/>.



**MassDEP**

Commonwealth of Massachusetts  
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.



# Massachusetts Cultural Resource Information System

## MACRIS

### MACRIS Search Results

Search Criteria: Town(s): Scituate; Street No: 606; Street Name: Chief Justice Cushing; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

| Inv. No. | Property Name | Street | Town | Year |
|----------|---------------|--------|------|------|
|----------|---------------|--------|------|------|