GeoInsight®
Environmental Strategy & Engineering

September 8, 2017 GeoInsight Project 5601-000

United States Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square - Suite 100 (OEP06-01)
Boston, MA 02109-3912

RE: Notice of Intent – Remediation General Permit
Gill Mobil
23 French King Highway
Gill, Massachusetts
MADEP RTN 1-12568

To Whom It May Concern:

GeoInsight, Inc. (GeoInsight) prepared the attached Notice of Intent (NOI) for the Remediation General Permit (RGP) at the request of Summit Distributing, LLC (Summit). A copy of the NOI is provided in Attachment A.

The purpose of this submittal is to obtain a permit to temporarily discharge water generated during redevelopment activities at the property located at 23 French King Highway in Gill, Massachusetts (herein referred to as the "Property"). The Property will be redeveloped into a larger retail gasoline station and dewatering during construction activities and excavation of petroleum-impacted soils will be necessary. Refer to Figure 1 for the location of the Property.

BACKGROUND

The Property, which consists of two parcels totaling approximately 0.833 acres in area, is located on the southeast corner of the intersection of Route 2 and Main Road. The Property is identified by the Town of Gill (the Town) as Lots 5 and 5A on Tax Map 101 and is zoned Village Commercial. Construction activities are currently on-going at the Property. The Property formerly operated as a Mobil retail fuel dispensing station and consisted of a cashier's kiosk building, a rest room and vending machine kiosk building, a canopy covering four gasoline dispensing pumps, and two uncovered diesel fuel pumps. Refer to Figure 2 for Property features.

The planned station redevelopment includes closing and the replacing the current underground storage tank (UST) system. The current UST system includes two gasoline USTs (one 12,000-gallon and one 8,000-gallon) installed in October 2007, and one diesel fuel UST

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200 Court Street, 2nd Floor
Middletown, CT 06457-3341
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(12,000-gallon) installed in 1998. The USTs were removed from the Property on August 28 and 29, 2017 and the associated piping is anticipated to be removed in September 2017. A new UST system will be installed approximately 30 feet northwest of the current UST system (in the vicinity of monitoring wells MW-7D and MW-7S) and will include one 15,000-gallon gasoline UST and one 12,000-gallon split diesel and gasoline UST (6,000-gallon diesel and 6,000-gallon super grade gasoline). In addition to closing and replacing the current UST system, the planned station redevelopment will include razing all current Property structures including the pump islands, restrooms, and kiosk; re-grading the Property; and installing a new storm water drainage system. The eastern abutting property identified as Lot 6 will also be part of the newly redeveloped station. The Property will be redeveloped with a 3,940-square-foot convenience store containing a quick service restaurant and two fuel dispensing areas (one with six fuel dispensers and one with three diesel fuel dispensers).

Dewatering will be conducted from sumps located inside the Property boundary. Dewatering will be necessary to control groundwater seepage, precipitation, surface water runoff, and possible construction-generated water to enable below-grade construction activities and petroleum-impacted soil excavation activities to occur in a relatively dry environment. Below grade construction and excavation is anticipated to start in September 2017. Dewatering is anticipated to occur between approximately September and November 2017.

ENVIRONMENTAL HISTORY

Massachusetts Department of Environmental Protection (MassDEP) assigned Release Tracking Number (RTN) 1-12568 to the Property associated with a release of diesel fuel and gasoline that occurred on Lot 5/5A in 1998. Remedial investigations and cleanup activities associated with RTN 1-12568 have been occurring at the Property since 1999 and the Property is currently in Phase V Remedial Operation Status (ROS). As part of the Phase V ROS, GeoInsight has conducted groundwater monitoring at the Property since August 2008 and sampling results have not suggested significant rebound since the former *in situ* Submerged Oxygen Curtain system was shut-down in August 2008. Comprehensive response actions since August 2008 have consisted of monitored natural attenuation.

In 2010, GeoInsight recommended evaluating Property data using a Method 3 Risk Characterization (M3RC). In anticipation of the M3RC, GeoInsight conducted soil vapor sampling at the Property in December 2010, March 2011, and August 2011, and performed an additional groundwater monitoring event in August 2011 to further evaluate subsurface Property conditions. Data collected as part of these investigations indicated elevated petroleum concentrations in soil vapor for which a source has not been defined. Recent groundwater data have indicated that petroleum concentrations in groundwater are within GW-2 and/or GW-3 standards, as applicable.

Additional investigations were conducted in June of 2012 to evaluate the source of localized volatile organic compound (VOC) impacts. Investigations included six soil borings, three new monitoring wells, and five additional soil vapor probes. Data from these investigations continued to show that there was a persistent, localized plume of VOCs in soil vapor in the

vicinity of soil vapor sample VP-12 (see Figure 2); soil and groundwater samples did not show significant impacts and a significant source for the VOC impacts was not identified. Although this plume does not appear to be affecting soil or groundwater significantly, GeoInsight recommended performing a Release Abatement Measure (RAM) based upon the persistence of air-phase petroleum hydrocarbon concentrations and their levels significantly above applicable screening values.

A RAM Plan was prepared in December 2012 to address oil and/or hazardous material present in soil vapor in a limited portion of the Property. The original RAM entailed the installation and operation of a soil vapor extraction system (SVE). The SVE system at the Property operated between February 2014 and June 2017 and significantly reduced soil vapors since that time. A Modified RAM Plan was submitted in June 2017 to transition RAM activities from SVE to excavation and off-site disposal of remaining impacted soil that are likely the cause of persistent soil vapor impacts. RAM excavation activities will occur during the on-going station re-design. Anticipated excavation limits are shown on Figure 2.

REMEDIATION GENERAL PERMIT NOTICE OF INTENT

On June 26, 2017, a grab surface water sample (Outfall) was collected from the planned receiving water (the unnamed brook upstream from the Connecticut River) and submitted to Alpha Analytical, Inc. of Westborough, Massachusetts for analysis of hardness. On August 2, 2017, an additional sample was collected from the Outfall and a grab groundwater samples was collected from Property monitoring well MW-4 for analysis of RGP parameters. The samples were field analyzed for temperature and pH. The outfall sample was submitted to Absolute Resource Associates, LLC of Portsmouth, New Hampshire (ARA) for analysis of total metals and ammonia and the MW-4 groundwater sample was submitted to ARA for analysis of VOCs, low-level 1,4-dioxane, low-level 1,2-dibromoethane, semi-VOCs, polynuclear aromatic hydrocarbons (PAHs), total metals, total petroleum hydrocarbons, total suspended solids (TSS), chloride, cyanide, hardness, and total residual chlorine (TRC). The analytical results for the groundwater sample identified that concentrations of TSS, TRC, arsenic, copper, iron, total BTEX (benzene, toluene, ethylbenzene, and xylene), benzene, total Group II PAHs, and naphthalene exceeded applicable RGP effluent limits. The laboratory analytical reports are included as Attachment B.

During the dewatering process, groundwater will be pumped from the excavation into one or more sedimentation tanks and/or through bag filters to remove suspended solids. Supplemental treatment may be added to meet discharge criteria, as illustrated in the Proposed Treatment System Schematic included in Figure 3. Dewatering under this RGP NOI will include piping and discharging to existing off-site storm drain infrastructure. The existing off-site storm drain infrastructure in the vicinity of the project work area generally consists of catch basins and conveyance piping that discharges back to an unnamed brook that ultimately discharges to the Connecticut River approximately 900 feet south (and downstream) of the Property (see Figure 4).

CONSULTATION WITH FEDERAL SERVICES

GeoInsight reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS), the Massachusetts Division of Fisheries and Wildlife (Natural Heritage and Endangered Species Program), and the U.S. National Parks Service National Historic Places. Based upon this review, neither the Property nor the points where the proposed discharge reaches the receiving surface water body are Areas of Critical Environmental Concern, Habitats of Rare Wetland Wildlife, Habitats of Rare Species or Estimated Habitats of Rare Wildlife, or listed as a National Historic Place. Based upon electronic online data the Northern Long-eared Bat (NLEB) appears as a threatened species in the area of the RGP. The NLEB hibernates during the winter months. Summer habitat for the NLEB consists of forested and wooded habitats, and specifically the NLEB typically roosts in dead or dying trees. The project disturbance is planned to be limited to currently developed areas and immediately adjacent areas and construction activities are not expected to impact the likely habitats for the NLEB. Additionally, the NLEB is a species that is highly flexible in use of forested areas for summer roosting and, therefore, disturbance of limited trees at the Property is unlikely to negatively affect the NLEB. The U.S. Fish and Wildlife Service states that the NLEB is not limited or in short supply and habitat loss is not a predominant threat to the species. Therefore, it does not appear that Property dewatering activities associated with this RGP will adversely affect the NLEB. Supporting documentation is included as Attachments C and D and a MADEP Phase I Site Assessment Map is included as Figure 5.

DILUTION FACTOR AND EFFLUENT LIMITATION CALCULATIONS

GeoInsight attempted to calculate a Dilution Factor (DF) using the methods described in Appendix V of the RGP. However, since the receiving water is an ephemeral stream, a seven day-ten-year low flow (7Q10) of the receiving water was not available and a DF could not be calculated. GeoInsight contacted Xiaodan Ruan of the MassDEP and Ms. Ruan confirmed since the discharge goes into an ephemeral stream which is likely intermittent, no dilution will be granted and the DF is equal to 1. Receiving water hydrologic information is included in Attachment E and correspondence with Ms. Ruan is included in Attachment F. A copy of the United States Environmental Protection Agency (USEPA) provided spreadsheet to calculate the water quality-based effluent limitations (WQBELs) is included in Attachment G.

SUMMARY AND CONCLUSIONS

The purpose of this report is to summarize environmental conditions and groundwater data collected to date to support a NOI to discharge under the RGP for the redevelopment project located at 23 French King Highway in Gill, Massachusetts. The proposed construction dewatering effluent treatment system will be modified as needed to achieve the USEPA's effluent limits.

If you have questions or comments regarding the contents of this letter or the enclosed materials, please contact either of us at (603) 314-0820.

Sincerely,
GEOINSIGHT, INC.

Meaghan M. Broderick, P.G.
Project Geologist

David A. Maclean, P.G., L.S.P.
Senior Hydrologist/Senior Associate

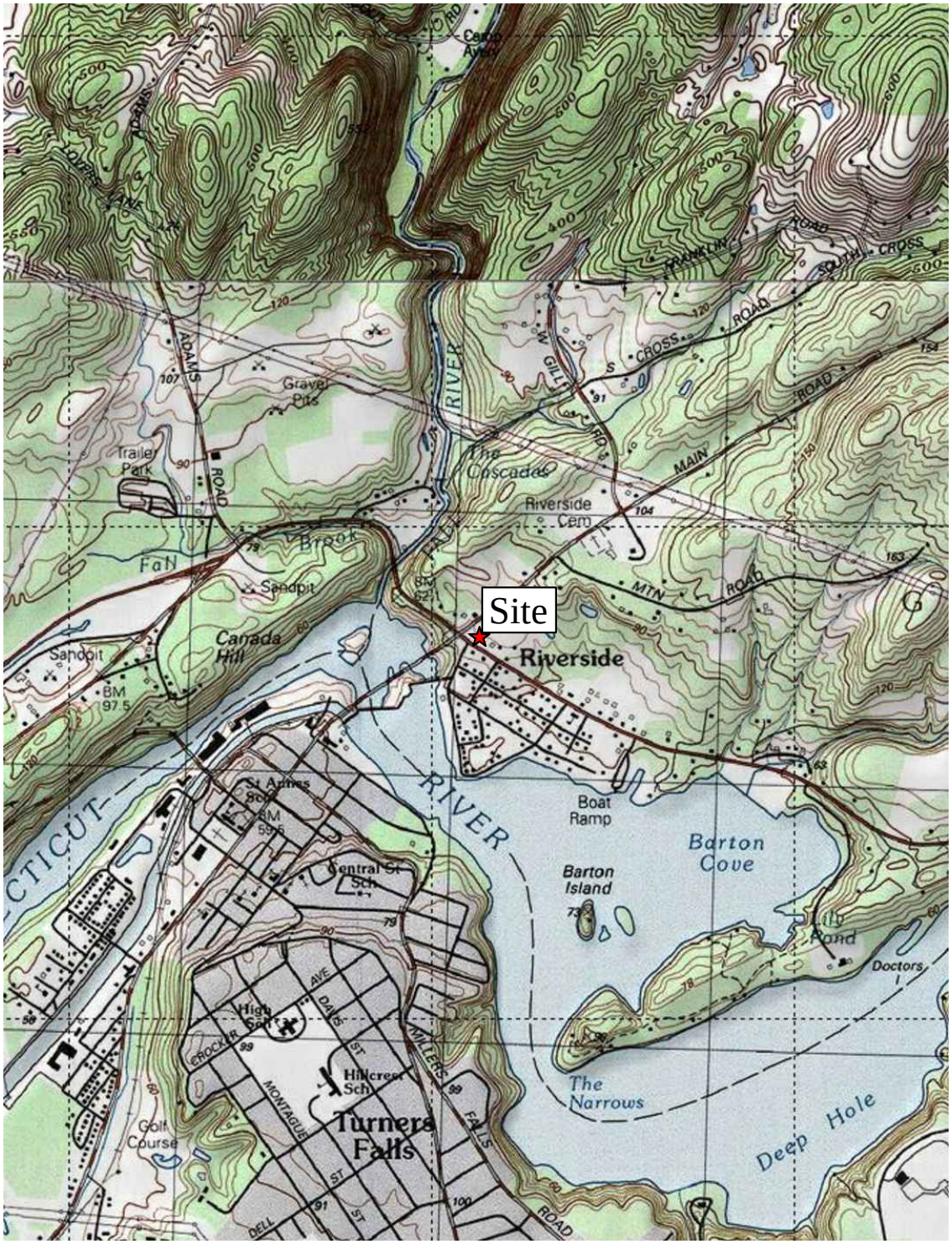
FIGURES

Figure 1 – Site Locus
Figure 2 – Site Plan
Figure 3 – Proposed Treatment System Schematic
Figure 4 – Proposed Dewatering Discharge Route
Figure 5 – MADEP Phase I Site Assessment Map

ATTACHMENTS

Attachment A – Notice of Intent for the Remediation General Permit
Attachment B – Laboratory Reports
Attachment C – Endangered Species Act Documentation
Attachment D – National Historic Preservation Act Documentation
Attachment E – Receiving Water Hydrologic Information
Attachment F – MassDEP Correspondence
Attachment G – USEPA Appendix V Dilution Factor and WQBEL Spreadsheet

FIGURES



SOURCE:

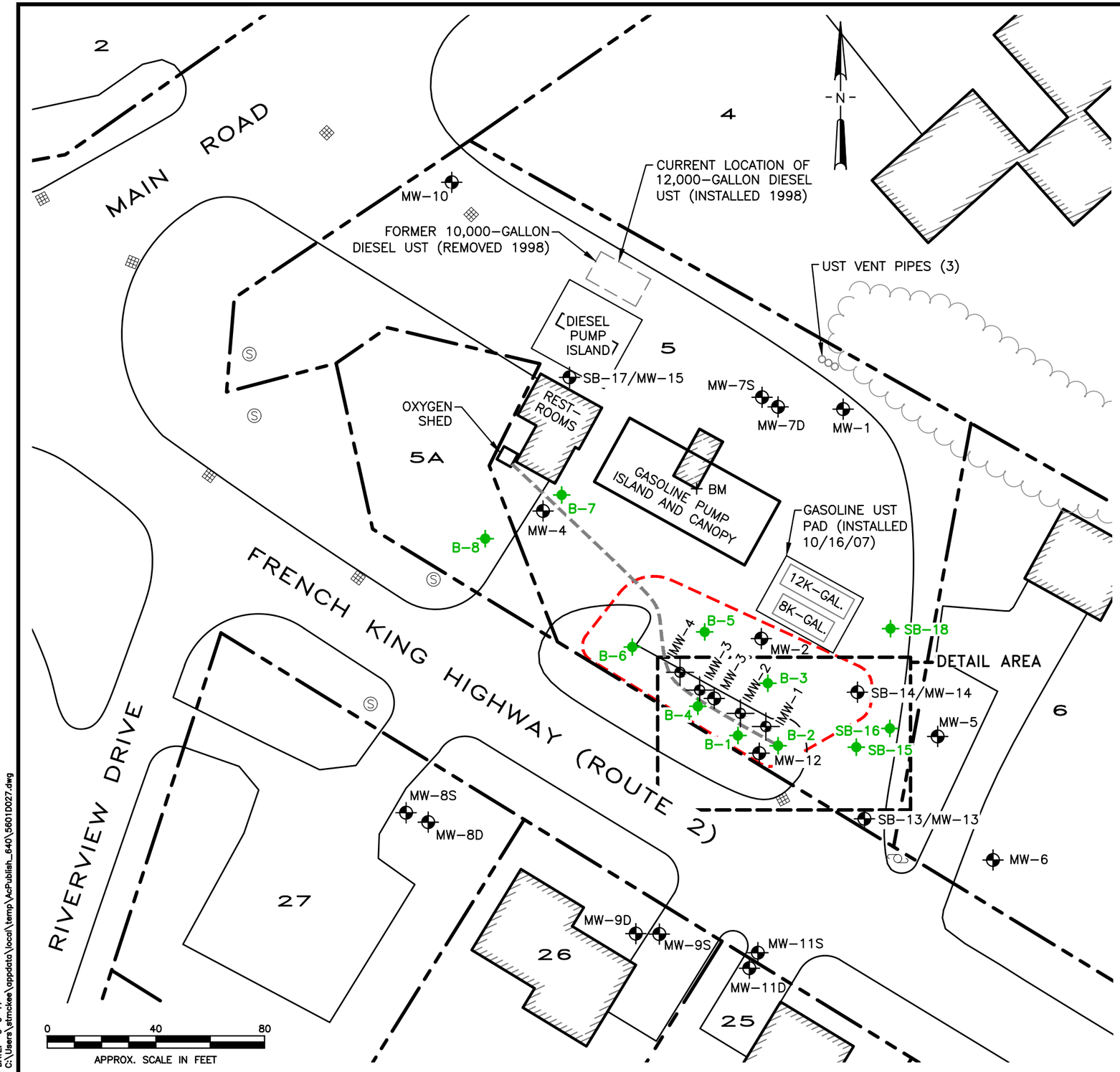
USGS GREENFIELD, MA QUADRANGLE
CONTOUR INTERVAL: 5 FEET

0 2000 4000

APPROX. SCALE IN FEET

CLIENT:	SUMMIT DISTRIBUTING, LLC			
PROJECT:	23 FRENCH KING HIGHWAY GILL, MASSACHUSETTS			
TITLE:	SITE LOCUS			
DESIGNED: TEP	DRAWN: STM	CHECKED: TEP	APPROVED: DAM	GeoInsight Practical in Nature
SCALE: 1" = 2000'	DATE: 01/13/09	FILE NO.: 5601-LOCUS	PROJECT NO.: 5601-000	FIGURE NO.: 1

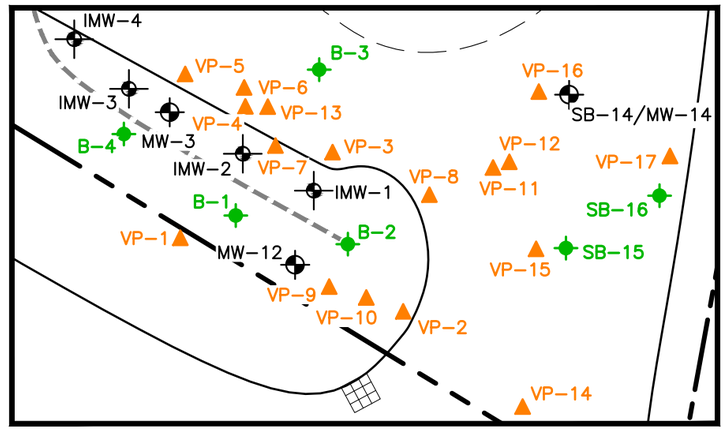
PLOT DATE: 6-19-12
FILE: I:\5601\5601-LOCUS.dwg



PLOT DATE: 6-6-17
FILE: C:\Users\stmckee\appdata\local\temp\AcPublish_640\5601D027.dwg

LEGEND

MW-1	MONITORING WELL LOCATION AND DESIGNATION
IMW-1	ISOC MONITORING WELL LOCATION AND DESIGNATION
SB-15	SOIL BORING LOCATION AND DESIGNATION
VP-1	SOIL VAPOR SAMPLING POINTS
	APPROXIMATE LOCATION OF PROPERTY BOUNDARY
	APPROXIMATE LOCATION OF OXYGEN LINE
Ⓢ	SEWER MANHOLE
▦	CATCH BASIN
	UTILITY POLE
5	LOT NUMBER ON TOWN OF GILL TAX MAP 101
+ BM	BENCHMARK
	ANTICIPATED LIMITS OF IMPACTED SOIL EXCAVATION



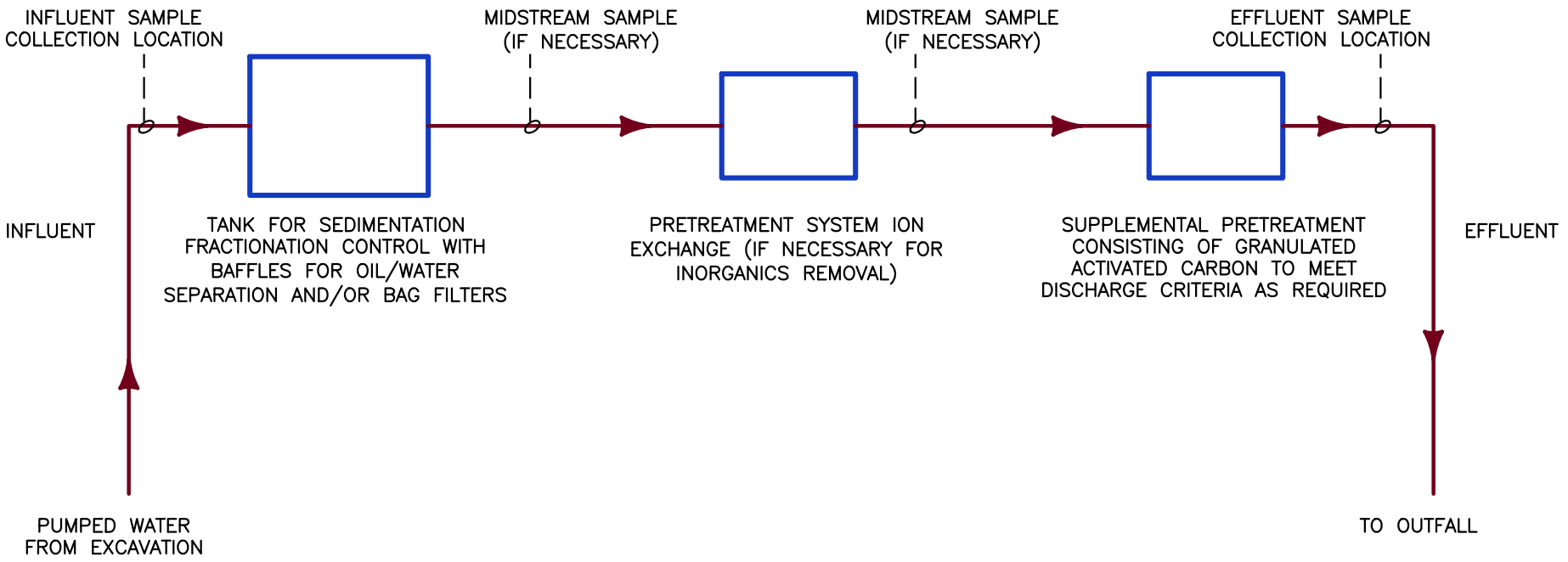
DETAIL AREA

SCALE: 1" = 20'-0"

NOTES:

1. THIS PLAN WAS BASED UPON A SITE PLAN CREATED BY ENVIRONMENTAL COMPLIANCE SERVICES, INC. OF BRATTLEBORO, VERMONT DATED JANUARY 2008 AND AN AERIAL PHOTOGRAPH PROVIDED ONLINE BY GOOGLE EARTH. ALL SITE FEATURES ARE APPROXIMATE.

CLIENT:	SUMMIT DISTRIBUTING, LLC			
PROJECT:	23 FRENCH KING HIGHWAY GILL, MASSACHUSETTS			
TITLE:	SITE PLAN			
DESIGNED: MMB	DRAWN: STM	CHECKED: MMB	APPROVED: DAM	GeoInsight *Practical in Nature*
SCALE: AS NOTED	DATE: 06/06/17	FILE NO.: 5601D027	PROJECT NO.: 5601-000	FIGURE NO.: 2



LEGEND:

DIRECTION OF FLOW

NOTE:

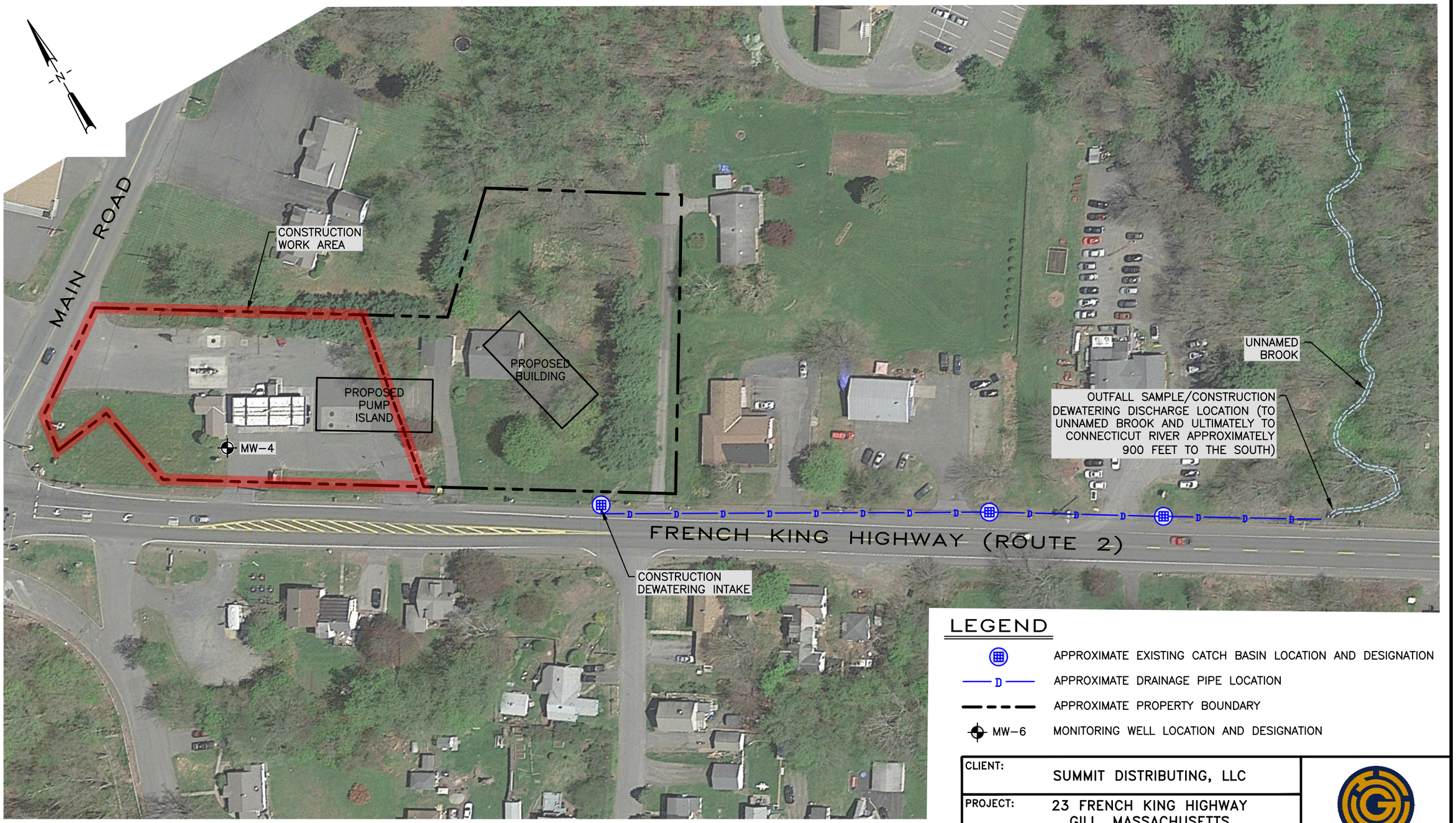
1. DETAILS OF TREATMENT SYSTEM MAY VARY FROM SYSTEM INDICATED ABOVE. SPECIFIC MEANS AND METHODS OF TREATMENT TO BE DEVELOPED WITH CONTRACTOR. WATER WILL BE TREATED TO MEET REQUIRED EFFLUENT STANDARDS.

CLIENT: SUMMIT DISTRIBUTING, LLC			
PROJECT: 23 FRENCH KING HIGHWAY GILL, MASSACHUSETTS			
TITLE: PROPOSED TREATMENT SYSTEM SCHEMATIC			
DESIGNED: MMB	DRAWN: STM	CHECKED: MMB	APPROVED: DAM
SCALE: NTS	DATE: 09/08/17	FILE NO.: 5601D048	PROJECT NO.: 5601-000

GeoInsight
Practical in Nature

FIGURE NO.: 3

FILE: C:\Users\stmckee\appdata\local\temp\AcPublish_1200\5601D048.dwg



LEGEND

- APPROXIMATE EXISTING CATCH BASIN LOCATION AND DESIGNATION
- D — APPROXIMATE DRAINAGE PIPE LOCATION
- APPROXIMATE PROPERTY BOUNDARY
- MW-6 — MONITORING WELL LOCATION AND DESIGNATION

NOTES:

1. THIS PLAN WAS BASED UPON A MAY 10, 2014 AERIAL PHOTOGRAPH OBTAINED ONLINE FROM GOOGLE EARTH AND A FIGURE ENTITLED "POST-DEVELOPMENT DRAINAGE PLAN" PREPARED BY MHF DESIGN CONSULTANTS, INC. LAST REVISED ON AUGUST 4, 2016. ALL SITE FEATURES ARE APPROXIMATE.

0 80 160

APPROX. SCALE IN FEET

CLIENT: SUMMIT DISTRIBUTING, LLC			
PROJECT: 23 FRENCH KING HIGHWAY GILL, MASSACHUSETTS			
TITLE: DEWATERING PLAN			
DESIGNED: MMB	DRAWN: STM	CHECKED: MMB	APPROVED: DAM
SCALE: 1" = 80'	DATE: 09/08/17	FILE NO.: 5601D049	PROJECT NO.: 5601-000
FIGURE NO.: 4			

GeoInsight
Practical in Nature

PLOT DATE: 9-8-17
FILE: C:\Users\stmckee\appdata\local\temp\AcPublish_1200\5601D049.dwg

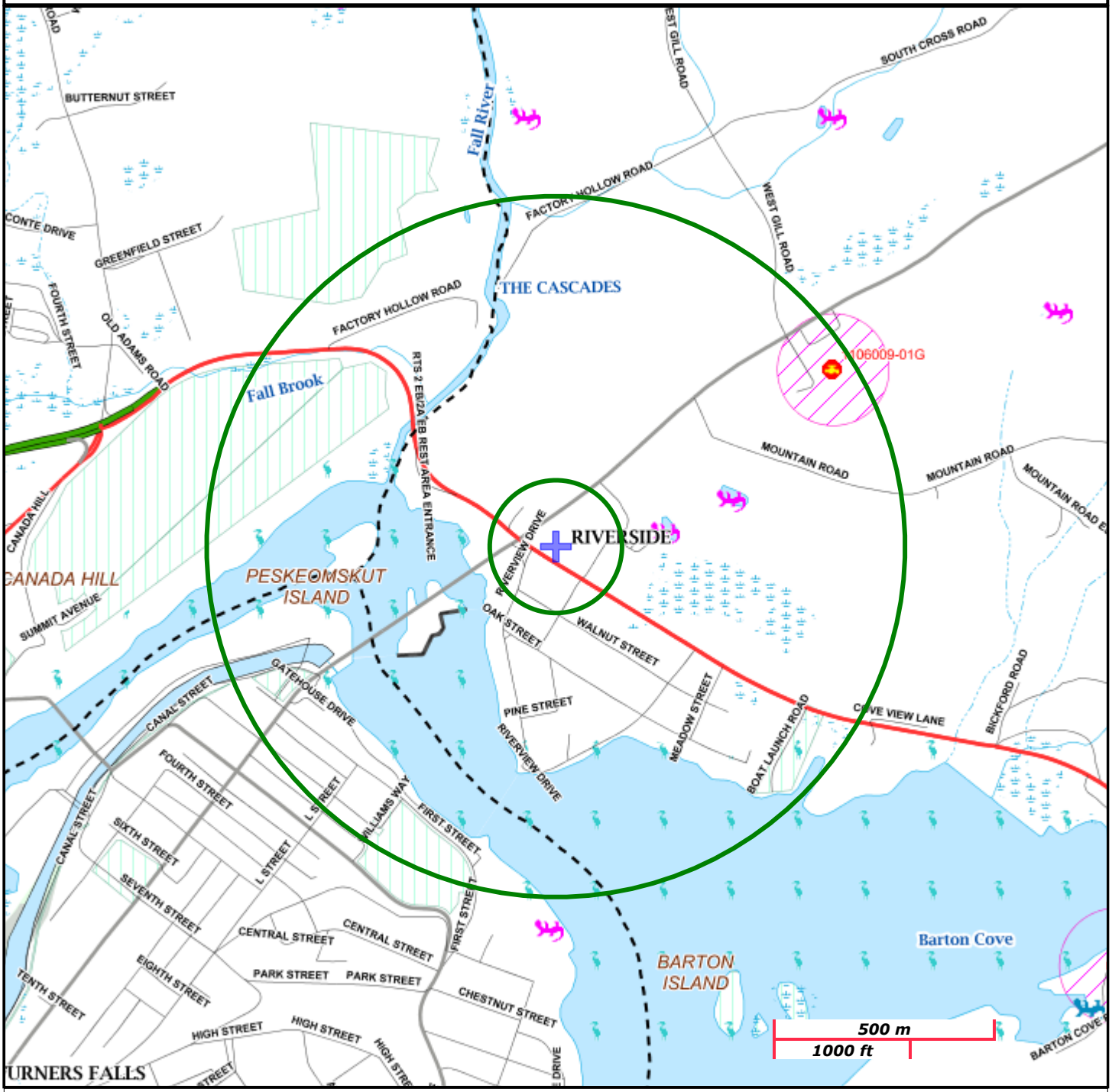
MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
GILL MOBIL
23 FRENCH KING HIGHWAY GILL, MA
1-000012568
NAD83 UTM Meters:
4720734mN , 701127mE (Zone: 18)
September 6, 2017

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.

FIGURE 5

ATTACHMENTS

ATTACHMENT A

NOTICE OF INTENT FOR THE REMEDIATION GENERAL PERMIT

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Gill Mobil</td><td colspan="3">Site address: 23 French King Highway
Street:</td></tr>
<tr><td>City: Gill</td><td>State: MA</td><td>Zip: 01354</td></tr>
<tr><td rowspan="4">2. Site owner
Summit Distributing, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Tom Frawley</td></tr>
<tr><td colspan="2">Telephone: (603)448-4000</td><td>Email: tomf@sumd.com</td></tr>
<tr><td colspan="3">Mailing address: 240 Mechanic Street
Street:</td></tr>
<tr><td>City: Lebanon</td><td>State: NH</td><td>Zip: 03766</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
GeoInsight, Inc.</td><td colspan="3">Contact Person: David A. Maclean, L.S.P.</td></tr>
<tr><td colspan="2">Telephone: (603) 314-0820</td><td>Email: damaclean@geoinc.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 186 Granite Street, 3rd Floor Suite A</td></tr>
<tr><td>City: Manchester</td><td>State: NH</td><td>Zip: 03101</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s):
1-12568
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Unnamed brook ultimately discharging to the Connecticut River	CT River Segment MA34-02	B (CT River)

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No

Are sensitive receptors present near the site? (check one): ☐ Yes ■ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. NA

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	NA
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	1

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: August 30, 2017

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants: Inorganics, non-halogenated SVOCs, and VOCs from former leaking diesel and gasoline USTs	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ■ Yes ☐ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): Treated water will be discharged into a catch basin located along French King Highway adjacent to the Property. Treated water will travel via municipal storm sewer before discharging to an unnamed brook.	Outfall location(s): (Latitude, Longitude) 42.61153611N -72.54527778W
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ☐ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ■ No, if so, explain, with an estimated timeframe for obtaining permission: Gill will review/authorize following EPA RGP Authorization letter. Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): September 2017 (start) to November 2017 (end) Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☒ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
☐ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

☒ A. Inorganics
☒ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☒ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☒ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>☐ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✔	1`	SM 4500	0.5	0.7	0.7	Report mg/L	---
Chloride		✔	1	E300.0A	2,500	170,000	170,000	Report µg/l	---
Total Residual Chlorine		✔	1	SM 4500	20	50	50	0.2 mg/L	11 ug/L
Total Suspended Solids		✔	1	SM 2540D	8,300	110,000	110,000	30 mg/L	---
Antimony	✔		1	E200.8	1	<1	<1	206 µg/L	640 ug/L
Arsenic		✔	1	E200.8	5	40	40	104 µg/L	10 ug/L
Cadmium	✔		1	E200.8	1	<1	<1	10.2 µg/L	0.3098 ug/L
Chromium III	✔		1	CALC	10	<10	<10	323 µg/L	100.1 ug/L
Chromium VI	✔		1	SW1796A	10	<10	<10	323 µg/L	11.4 ug/L
Copper		✔	1	E200.8	10	20	20	242 µg/L	10.9 ug/L
Iron		✔	1	E200.8	50	18,000	18,000	5,000 µg/L	1,000 ug/L
Lead	✔		1	E200.8	5	<5	<5	160 µg/L	4.01 ug/L
Mercury	✔		1	E245.1	0.2	<0.2	<0.2	0.739 µg/L	0.91 ug/L
Nickel	✔		1	E200.8	10	<10	<10	1,450 µg/L	60.9 ug/L
Selenium	✔		1	E200.8	10	<10	<10	235.8 µg/L	5.0 ug/L
Silver	✔		1	E200.8	5	<5	<5	35.1 µg/L	5.2 ug/L
Zinc		✔	1	E200.8	10	40	40	420 µg/L	139.8 ug/L
Cyanide	✔		1	SM4500C	20	<20	<20	178 mg/L	5.2 ug/L
B. Non-Halogenated VOCs									
Total BTEX		✔	1	8260C	2	1,745	1,745	100 µg/L	---
Benzene		✔	1	8260C	2	10	10	5.0 µg/L	---
1,4 Dioxane	✔		1	8260CMo	2.5	<2.5	<2.5	200 µg/L	---
Acetone		✔	1	8260C	10	14	14	7.97 mg/L	---
Phenol	✔		1	8270D	2	<2	<2	1,080 µg/L	300 ug/L

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		1	8260C	2	<2	<2	4.4 µg/L	1.6 ug/L
1,2 Dichlorobenzene	✔		1	8260C	2	<2	<2	600 µg/L	---
1,3 Dichlorobenzene	✔		1	8260C	2	<2	<2	320 µg/L	---
1,4 Dichlorobenzene	✔		1	8260C	2	<2	<2	5.0 µg/L	---
Total dichlorobenzene	✔		1	8260C	2	<2	<2	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	8260C	2	<2	<2	70 µg/L	---
1,2 Dichloroethane	✔		1	8260C	2	<2	<2	5.0 µg/L	---
1,1 Dichloroethylene	✔		1	8260C	1	<1	<1	3.2 µg/L	---
Ethylene Dibromide	✔		1	8260CMo	0.5	<0.5	<0.5	0.05 µg/L	---
Methylene Chloride	✔		1	8260C	2	<2	<2	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	8260C	2	<2	<2	200 µg/L	---
1,1,2 Trichloroethane	✔		1	8260C	2	<2	<2	5.0 µg/L	---
Trichloroethylene	✔		1	8260C	2	<2	<2	5.0 µg/L	---
Tetrachloroethylene	✔		1	8260C	2	<2	<2	5.0 µg/L	3.3 ug/L
cis-1,2 Dichloroethylene	✔		1	8260C	2	<2	<2	70 µg/L	---
Vinyl Chloride	✔		1	8260C	2	<2	<2	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	8270D	5	<5	<5	190 µg/L	---
Diethylhexyl phthalate	✔		1	8270D	5	<5	<5	101 µg/L	2.2 ug/L
Total Group I PAHs	✔		1	8270D	0.5	<0.5	<0.5	1.0 µg/L	---
Benzo(a)anthracene	✔		1	8270D	0.5	<0.5	<0.5	As Total PAHs	0.0038 ug/L
Benzo(a)pyrene	✔		1	8270D	0.2	<0.2	<0.2		0.0038 ug/L
Benzo(b)fluoranthene	✔		1	8270D	0.5	<0.5	<0.5		0.0038 ug/L
Benzo(k)fluoranthene	✔		1	8270D	0.5	<0.5	<0.5		0.0038 ug/L
Chrysene	✔		1	8270D	0.5	<0.5	<0.5		0.0038 ug/L
Dibenzo(a,h)anthracene	✔		1	8270D	0.5	<0.5	<0.5		0.0038 ug/L
Indeno(1,2,3-cd)pyrene	✔		1	8270D	0.5	<0.5	<0.5		0.0038 ug/L

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		✔	1	8270D	0.5	110	110	100 µg/L	---
Naphthalene		✔	1	8270D	2.5	110	110	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		0					0.000064 µg/L	---
Pentachlorophenol	✔		1	8270D	10	<10	<10	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	E1664B	5,000	<5,000	<5,000	5.0 mg/L	---
Ethanol	✔		0					Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	8260C	2	<20	<20	70 µg/L	20 ug/L
tert-Butyl Alcohol	✔		1	8260C	30	<30	<30	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	8260C	2	<2	<2	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Hardness		✔	1	SM2340B	3,000	120,000	120,000		
pH		✔	1	Field YSI	NA	21.9	NA		
Temperature		✔	1	Field YSI	NA	6.86	NA		

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ▣ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
▣ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ▣ Separation/Filtration ☐ Other; if so, specify:

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

The dewatering system consists of pumps to remove the water, a settling tank, and bag filters. Additional treatment (GAC and Ion Exchange) will be conducted as necessary by to meet the RGP discharge requirements. See attached Figure for schematic of treatment system.

Identify each major treatment component (check any that apply):

▣ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ▣ Media filter
☐ Chemical feed tank ☐ Air stripping unit ▣ Bag filter ☐ Other; if so, specify:

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Bag Filter Is use of a flow meter feasible? (check one): ▣ Yes ☐ No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm.	100
Provide the average effluent flow in gpm.	20
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	NA

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ☐ Yes ☐ No

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:
NA

2. Provide the following information for each chemical/additive, using attachments, if necessary:
NA
a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ☐ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive?
(check one): ☐ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

☐ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

☐ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

▣ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ▣ the operator ☐ EPA ☐ Other; if so, specify:

■ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ■ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ☐ Yes ■ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

In accordance with Section G.2 of this NOI and Appendix I of the RGP, GeoInsight provides the following information. The discharge is into the Connecticut River and not into marine waters. Based upon GeoInsight's on-line review of information provided on the U.S. Fish & Wildlife Service website, species listed under the jurisdiction of th NMFS are not suspected to be present. GeoInsight has not had any previous formal or informal consultation with NMFS.

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ■ Yes ☐ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.
BMPP certification statement: A BMPP meeting the requirements of the RGP and NOI will be developed and implemented upon discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required. Check one: Yes ☐ No ■
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested. Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested. Check one: Yes ■ No ☐ NA ☐ Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission. Check one: Yes ☐ No ■ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify: Check one: Yes ☐ No ☐ NA ■
Signature:  Date: 9/7/17
Print Name and Title: Thomas J. Frawley, Manager, Summit Distributing, LLC

ATTACHMENT B

LABORATORY REPORTS

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1721664
Client:	Geoinsight 186 Granite St. 3rd Fl, Suite A Manchester, NH 03101
ATTN:	Kevin Kitchin
Phone:	(603) 314-0820
Project Name:	GILL MOBIL
Project Number:	Not Specified
Report Date:	06/27/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: GILL MOBIL
Project Number: Not Specified

Lab Number: L1721664
Report Date: 06/27/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1721664-01	MW-6	WATER	GILL, MA	06/26/17 13:15	06/26/17
L1721664-02	OUTFALL	WATER	GILL, MA	06/26/17 15:00	06/26/17

Project Name: GILL MOBIL
Project Number: Not Specified
Lab Number: L1721664
Report Date: 06/27/17

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: GILL MOBIL
Project Number: Not Specified

Lab Number: L1721664
Report Date: 06/27/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	GILL MOBIL	**Lab Number:**	L1721664
Project Number:	Not Specified	**Report Date:**	06/27/17

Case Narrative (continued)

MCP Related Narratives

Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Amita Naik

Title: Technical Director/Representative Date: 06/27/17

Project Name: GILL MOBIL
Project Number: Not Specified
Lab Number: L1721664
Report Date: 06/27/17

SAMPLE RESULTS

Lab ID: L1721664-02
Client ID: OUTFALL
Sample Location: GILL, MA
Matrix: Water
Date Collected: 06/26/17 15:00
Date Received: 06/26/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	48.2		mg/l	0.660	NA	1	06/27/17 05:55	06/27/17 10:18	EPA 3005A	1,6010C	AM

Serial_No:06271714:24

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 6/26/17

ALPHA Job #: L1721664

Client Information

Client: Geoinsight, Inc.
Address: 186 Granite Street, Ste 3A
Manchester, NH 03101
Phone: 603-314-0826
Email: kmkitchen@geoinc.com

Project Information

Project Name: G.11 Mobil
Project Location: G.11, MA
Project #:
Project Manager: Kevin Kitchen
ALPHA Quote #:

Turn-Around Time

☐ Standard ☑ RUSH (only confirmed if pre-approved)
Date Due: 6/27

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☑ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

24 hour hold Hex Cr

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Hexavalent Chromium 7196	Total Hardness	pH	Sm 4500 Chlor. D	Total Metals	SAMPLE INFO: Filtration ☐ Field ☑ Lab to do; Preservation ☐ Lab to do	Sample Comments	TOTAL # BOTTLES
21664-01	MW-6	6/26/17	13:11	GW	BCA									X		X	X	X			2
02	Outfall	6/26/17	15:00	SW	BCA									X							

Container Type																			
																P	P	P	P	P	
Preservative																A	C	A	B	C	

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature] AAL 6/26/17	6/26/17 15:00	[signature] AAL 6/26/17	6/26/17 15:00
[signature] AAL 6/26/17	16:25	[signature]	6/26/17 16:25

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Meaghan Broderick
GeoInsight, Inc.
186 Granite Street
3rd Floor, Suite A
Manchester, NH 03103

PO Number: None
Job ID: 41340
Date Received: 8/2/17

Project: Summit-Gill, MA 5601

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates

SS (for)

Sue Sylvester
Principal, General Manager

Date of Approval: 8/16/2017
Total number of pages: 12

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH903		

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-002
Sample ID: MW-4
Matrix: Water
Sampled: 8/2/17 10:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,4-dioxane	< 2.5	2.5	ug/L	10	LMM		1702281	8/7/17	16:29	SW8260Cmod
1,2-dibromoethane (EDB)	< 0.50	0.50	ug/L	10	LMM		1702281	8/7/17	16:29	SW8260Cmod
Surrogate Recovery		**Limits**								
4-bromofluorobenzene SUR	93	86-115	%	10	LMM		1702281	8/7/17	16:29	SW8260Cmod

Note: Dilution was required due to hydrocarbon interference in the sample.

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-002
Sample ID: MW-4
Matrix: Water
Sampled: 8/2/17 10:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
chloromethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
vinyl chloride	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
bromomethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
chloroethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
trichlorofluoromethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
diethyl ether	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
acetone	**14**	10	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,1-dichloroethene	< 1	1	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
methylene chloride	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
carbon disulfide	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,1-dichloroethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
t-butanol (TBA)	< 30	30	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
2-butanone (MEK)	< 10	10	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
2,2-dichloropropane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
chloroform	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
bromochloromethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,1-dichloropropene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
carbon tetrachloride	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2-dichloroethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
benzene	**10**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
trichloroethene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2-dichloropropane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,4-dioxane	< 50	50	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
dibromomethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
toluene	**20**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
2-hexanone	< 10	10	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,3-dichloropropane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
tetrachloroethene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
dibromochloromethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-002
Sample ID: MW-4
Matrix: Water
Sampled: 8/2/17 10:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
chlorobenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
ethylbenzene	**810**	10	ug/L	5	LMM		1702305	8/8/17	19:51	SW5030C8260C
m&p-xylenes	**850**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
o-xylene	**55**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
styrene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
bromoform	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
isopropylbenzene	**40**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
n-propylbenzene	**94**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
bromobenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,3,5-trimethylbenzene	**16**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
2-chlorotoluene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
4-chlorotoluene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
tert-butylbenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2,4-trimethylbenzene	**590**	10	ug/L	5	LMM		1702305	8/8/17	19:51	SW5030C8260C
sec-butylbenzene	**4**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
4-isopropyltoluene	**2**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
n-butylbenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
naphthalene	**190**	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	92	78-114	%	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
toluene-D8 SUR	94	88-110	%	1	LMM		1702305	8/7/17	14:32	SW5030C8260C
4-bromofluorobenzene SUR	107	86-115	%	1	LMM		1702305	8/7/17	14:32	SW5030C8260C

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-003
Sample ID: Trip Blank
Matrix: Water
Sampled: 8/2/17 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,4-dioxane	< 0.25	0.25	ug/L	1	LMM		1702281	8/7/17	15:26	SW8260Cmod
1,2-dibromoethane (EDB)	< 0.05	0.05	ug/L	1	LMM		1702281	8/7/17	15:26	SW8260Cmod
Surrogate Recovery		**Limits**								
4-bromofluorobenzene SUR	96	86-115	%	1	LMM		1702281	8/7/17	15:26	SW8260Cmod

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-003
Sample ID: Trip Blank
Matrix: Water
Sampled: 8/2/17 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
chloromethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
vinyl chloride	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
bromomethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
chloroethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
trichlorofluoromethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
diethyl ether	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
acetone	< 10	10	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,1-dichloroethene	< 1	1	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
methylene chloride	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
carbon disulfide	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,1-dichloroethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
t-butanol (TBA)	< 30	30	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
2-butanone (MEK)	< 10	10	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
2,2-dichloropropane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
chloroform	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
bromochloromethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,1-dichloropropene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
carbon tetrachloride	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2-dichloroethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
benzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
trichloroethene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2-dichloropropane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,4-dioxane	< 50	50	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
dibromomethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
toluene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
2-hexanone	< 10	10	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,3-dichloropropane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
tetrachloroethene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
dibromochloromethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-003
Sample ID: Trip Blank
Matrix: Water
Sampled: 8/2/17 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
chlorobenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
ethylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
m&p-xylenes	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
o-xylene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
styrene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
bromoform	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
isopropylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
n-propylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
bromobenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
2-chlorotoluene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
4-chlorotoluene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
tert-butylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2,4-trimethylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
sec-butylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
4-isopropyltoluene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
n-butylbenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
naphthalene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	98	78-114	%	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
toluene-D8 SUR	103	88-110	%	1	LMM		1702239	8/2/17	17:39	SW5030C8260C
4-bromofluorobenzene SUR	99	86-115	%	1	LMM		1702239	8/2/17	17:39	SW5030C8260C

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-002
Sample ID: MW-4
Matrix: Water
Sampled: 8/2/17 10:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
N-nitrosodimethylamine	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
pyridine	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
aniline	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
phenol	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
2-chlorophenol	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
bis(2-chloroethyl)ether	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
1,3-dichlorobenzene	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
1,4-dichlorobenzene	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
1,2-dichlorobenzene	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
benzyl alcohol	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2-methylphenol	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
2,2'-oxybis(1-chloropropane)	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
hexachloroethane	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
N-nitroso-di-N-propylamine	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
4-methylphenol	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
nitrobenzene	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
isophorone	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2-nitrophenol	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
2,4-dimethylphenol	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
bis(2-chloroethoxy)methane	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2,4-dichlorophenol	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
1,2,4-trichlorobenzene	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
naphthalene	**110**	2.5	ug/L	5	CL	8/8/17	9926	8/10/17	11:31	SW3510C8270D
benzoic acid	< 50	50	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
4-chloroaniline	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
hexachlorobutadiene	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
4-chloro-3-methylphenol	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
2-methylnaphthalene	**16**	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
hexachlorocyclopentadiene	< 10	10	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2,4,6-trichlorophenol	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
2,4,5-trichlorophenol	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
2-chloronaphthalene	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2-nitroaniline	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
acenaphthylene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
dimethylphthalate	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2,6-dinitrotoluene	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2,4-dinitrotoluene	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
acenaphthene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
3-nitroaniline	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2,4-dinitrophenol	< 50	50	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
dibenzofuran	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
4-nitrophenol	< 10	10	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
fluorene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D

Project ID: 5601 Summit-Gill, MA
Job ID: 41340
Lab Number: 41340-002
Sample ID: MW-4
Matrix: Water
Sampled: 8/2/17 10:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
diethyl phthalate	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
4-chlorophenyl phenyl ether	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
4-nitroaniline	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
4,6-dinitro-2-methylphenol	< 20	20	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
azobenzene	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
N-nitrosodiphenylamine	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
4-bromophenyl phenyl ether	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
hexachlorobenzene	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
pentachlorophenol	< 10	10	ug/L	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
phenanthrene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
anthracene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
carbazole	< 2	2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
di-n-butylphthalate	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
fluoranthene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
benzidine	< 30	30	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
pyrene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
butyl benzyl phthalate	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
benzo(a)anthracene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
chrysene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
3,3'-dichlorobenzidine	< 30	30	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
bis(2-ethylhexyl)phthalate	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
di-n-octyl phthalate	< 5	5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
benzo(b)fluoranthene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
benzo(k)fluoranthene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
benzo(a)pyrene	< 0.2	0.2	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
indeno(1,2,3-cd)pyrene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
dibenzo(a,h)anthracene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
benzo(g,h,i)perylene	< 0.5	0.5	ug/L	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
Surrogate Recovery		**Limits**								
2-fluorophenol SUR	23	21-100	%	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
phenol-D5 SUR	14	10-102	%	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
2,4,6-tribromophenol SUR	74	10-123	%	1	CL	8/8/17	9926	8/9/17	17:24	SW3510C8270D
nitrobenzene-D5 SUR	65	35-114	%	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
2-fluorobiphenyl SUR	64	43-116	%	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
p-terphenyl-D14 SUR	73	33-141	%	1	CL	8/8/17	9926	8/9/17	18:02	SW3510C8270D
Total Petroleum Hydrocarbons	< 5	5	mg/L	1	AS		1702245	8/3/17		E1664B

Project ID: Summit-Gill, MA 5601
Job ID: 41340

Sample#: 41340-001
Sample ID: Outfall
Matrix: Water
Sampled: 8/2/17 9:30

Parameter	Result	Reporting Limit	DL	Units	Instr Dil'n Factor	Analyst	Prep Date	Prep Time	Batch	Analysis Date	Analysis Time	Reference
Antimony	U	0.001	0.00042	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Arsenic	U	0.005	0.00035	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Cadmium	U	0.001	0.00010	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Copper	0.0010 J	0.01	0.00029	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Iron	0.18	0.05	0.0032	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Lead	0.0004 J	0.005	0.00010	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Mercury	0.00008 J	0.0002	.000030	mg/L	1	AJD	8/10/17	8:00	9931	8/10/17	15:43	E245.1
Nickel	U	0.01	0.00063	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Selenium	U	0.01	0.00045	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Silver	U	0.005	.000020	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8
Zinc	0.01	0.01	0.0028	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:11	E200.8

Sample#: 41340-002
Sample ID: MW-4
Matrix: Water
Sampled: 8/2/17 10:40

Parameter	Result	Reporting Limit	DL	Units	Instr Dil'n Factor	Analyst	Prep Date	Prep Time	Batch	Analysis Date	Analysis Time	Reference
Antimony	U	0.001	0.00042	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Arsenic	0.040	0.005	0.00035	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Cadmium	0.0007 J	0.001	0.00010	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Chromium	0.001 J	0.01	0.00048	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Copper	0.02	0.01	0.00029	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Iron	18	0.05	0.0032	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Lead	0.003 J	0.005	0.00010	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Mercury	0.00007 J	0.0002	.000030	mg/L	1	AJD	8/10/17	8:00	9931	8/10/17	15:47	E245.1
Nickel	0.005 J	0.01	0.00063	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Selenium	U	0.01	0.00045	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Silver	0.00004 J	0.005	.000020	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8
Zinc	0.04	0.01	0.0028	mg/L	1	AM	8/9/17	10:45	9930	8/9/17	18:17	E200.8

U = This compound was analyzed for, but not detected above the associated method detection limit.

Project ID: 5601 Summit-Gill, MA
Job ID: 41340

Lab Number: 41340-001
Sample ID: Outfall
Matrix: Water
Sampled: 8/2/17 9:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Ammonia as N	< 0.5	0.5	mg/L	1	APA		1702269	8/7/17		SM4500NH3-D

Lab Number: 41340-002
Sample ID: MW-4
Matrix: Water
Sampled: 8/2/17 10:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Ammonia as N	**0.7**	0.5	mg/L	1	APA		1702269	8/7/17		SM4500NH3-D
Chloride	**170**	2.5	mg/L	5	AAG		1702381	8/14/17	12:38	E300.0A
Chlorine, Free Residual	**0.05**	0.02	mg/L	1	JB		1702257	8/3/17	11:14	SM4500-Cl G
Chromium, Hexavalent	< 0.01	0.01	mg/L	1	AJD		1702303	8/3/17	8:30	SW7196A
Cyanide, total	< 0.02	0.02	mg/L	1	APA		1702324	8/10/17		SM4500CN-E
Total Suspended Solids (TSS)	**110**	8.3	mg/L	1	APA		1702300	8/8/17		SM2540D
Chromium, Trivalent	< 0.01	0.01	mg/L	1	AJD		1702364	8/11/17		CALC

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

41340

Company Name: GeoInsight, Inc.
Company Address: 186 Granite St., 3rd flr, Suite A Manchester NH 03101
Report To: Meaghan Broderick
Phone #: 603-314-0820
Invoice to:
Email: MMBroderick@geoinc.com
☐ Hard Copy Invoice Required ☐ PO #

Project Name: Summit - Gill, MA
Project #: 5601
Project Location: NH (MA) ME VT
Accreditation Required? N/Y:
Protocol: RCRA MCP SDWA NHDES NPDES DOD
Reporting Limits: QAPP EPA DW GW-1 Other S-1
Quote #
☐ NH Reimbursement Pricing

ANALYSIS REQUEST

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	SOLID	OTHER	Preservation Method: HCl	HNO_3	H_2SO_4	NaOH	MeOH	Sampling: DATE	TIME	SAMPLER	☒ VOC 8260 ☐ VOC 8260 NHDES ☐ VOC 8260 MADEP	☐ VOC 624 ☐ VOC BTEX MtBE, only ☐ VOC 8021VT	☐ VPH MADEP ☐ GRO 8015 ☒ 1,4-Dioxane low level	☐ VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:	☒ TPH ☐ DRO 8015 ☐ EPH MADEP ☐ TPH Fingerprint 1664A	~~8270NH~~ ☒ 8270ABN ☐ 625 ☐ EDB 8141A 8082	☐ 8082 PCB ☐ 8081 Pesticides ☐ 608 Pest/PCB	☐ O&G 1664 ☐ Mineral O&G SM5520F	☐ pH ☐ BOD ☐ Conductivity ☐ Turbidity ☐ Apparent Color	☒ TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity ☐ Acidity	☐ RCRA Metals ☐ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness	☒ Total Metals-list: See appendix VII, pg 2 of 7	☐ Dissolved Metals-list:	☒ Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC	☐ T-Phosphorus ☐ Phenols ☐ Bacteria P/A ☐ Bacteria MPN	☒ Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P	☒ Chloride ☐ Nitrite ☐ Nitrate ☐ Sulfate ☐ Bromide ☐ Fluoride	☐ Corrosivity ☐ Reactive CN ☐ Reactive S- ☐ Ignitibility/FP	☐ TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide	Subcontract: ☐ Grain Size ☐ Herbicides ☐ Formaldehyde ☐ PFC	low level EDB	residual chlorine		Grab (G) or Composite (C)
41340-01	Outfall	2	X				X	X			8/2/17	9:50	AJS													X		X										G
-02	MW-4	16	X			X	X	X			8/2/17	10:40	AJS	X		X		X	X					X			X		X		X	X				X	X		G
-03	Trip Blank	3	X			X					7/31/17	-	-	X		X																					X			-

TAT REQUESTED
Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard ☒ (10 Business Days)
*Date Needed

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

SPECIAL INSTRUCTIONS Detection limits must be/meet RGP limits. (attached)

REPORTING INSTRUCTIONS ☒ PDF (e-mail address) MMBroderick@geoinc.com
☐ HARD COPY REQUIRED ☐ EDD

RECEIVED ON ICE ☑ YES ☐ NO
TEMPERATURE 1 °C

CUSTODY RECORD
QSD-01 Revision 12/22/16

	Date	Time		Date	Time
Relinquished by Sampler:	8/2/17	14:00	Received by: GEO COLD STORAGE	8/2/17	14:00
Relinquished by:	8/2/17	1410	Received by:	8/2/17	14:25
Relinquished by:	8/2/17	1545	Received by Laboratory:	8/3/17	15:49

ATTACHMENT C

ENDANGERED SPECIES ACT DOCUMENTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Consultation Code: 05E1NE00-2017-SLI-2468
Event Code: 05E1NE00-2017-E-05392
Project Name: Gill Mobil

August 16, 2017

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2017-SLI-2468

Event Code: 05E1NE00-2017-E-05392

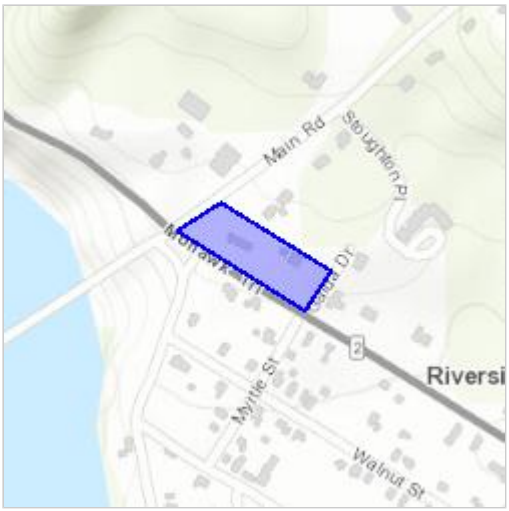
Project Name: Gill Mobil

Project Type: DEVELOPMENT

Project Description: 2017 site redevelopment and soil remediation.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.612708681976756N72.54766357624102W



Counties: Franklin, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

List of Subjects in 48 CFR Parts 601, 606, 608, 615, 616, 623, 627, 633, 651 and 652

Administrative practice and procedure, Government procurement.

For the reasons stated in the preamble, the Department of State amends 48 CFR chapter 6 as follows:

■ 1. The authority citation for 48 CFR parts 601, 606, 608, 615, 616, 623, 627, 633, 651 and 652 continues to read as follows:

Authority: 22 U.S.C. 2651a, 40 U.S.C. 121(c) and 48 CFR chapter 1.

PART 601—DEPARTMENT OF STATE ACQUISITION REGULATION SYSTEM

601.602–1 [Amended]

■ 2. In section 601.602–1, paragraph (b), remove ''601.603–70'' and add in its place ''601.601–70''.

PART 606—COMPETITION REQUIREMENTS

606.304 [Amended]

■ 3. In section 606.304, in paragraph (a)(2), remove ''a advocate for competition'' and add in its place ''an advocate for competition''.

Subpart 606.5—Advocates for Competition

■ 4. Revise the heading for subpart 606.5 to read as set forth above.

■ 5. In section 606.501, in the second sentence of paragraph (b), remove ''competition advocate'' and add in its place ''advocate for competition''.

PART 608—REQUIRED SOURCES OF SUPPLIES AND SERVICES

■ 6. Add subpart 608.4 to read as follows:

Subpart 608.4—Federal Supply Schedules

608.405 Ordering procedures for Federal Supply Schedules.
608.405–3 Blanket Purchase Agreements.

Subpart 608.4—Federal Supply Schedules

608.405 Ordering procedures for Federal Supply Schedules.

608.405–3 Blanket Purchase Agreements.

(a) *Establishment.*

(3)(ii) The Procurement Executive is the head of the agency for the purposes of FAR 8.405–3(a)(3)(ii).

PART 615—CONTRACTING BY NEGOTIATION

615.205–70 [Amended]

■ 7. In section 615.205–70, remove ''DOSAR''.

PART 616—TYPES OF CONTRACTS

■ 8. Revise the heading for section 616.103 to read as follows:

616.103 Negotiating contract type.

* * * * *

■ 9. Add section 616.504 to read as follows:

616.504 Indefinite-quantity contracts.

(c) *Multiple award preference*—(1) *Planning the acquisition.*

(ii)(D)*(1)* The Procurement Executive is the head of the agency for the purposes of FAR 16.504(c)(1)(ii)(D)*(1).*

PART 623—ENVIRONMENT, ENERGY AND WATER EFFICIENCY, RENEWABLE ENERGY TECHNOLOGIES, OCCUPATIONAL SAFETY, AND DRUG-FREE WORKPLACE TYPES OF CONTRACTS

623.506 [Amended]

■ 10. The text of section 623.506 is designated as paragraph (e).

PART 627—PATENTS, DATA, AND COPYRIGHTS

627.304–1 [Amended]

■ 11. In the third sentence of section 627.304–1, add ''proposed to be'' between ''Determinations'' and ''issued''.

PART 633—PROTESTS, DISPUTES, AND APPEALS

Subpart 633.214—Alternative dispute resolution (ADR)

■ 12. Add a subpaart 633.214 heading to read as set forth above.

■ 13. Revise the heading for section 633.214–70 to read as follows:

633.214–70 DOS ADR program.

* * * * *

PART 651—USE OF GOVERNMENT SOURCES BY CONTRACTORS

651.701 [Redesignated as 651.7001]

■ 14. Section 651.701 is redesignated as section 651.7001.

PART 652—SOLICITATION PROVISIONS AND CONTRACT CLAUSES

652.100–70 [Amended]

■ 15. In section 652.100–70, revise ''Subpart'' to read ''subpart'' in paragraphs (a) and (b).

Subpart 652.2—Text of Provisions and Clauses

■ 16. Revise the subpart 652.2 heading to read as set forth above.

652.232–72 [Amended]

■ 17. In the introductory text of section 652.232–72, remove ''632.705–70'' and add in its place ''632.706–70''.

Corey M. Rindner,

Procurement Executive, Department of State.

[FR Doc. 2016–09570 Filed 4–26–16; 8:45 am]

BILLING CODE 4710–24–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R3–ES–2016–0052; 4500030113]

RIN 1018–AZ62

Endangered and Threatened Wildlife and Plants; Determination That Designation of Critical Habitat Is Not Prudent for the Northern Long-Eared Bat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Critical habitat determination.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), have reconsidered whether designating critical habitat for the northern long-eared bat (*Myotis septentrionalis*) is prudent. We have determined that such a designation is not prudent. We listed the northern long-eared bat as a threatened species under the Endangered Species Act of 1973, as amended (Act), on April 2, 2015. At the time the species was listed, we determined that designation of critical habitat was prudent, but not determinable. Since that time, information has come available that demonstrates that designating the wintering habitat as critical habitat for the bat would likely increase the threat from vandalism and disturbance, and could, potentially, increase the spread of white-nose syndrome. In addition, designating the summer habitat as critical habitat would not be beneficial to the species, because there are no areas within the summer habitat that meet the definition of critical habitat. Thus, we have determined that the designation of critical habitat is not prudent for the northern long-eared bat.

DATES: The determination announced in this document was made on April 27, 2016.

ADDRESSES: This document is available on the Internet at *http://www.regulations.gov* at Docket No. FWS–R3–ES–2016–0052. Supporting documentation we used in preparing this document will be available for public inspection, by appointment, during normal business hours at the Twin Cities Ecological Services Office, U.S. Fish and Wildlife Service, 4101 American Blvd. E., Bloomington, MN 55425.

FOR FURTHER INFORMATION CONTACT: Peter Fasbender, Field Supervisor, 952–252–0092, extension 210. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Background

The northern long-eared bat (*Myotis septentrionalis*) is a wide-ranging species that is found in a variety of forested habitats in summer and hibernates in caves and mines (or habitat with similar conditions to suitable caves or mines) in winter. The fungal disease, white-nose syndrome (WNS), is the main threat to this species and has caused a precipitous decline in bat numbers (in many cases, 90–100 percent) where the disease has occurred. Declines in the numbers of northern long-eared bats are expected to continue as WNS extends across the species' range, provided no cure to the disease is found. For more information on the northern long-eared bat, its habitat, and WNS, please refer to the October 2, 2013, proposed listing (78 FR 61046) and the April 2, 2015, final listing (80 FR 17974) rules.

Summer Habitat

Suitable summer habitat for the northern long-eared bat consists of a wide variety of forested and wooded habitats where they roost, forage, and travel (Foster and Kurta 1999, p. 668), and may also include some adjacent and interspersed non-forested habitats (Yates and Muzika 2006, p. 1,245). This includes forests and woodlots containing potential roosts, as well as linear features such as fence rows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure (Lacki and Schwierjohann 2001, p. 487; Perry and Thill 2007, p. 223; Sasse and Pekins 1996, p. 95; Timpone *et al.* 2010, p. 118).

After hibernation ends in late March or early April (as late as May in some northern areas), most northern long-eared bats migrate to summer roosts. The spring migration period typically runs from mid-March to mid-May (Caire *et al.* 1979, p. 405; Easterla 1968, p. 770; Whitaker and Mumford 2009, p. 207). The northern long-eared bat is not considered to be a long-distance migrant (typically 40–50 miles (64–80 kilometers)). Males and non-reproductive females may summer near or in their winter habitat (hibernacula), or migrate to summer habitat some distance from their hibernaculum.

After emerging from hibernacula in the spring, female northern long-eared bats actively form colonies in the summer (Foster and Kurta 1999) and exhibit fission-fusion behavior (Garroway and Broders 2007), where members frequently coalesce to form a group, but composition of the group is in flux (Barclay and Kurta 2007, p. 44). As part of this behavior, northern long-eared bats switch tree roosts often (Sasse and Pekins 1996, p. 95), typically every 2 to 3 days (Foster and Kurta 1999, p. 665; Owen *et al.* 2002, p. 2; Carter and Feldhamer 2005, p. 261; Timpone *et al.* 2010, p. 119). Northern long-eared bat maternity colonies range widely in size (reported range of 7 to 100; Owen *et al.* 2002, p. 2; Whitaker and Mumford 2009, p. 212), although colonies of 30–60 individuals may be most common, at least prior to the onset of WNS (Whitaker and Mumford 2009, p. 212; Caceres and Barclay 2000, p. 3; Service 2014, p. A16).

Northern long-eared bats show interannual fidelity to roost trees and maternity areas. They use networks of roost trees often centered around one or more central-node roost trees (Johnson *et al.* 2011, p. 228) with multiple alternate roost trees. Northern long-eared bats roost in cavities, crevices, hollows, or underneath bark of both live and dead trees and snags (typically ≥3 inches (in) (8 centimeters (cm)) in diameter at breast height (dbh)). Northern long-eared bats are known to use a wide variety of roost types, using tree species based on presence of cavities or crevices or presence of peeling bark. Northern long-eared bats have also been found roosting in structures such as buildings, barns, sheds, houses, and bridges (Benedict and Howell 2008, p. 5; Krochmal and Sparks 2007, p. 650; Timpone *et al.* 2010, p. 119; Service 2014, p. 2).

The best available information indicates that northern long-eared bats seem to be flexible in roost selection, using varying roost tree species and types of roosts throughout their range. They do not depend on certain species of trees for roosts; rather, they opportunistically use many tree species that form suitable cavities or retain bark (Foster and Kurta 1999, p. 668). Additionally, the bats may use either live trees or snags; the use of live trees versus snags may reflect the availability of such structures (Perry and Thill 2007, p. 224) and the presence of sympatric bat species (*e.g.,* Indiana bat (*Myotis sodalis*)) (Timpone *et al.* 2010, p. 120), as opposed to a specific preference of tree or other habitat characteristics. Results from studies have also found that the diameters of roost trees selected by northern long-eared bats vary greatly (Sasse and Pekins 1996, pp. 95–96; Schultes 2002, pp. 49, 51; Perry 2014, pers. comm.; Lereculeur 2013, pp. 52–54; Carter and Feldhamer 2005, p. 263; Foster and Kurta 1999, p. 663; Lacki and Schwierjohann 2001, pp. 484–485; Owens *et al.* 2002, p. 3; Timpone *et al.* 2010, p. 118; Lowe 2012, p. 61; Perry and Thill 2007, p. 223; Lacki *et al.* 2009, p. 1,171) and that northern long-eared bats can forage in a variety of forest types (Brack and Whitaker 2001, p. 207; LaVal *et al.* 1977, p. 594; van Zyll de Jong 1985, p. 94). Northern long-eared bats change roost trees frequently (*e.g.,* Cryan *et al.* 2001, p. 50; Foster and Kurta 1999, p. 665) within their summer home range; this behavior suggests they are adapted to responding quickly to changes in roost availability and ephemeral roosts. For a more detailed discussion on summer habitat, refer to the April 2, 2015, final listing rule (80 FR 17974).

Winter Habitat (Hibernacula)

Northern long-eared bats hibernate during the winter months to conserve energy from increased thermoregulatory demands and reduced food resources (Thomas *et al.* 1990, p. 475; Thomas and Geiser 1997, p. 585; Bouma *et al.* 2010, p. 623). Suitable winter habitat includes caves and cave-like structures (*e.g.,* abandoned or active mines, railroad tunnels) (Service 2015, unpublished data; Goehring 1954, p. 435; Kurta *et al.* 1997, p. 478). Other landscape features may be used by northern long-eared bats during the winter, but they have yet to be documented. Generally, northern long-eared bats hibernate from October to April, depending on the local climate (November/December through March in southern areas, with emergence as late as mid-May in some northern areas) (Caire *et al.* 1979, p. 405; Whitaker and Hamilton 1998, p. 100; Amelon and Burhans 2006, p. 72).

Hibernacula used by northern long-eared bats vary in size (Raesly and Gates 1987, p. 20; Kurta 2013, in litt.), and these hibernacula have relatively constant, cooler temperatures (0 to 9 degrees Celsius (°C) (32 to 48 degrees

Fahrenheit (°F)) (Raesly and Gates 1987, p. 18; Caceres and Pybus 1997, p. 2; Brack 2007, p. 744), with high humidity and minimal air currents (Fitch and Shump 1979, p. 2; van Zyll de Jong 1985, p. 94; Raesly and Gates 1987, p. 118; Caceres and Pybus 1997, p. 2). The sites favored by northern long-eared bats are often in very high humidity areas, to such a large degree that droplets of water are often observed on their fur (Hitchcock 1949, p. 52; Barbour and Davis 1969, p. 77). Within hibernacula, northern long-eared bats are typically found roosting in small crevices or cracks in cave or mine walls or ceilings, sometimes with only the nose and ears visible (Griffin 1940, pp. 181–182; Barbour and Davis 1969, p. 77; Caire *et al.* 1979, p. 405; van Zyll de Jong 1985, p. 9; Caceres and Pybus 1997, p. 2; Whitaker and Mumford 2009, pp. 209–210).

To a lesser extent, northern long-eared bats have also been observed overwintering in other types of habitat that resemble cave or mine hibernacula, including abandoned railroad tunnels (Service 2015, unpublished data). Although similar bat species (*e.g.,* big brown bats (*Eptesicus fuscus*)) have been found using non-cave or non-mine hibernacula, including attics and hollow trees (Neubaum *et al.* 2006, p. 473; Whitaker and Gummer 1992, pp. 313–316), northern long-eared bats have only been observed overwintering in suitable caves, mines, or habitat with the same types of conditions found in suitable caves or mines.

Northern long-eared bats tend to roost singly or in small groups (Service 2013, unpublished data), with hibernating population sizes rarely recorded in concentrations of more than 100 bats in a single hibernaculum (Barbour and Davis 1969, p. 77). Northern long-eared bats display more winter activity than other cave species, with individuals occasionally moving between hibernacula throughout the winter (Griffin 1940, p. 185; Whitaker and Rissler 1992, p. 131; Caceres and Barclay 2000, pp. 2–3). Northern long-eared bats have shown a high degree of philopatry (*i.e.,* using the same site multiple years) to the hibernacula used (Pearson 1962, p. 30).

Northern long-eared bat hibernacula have fairly specific physical and biological requirements that make them suitable for northern long-eared bats. In general, bats select hibernacula because they have characteristics that allow the bats to meet specific life-cycle requirements. Factors influencing a hibernaculum's suitability include its physical structure (*e.g.,* openings, interior space, depth), air circulation, temperature profile, and location relative to foraging sites (Tuttle and Stevenson 1978, pp. 108–121). For a more detailed discussion on winter habitat, refer to the April 2, 2015, final listing rule (80 FR 17974).

Previous Federal Actions

Refer to the proposed (78 FR 61046; October 2, 2013) and final (80 FR 17974; April 2, 2015) listing rules for the northern long-eared bat for a detailed description of previous Federal actions concerning this species. On April 2, 2015, we published in the **Federal Register** (80 FR 17974) a final rule listing the northern long-eared bat as a threatened species. In the April 2, 2015, rule, we also established an interim rule under section 4(d) of the Act (16 U.S.C. 1531 *et seq.*). The final listing rule and the interim 4(d) rule both became effective on May 4, 2015. On January 14, 2016 (81 FR 1900), we published a final 4(d) rule, which became effective on February 16, 2016.

Critical Habitat

Background

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, we designate critical habitat at the time the species is determined to be an endangered or threatened species. Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Our regulations at 50 CFR 424.02 defines the geographical area occupied by the species as: An area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.,* range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (*e.g.,* migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

Conservation, as defined under section 3 of the Act, means to use, and the use of, all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Critical habitat designation does not allow the government or public to access private lands, nor does it require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the Federal agency would be required to consult under section 7(a)(2) of the Act, but even if consultation leads to a finding that the action would likely cause destruction or adverse modification of critical habitat, the resulting obligation of the Federal action agency and the landowner is not to restore or recover the species, but rather to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features, we focus

on the specific features that support the life-history needs of the species, including but not limited to, water characteristics, soil type, geological features, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed if we determine that such areas are essential for the conservation of the species. For example, an area that is currently occupied by the species, but was not occupied at the time of listing, may be essential to the conservation of the species and may be included in the critical habitat designation.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. For example, they require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

Critical Habitat Prudency Determination

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, we designate critical habitat at the time the species is determined to be an endangered or threatened species. Our regulations (50 CFR 424.12(a)(1)) state that the designation of critical habitat is not prudent when any of the following situations exist: (i) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or (ii) such designation of critical habitat would not be beneficial to the species. The regulations also provide that, in determining whether a designation of critical habitat would not be beneficial to the species, the factors the Services may consider include but are not limited to: Whether the present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or whether any areas meet the definition of ''critical habitat'' (50 CFR 424.12(a)(1)(ii)).

We have determined that both situations when a critical habitat designation would not be prudent apply to the northern long-eared bat. With respect to summer habitat, we have determined that designating critical habitat would not be beneficial to the species. Further, with respect to wintering habitat, we have determined that the species is threatened by taking or human activity and identification of critical habitat could be expected to increase the degree of this threat to the species. An explanation of these determinations follows.

Designating Summer Habitat Would Not Be Beneficial to the Species

The northern long-eared bat is widely distributed throughout much of its range during the summer months and is considered to be flexible with regards to summer habitat requirements.

The best scientific information available on summer habitat suggests that where the northern long-eared bat is found, it is widely distributed in a variety of wooded habitats (ranging from highly fragmented forest habitats to contiguous forest blocks from the southern United States to Canada's Yukon Territory), with generally non-specific habitat elements. There are elements of summer habitat that the northern long-eared bat needs (forests for roosting, raising young, foraging, and commuting between roosting and foraging habitat); however, the best available information indicates that the species' specific needs and preferences for these habitat elements are relatively flexible, plentiful, and widely distributed. Thus, summer habitat for the northern long-eared bat does not have specific physical or biological features that are essential to the conservation of the species and, therefore, does not meet the definition of critical habitat.

Furthermore, as discussed in the final listing rule (80 FR 17974; April 2, 2015), northern long-eared bat summer habitat is not limited or in short supply, and summer habitat loss is not a rangewide threat to the species. Based on a compilation of the total forested acres for each State in the northern long-eared bat's range (from the U.S. Forest Service's 2015 State and Private Forestry Fact sheets (available at *http://stateforesters.org/regional-state*)), there are an estimated 281,528,709 acres (113,213,960 hectares) of available forested habitat for the northern long-eared bat throughout its range in the United States (Service 2016, p. 28). This is assuming that all forested acres are suitable for the northern long-eared bat, which probably overestimates habitat availability, but such an assumption is not unreasonable given the northern long-eared bat's flexible selection of summer habitat and ability to use very small trees (≥3 in (8 cm) in dbh) (Service 2016, p. 18).

As we documented in the final listing rule (80 FR 17974; April 2, 2015), the extent of conversion from forest to other land cover types has been fairly consistent with conversion to forest (cropland reversion/plantings). Further, the recent past and projected future amounts of forest loss to conversion was, and is anticipated to be, only a small percentage of the total amount of forest habitat. For example, the U.S. Forest Service expects only 4 to 8 percent of the forested area found in 2007 across the conterminous United States to be lost by 2060 (U.S. Forest Service 2012, p. 12). Additionally, as discussed above, the northern long-eared bat has been documented to use a wide variety of forest types across its wide range (living in highly fragmented forest habitats to contiguous forest blocks from the southern United States to Canada's Yukon Territory). Because summer habitat for the northern long-eared bat is not limiting, and because the northern long-eared bat is considered to be flexible with regards to summer habitat, the availability of forested habitat does not now, nor will it likely in the future, limit the conservation of the northern long-eared bat.

The critical habitat regulations at 50 CFR 424.12(a)(1)(ii) provide two examples of when designating critical habitat may not be beneficial to the species and, therefore, may be not prudent: Where the present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or where there are no areas that meet the definition of critical habitat for the species. The summer habitat for the northern long-eared bat falls within both examples. First, there are no areas of summer habitat that meet the definition of critical habitat for the northern long-eared bat. Second, the present or

threatened destruction, modification, or curtailment of summer habitat is not a threat to the species; rather, disease is the primary threat to the species within its summer habitat. In the final rule revising the critical habitat regulations (81 FR 7414; February 11, 2016), the Services expressly identified this situation as an example where designating critical habitat may not be beneficial to the species: ''In some circumstances, a species may be listed because of factors other than threats to its habitat or range, such as disease, and the species may be a habitat generalist. In such a case, on the basis of the existing and revised regulations, it is permissible to determine that critical habitat is not beneficial and, therefore, not prudent'' (see 81 FR 7425; February 11, 2016). Therefore, we conclude that designating the summer habitat of the northern long-eared bat as critical habitat is not prudent.

Increased Threat to the Taxon by Designating Critical Habitat in Their Hibernacula

Disturbance of hibernating bats (as discussed under Factor A of the final listing rule (80 FR 17974, April 2, 2015; see 80 FR 17989–17990)) has long been considered a threat to cave-hibernating bat species, including the northern long-eared bat. Northern long-eared bats hibernate during the winter months to conserve energy from increased thermoregulatory demands and reduced food resources. To increase energy savings, individuals enter a state of torpor, when internal body temperatures approach ambient temperature, metabolic rates are significantly lowered, and immune function declines (Thomas *et al.* 1990, p. 475; Thomas and Geiser 1997, p. 585; Bouma *et al.* 2010, p. 623). Each time a bat arouses from torpor, it uses a significant amount of energy to warm its body and increase its metabolic rate. These arousals during hibernation cause the greatest amount of energy depletion in hibernating bats (Thomas *et al.* 1990, p. 477). The cost and number of arousals are the two key factors that determine energy expenditures of hibernating bats in winter (Thomas *et al.* 1990, p. 475). Human disturbance at hibernacula can cause bats to arouse more frequently, causing premature energy store depletion and starvation (Thomas 1995, p. 944; Speakman *et al.* 1991, p. 1103), leading to marked reductions in bat populations (Tuttle 1979, p. 3) and increased susceptibility to disease.

The primary forms of human disturbance to hibernating bats result from recreational caving, vandalism, cave commercialization (cave tours and other commercial uses of caves), and research-related activities (Service 2007, p. 80). Fire building is also a common form of disturbance that, in addition to elevating interior temperatures (which is detrimental during hibernation) and accumulating smoke, can deposit soot on ceilings and eventually result in site abandonment by bats (Tigner and Stukel 2003, p. 54). In addition to unintended effects of commercial and recreational caving, intentional killing of bats in caves by shooting, burning, and clubbing has been documented (Tuttle 1979, pp. 4, 8). Intentional killing of northern long-eared bats has been documented at a small percentage of hibernacula (*e.g.,* one case of shooting disturbance in Maryland, and one case of bat torching in Massachusetts where approximately 100 bats (northern long-eared bats and other species) were killed) (Service, unpublished data).

Prior to the outbreak of WNS, Amelon and Burhans (2006, p. 73) indicated that ''the widespread recreational use of caves and indirect or direct disturbance by humans during the hibernation period pose the greatest known threat to this species (northern long-eared bat).'' In addition, human disturbance at hibernacula has been identified by many States as the next greatest threat to the bat after WNS. Of 14 States that assessed the possibility of human disturbance at bat hibernacula within the range of the northern long-eared bat, 13 identified at least 1 known hibernacula as having been negatively affected by human disturbance (Service 2012, unpublished data). Eight of these 14 States (Arkansas, Kentucky, Maine, Minnesota, New Hampshire, North Carolina, South Carolina, and Vermont) indicated the potential for human disturbance at over 50 percent of the known hibernacula in that State. Nearly all States without WNS identified human disturbance as the primary threat to hibernating bats, and all others (including WNS-positive States) noted that human disturbance either is of significant concern or is the next greatest threat after WNS (Service 2012, unpublished data).

Since the time of listing (April 2, 2015), additional information has become available that demonstrates that designating critical habitat for the northern long-eared bat would likely increase the threat from vandalism and disturbance, and could, potentially, increase the spread of WNS. In November 2015, we sought information from State fish and wildlife agencies and other public landowners with known bat caves or mines to determine: (1) How prevalent accounts of disturbance to bats and vandalism to hibernacula are throughout the species' range; and (2) the level and types of concerns that State fish and wildlife agencies and other landowners with known bat caves or mines have regarding the release of known bat hibernacula location information.

Prevalence of Disturbance—State and other agency or organization personnel provided information regarding specific incidents of disturbance of hibernating bats within their State or area of jurisdiction. Incidents were reported throughout the range of the northern long-eared bat. Evidence of vandalism of caves and mines and disturbance of bats included: dead bats, graffiti, trash, evidence of camp fires, bottle rockets, fireworks, digging or excavation, attempts to remove rock or minerals, alteration of cave or mine entrances, and damage to and breach of gates. There were also a few reported incidents of intentional killing of bats, including clubbing, thrown rocks, and burning. In addition, materials found in hibernacula, such as tennis rackets and blow torches, indicate harm inflicted on bats (NJDFW 2015, pers. comm.). There are few law enforcement reports regarding these incidents, either due to a lack of law enforcement actions or because reporting these incidents would publicize mine or cave locations (SCDNR 2015, pers. comm.).

Examples of incidents of vandalism and disturbance to bats at publicly known hibernacula have been found throughout the range of the northern long-eared bat; we received examples of vandalism and disturbance to bats from 20 State fish and wildlife agencies and 9 other public landowners (including Federal, State, and local agencies and organizations) with known northern long-eared bat hibernacula. Due to the large number of specific incidents, a small, representative subset of the examples we received is presented below. For purposes of illustrating that these incidents occur throughout the species' range, the information is organized into four geographic areas: Northeast, southeast, midwest, and west.

Northeast: In northeastern States such as Pennsylvania and New York, vandalism and disturbance to bats within hibernacula occurs frequently. Evidence of human use of caves and mines in Pennsylvania, including digging for new passage, waste, all-terrain-vehicle use, guns being shot, and burning, are common. There are also many examples of people trying to cut, remove, or get around gates to access gated hibernacula (PGFC 2015, pers. comm.). Due to the large numbers of people trespassing in Pennsylvania

caves and mines, especially during winter months while bats are hibernating, the Pennsylvania Game Commission installed cameras at many caves to capture visual proof of those illegally entering caves and send automated messages to alert a wildlife conservation officer of the entry. Since January 2015, conservation officers have confronted at least 50 suspected trespassers, resulting in more than 20 citations (PGFC 2015, pers. comm.). Similarly, in New York, nearly all ungated hibernacula, both on public and private lands, are visited by people, and many gated caves and mines have been compromised. Some sites have signs informing visitors that caves and mines are closed to visitation in the winter; however, this does not stop individuals from accessing those sites (NYDEC 2015, pers. comm.).

Southeast: In southeastern States such as South Carolina, North Carolina, and Kentucky, vandalism and disturbance to bats within hibernacula occurs often. For example, in South Carolina reports exist of bottle rockets being shot into a gated mine, missing locks on bat-friendly gates, litter inside a cave, and individuals barricading an entrance to a cave (SCDNR 2015, pers. comm.). In North Carolina, there are multiple incidents of vandalism to caves and mines. One particular mine in North Carolina has had repeated vandalism issues over several years, and multiple security fences, gates, and locks have been compromised by vandalism (NCWRC 2015, pers. comm.). In Kentucky, 82 of 118 total hibernacula where northern long-eared bats have been observed are exposed to human disturbance; in 2007, two people were convicted of intentionally killing more than 100 federally-listed Indiana bats in a Kentucky cave (USFWS 2010).

Midwest: There are multiple records of vandalism and disturbance of bats in Midwestern States, including Michigan, Indiana, Wisconsin, Missouri, and Minnesota. The first mine to have WNS-associated bat mortality in Michigan had been illegally accessed in 2013, when people used a torch to break the gate. The WNS-associated mortality was ''likely as a direct result of this disturbance'' (MIDNR 2015, pers. comm.). Winter visitation to caves in Indiana is relatively common, and in one particular incident, hibernating Indiana bats were intentionally burned (INDNR 2015, pers. comm.). In Wisconsin, five State-owned underground sites were sealed for use if there was a need for artificial hibernacula for WNS treatment trials; all five were breached (welded doors were ground off) during the spring of 2015. Additionally, one private landowner filled in a cave on their property when they learned it was occupied by bats (WDNR 2015, pers. comm.). In Missouri, there has been evidence of digging at cave entrances, parties, fires, fireworks, graffiti, off-highway vehicle use, gate damage, and trash left behind at caves throughout the State. In fact, there is an ongoing investigation and prosecution regarding illegal entry at a Missouri cave (MDC 2016, pers. comm.). Issues with breached gates and broken locks occurred at several Minnesota caves; approximately 4 years ago, surveyors found bat bones and shotgun shells in one cave.

West: In States such as South Dakota, Arkansas, and Oklahoma in the western portion of the northern long-eared bat's range, there are several records of incidents of vandalism and disturbance to bats as well. The South Dakota Department of Game, Fish, and Parks provided literature with evidence of both historical and ongoing vandalism at their State's hibernacula. Increasing disturbance of known hibernacula throughout the Black Hills area is noted as one of the greatest threats to bat populations in the area (Tigner and Stukel 2003, p. 11). Some of the more disruptive and damaging activities inside caves and abandoned mines include discharging firearms and fireworks, spray-painting, campfire construction, and intentionally killing bats and other wildlife (Tigner and Stukel 2003, p. 54). At one particular cave, campfires are common during hibernation, and only a small fraction of the bats identified in the cave in the early 1990s still use the cave (Tigner 2002, p. 7). In Arkansas, approximately 200 endangered gray bats (*Myotis grisescens*) were killed at a major gray bat hibernaculum on National Park Service land (AGFC 2015, pers. comm.). In Oklahoma, there have been multiple incidents involving cutting fences around gate entrances, breaching cave gates (by cutting, digging under, or removing structures around gates to gain access), and campfires near cave entrances (Service 2015, pers. comm.).

Summary: As illustrated by the examples above, which are only a small subset of the reported incidents, we have extensive rangewide evidence that indicates known northern long-eared bat hibernacula have been, and are likely to continue to be, disturbed and vandalized. These acts not only lead to increases in disturbance during the northern long-eared bat's sensitive hibernation period, which, in turn, leads to decreased survival, but also may lead to direct mortality of northern long-eared bats.

Concerns over Release of Location Information—Northern long-eared bats that are infected with WNS are believed to be less resilient to disturbance and resulting arousal, and the northern long-eared bat is one of the most highly susceptible bat species to WNS (Langwig *et al.* 2014). As discussed in the final listing rule (80 FR 17974, April 2, 2015; see 80 FR 17993–17998), WNS-causing fungal spores can be transmitted not only by bat-to-bat transmission, but also by human actions (USGS National Wildlife Health Center, Wildlife Health Bulletin 2011–05), and decontamination remains one of the only management options available to reduce the risk of human-assisted transmission. State, Federal, and local agencies and organizations are especially concerned with the spread of WNS if cave and mine locations are made public, especially in sites where WNS has not been found or in areas that have not yet been inundated with the disease. Several agency and organization personnel expressed concern regarding those visiting caves and mines and not properly decontaminating after leaving hibernacula, which may result in these visitors spreading WNS fungal spores by using contaminated gear in uninfected caves or mines (ANHC 2015, pers. comm.; CDEEP 2015, pers. comm.; KDFWR 2015, pers. comm.; NBSRP 2015, pers. comm.; NJDVW 2015, pers. comm.; WDNR 2015, pers. comm.; WGFD 2015, pers. comm.). It is possible that the spread of WNS was enhanced by human transfer of fungal spores in some States, such as Connecticut (CDEEP 2015, pers. comm.).

State, Federal, and local agencies that gather specific location information exercise extra efforts to protect hibernacula location information from becoming readily available to the public. In fact, many States reported that they are concerned that release of location information could significantly increase human visitation, thereby increasing disturbance to bats, and, therefore, they do not share hibernacula location information with the public. For example, the Wisconsin Department of Natural Resources stated, ''we have not shared locational information as to maternity sites and hibernacula. Under state law, locations deemed critical to the survival of the species may be withheld from the public. All data in the WI Natural Heritage Inventory are exempt from State open records laws'' (WDNR 2015, pers. comm.). Some agencies and organizations state that when location information is disclosed, an agreement typically must be in place with those requesting the location

information to protect the data, and point data are buffered to conceal the specific locations. Similarly, in Missouri, the Missouri Department of Conservation (MDC) does not release hibernacula locations to the general public, and location information for caves not owned by MDC cannot be disclosed by the State (MDC 2016, pers. comm.).

In addition to protecting location information, State, Federal, and local agencies and organizations use other means to protect bat hibernacula, such as installation of bat-friendly gates. Direct protection of caves and mines can be accomplished through installation of bat-friendly gates that allow passage of bats while reducing disturbance from human entry as well as reducing changes to the cave microclimate from air restrictions. Bat-friendly gates are generally thought to be effective in preventing disturbance of hibernating bats and vandalism of hibernacula (AGFC 2015, pers. comm.; ANF 2015, pers. comm.; ANHC 2015, pers. comm.; BNR 2015, pers. comm.; CDEEP 2015, pers. comm.; DMCC 2015, pers. comm.; IADNR 2015, pers. comm.; ILDNR 2015, pers. comm.; INDNR 2015, pers. comm.; KDFWR 2015, pers. comm.; MANG 2015, pers. comm.; MDC 2016, pers. comm.; MIDNR 2015, pers. comm.; NBSRP 2015, pers. comm.; NGDFW 2015, pers. comm.; NYDEC 2015, pers. comm.; ONF 2015, pers. comm.; ONSR 2015, pers. comm.; OSFNF 2015, pers. comm.; PGC 2015, pers. comm.; SCDNR 2015, pers. comm.; SDGFP 2015, pers. comm.; SMP 2015, pers. comm.; WDNR 2015, pers. comm.), although attempts to protect hibernacula from disturbance have varying degrees of effectiveness. In most States for which we have information, a small percentage of caves and mines are gated, and a majority of State agencies indicated that there is a need to gate additional caves and mines used by bats. For example, in Missouri, less than approximately 2 percent of known hibernacula have bat-friendly gates Statewide (MDC 2015, pers. comm.). Attempts to remove gates at hibernacula are numerous and pervasive throughout the northern long-eared bat's range, although the success of removal attempts varies. Some State and Federal agencies and other organizations state that attempts to remove gates are rarely successful; others, such as the Kentucky Department of Fish and Wildlife Resources, state that removal attempts are almost always successful: ''When parties wish to gain access, they are very resourceful and come prepared to cut, dig, pry, or use any other means necessary to enter. The remote nature of some sites does not seem to deter vandalism either'' (KDFWR 2015, pers. comm.). See *Prevalence of Disturbance,* above, for more examples of attempts to remove gates.

The process of designating critical habitat would increase human threats to the northern long-eared bat by increasing the vulnerability of this species to disturbance during its sensitive hibernation period and by increasing the likelihood of vandalism to its winter hibernacula by publicly disclosing the locations of those hibernacula. Northern long-eared bats are particularly sensitive to disturbance while hibernating, and such disturbance further reduces survival chances of already compromised, WNS-infected bats. Additionally, increased human access to hibernacula may facilitate or accelerate the spread of WNS to uninfected sites, as people may carry the fungal spores from site to site. Designation of critical habitat requires the publication of maps and a specific narrative description of critical habitat in the **Federal Register**. The degree of detail in those maps and boundary descriptions is far greater than the general location information provided in the final listing rule (80 FR 17974; April 2, 2015). Furthermore, a critical habitat designation normally results in the news media publishing articles in local newspapers and on special interest Web sites, usually with maps of the critical habitat. We have determined that the publication of maps and descriptions outlining the locations of this species' wintering areas would increase awareness and visitation of hibernacula, and thus disturbance of bats, as those interested in accessing caves and mines would then have detailed location information for these hibernacula. As expressed by many State bat biologists and land managers with hibernacula within their area of jurisdiction, there is a strong concern regarding publicizing cave and mine location information due to the increased threat of disturbance to the northern long-eared bat, and bats in general. Furthermore, human disturbance may exacerbate the effect of WNS on northern long-eared bats; providing a literal map of bat hibernacula in the form of critical habitat will likely facilitate human disturbance and may further compound threats to the species. We, therefore, conclude that the northern long-eared bat is threatened by taking and other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species. Designating critical habitat is therefore not prudent under the regulations at 50 CFR 424.12(a)(1)(i). As discussed earlier, the risk of increased threats from publishing hibernacula locations is significant. The northern long-eared bat, and bats in general, are very sensitive to disturbance while hibernating, and there are numerous known incidents of vandalism, targeted killing, and disturbance of hibernating northern long-eared bats throughout the species' range. The public has great interest in visiting caves and mines for recreational purposes, and human-caused disturbance has clear effects on hibernating bats. Thus, any action that publicly discloses the location of northern long-eared bat hibernacula (such as a critical habitat designation) puts the species in further peril. One of the basic measures to protect northern long-eared bats from vandalism and disturbance while hibernating is restricting access to information pertaining to the location of the species' hibernacula. Publishing maps and narrative descriptions of northern long-eared bat critical habitat would significantly affect our ability to reduce the threat of vandalism and disturbance of hibernacula and hibernating bats and may facilitate or intensify the spread of WNS by humans.

Summary of Prudency Determination

We have determined that designating critical habitat for the northern long-eared bat is not prudent. Designating summer habitat as critical habitat is not beneficial to the species, because there are no areas within the summer habitat of the species that meet the definition of critical habitat. Further, the primary threat to the species is the disease WNS; the destruction, modification, or curtailment of summer habitat is not a threat to the species as suitable summer habitat continues to exist and is not limited throughout the species' range. Therefore, designating critical habitat in the summer habitat areas would not be beneficial. Moreover, designating winter habitat as critical habitat would disclose hibernacula location information, and thereby increase the threat to the northern long-eared bat from vandalism and disturbance at hibernacula and could, potentially, increase the spread of WNS. Disturbance of hibernating bats has long been considered a threat to cave-hibernating bat species, and has been identified as the next greatest threat to this taxon after WNS. Human disturbance at hibernacula causes bats to arouse more frequently, leading to premature energy store depletion and, possibly, starvation. Further compounding the effects of disturbance, northern long-eared bats that are

infected with WNS are believed to be less resilient to disturbance and resulting arousal. Furthermore, increased human visitation of hibernacula could intensify the spread of WNS from infected to uninfected sites. We have, therefore, determined in accordance with 50 CFR 424.12(a)(1) that it is not prudent to designate critical habitat for the northern long-eared bat.

References Cited

A complete list of references cited in this document is available on the Internet at *http://www.regulations.gov* and upon request from the Twin Cities Ecological Services Office (see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this document are the staff members of the Twin Cities Ecological Services Office.

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: April 12, 2016.

Michael J. Bean,

Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2016–09673 Filed 4–26–16; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No. 150903814–5999–02]

RIN 0648–XE564

Fisheries of the Northeastern United States; Summer Flounder Fishery; Quota Transfer

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; quota transfer.

SUMMARY: NMFS announces that the Commonwealth of Virginia is transferring a portion of its 2016 commercial summer flounder quota to the Commonwealth of Massachusetts. These quota adjustments are necessary to comply with the Summer Flounder, Scup and Black Sea Bass Fishery Management Plan quota transfer provision. This announcement informs the public of the revised commercial quotas for Virginia and Massachusetts.

DATES: Effective April 26, 2016, through December 31, 2016.

FOR FURTHER INFORMATION CONTACT: Elizabeth Scheimer, Fishery Management Specialist, (978) 281–9236.

SUPPLEMENTARY INFORMATION: Regulations governing the summer flounder fishery are found in 50 CFR 648.100 through 648.110. The regulations require annual specification of a commercial quota that is apportioned among the coastal states from Maine through North Carolina. The process to set the annual commercial quota and the percent allocated to each state are described in § 648.102.

The final rule implementing Amendment 5 to the Summer Flounder Fishery Management Plan, as published in the **Federal Register** on December 17, 1993 (58 FR 65936), provided a mechanism for transferring summer flounder commercial quota from one state to another. Two or more states, under mutual agreement and with the concurrence of the NMFS Greater Atlantic Regional Administrator, can transfer or combine summer flounder commercial quota under § 648.102(c)(2). The Regional Administrator is required to consider the criteria in § 648.102(c)(2)(i)(A) through (C) in the evaluation of requests for quota transfers or combinations.

Virginia is transferring 6,525 lb (2,959 kg) of summer flounder commercial quota to Massachusetts. This transfer was requested by Virginia to repay landings by a Virginia-permitted vessel that landed in Massachusetts under a safe harbor agreement.

The revised summer flounder quotas for calendar year 2016 are now: Virginia, 1,755,829 lb (796,430 kg); and Massachusetts, 577,777 lb (262,075 kg) based on the initial quotas published in the 2016–2018 Summer Flounder, Scup and Black Sea Bass Specifications, (December 28, 2015, 80 FR 80689) and previous 2016 quota transfers (March 8, 2016, 81 FR 12030 and April 14, 2016, 81 FR 22032).

Classification

This action is taken under 50 CFR part 648 and is exempt from review under Executive Order 12866.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: April 21, 2016.

Emily H. Menashes,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2016–09726 Filed 4–26–16; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 150817730–6320–02]

RIN 0648–BF29

Fisheries of the Exclusive Economic Zone Off Alaska; Bering Sea and Aleutian Islands Management Area; American Fisheries Act; Amendment 111

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule.

SUMMARY: NMFS issues this final rule to implement Amendment 111 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area (FMP). This final rule reduces bycatch limits, also known as prohibited species catch (PSC) limits, for Pacific halibut in the Bering Sea and Aleutian Islands (BSAI) groundfish fisheries by specific amounts in four groundfish sectors: The Amendment 80 sector (non-pollock trawl catcher/processors); the BSAI trawl limited access sector (all non-Amendment 80 trawl fishery participants); the non-trawl sector (primarily hook-and-line catcher/processors); and the Western Alaska Community Development Quota Program (CDQ Program). This final rule establishes the following halibut PSC limits: 1,745 mt for the Amendment 80 sector; 745 mt for the BSAI trawl limited access sector; 710 mt for the BSAI non-trawl sector; and 315 mt for the CDQ Program. This results in an overall BSAI halibut PSC limit of 3,515 mt. This action is necessary to minimize halibut bycatch in the BSAI groundfish fisheries to the extent practicable and to achieve, on a continuing basis, optimum yield from the BSAI groundfish fisheries. This action is intended to promote the goals and objectives of the Magnuson-Stevens Fishery Conservation and Management Act, the FMP, and other applicable laws.

DATES: Effective May 27, 2016.

ADDRESSES: Electronic copies of the Environmental Assessment (EA), Regulatory Impact Review (RIR), and Finding of No Significant Impact (FONSI) prepared for this action, collectively ''the Analysis;'' the FMP; and the proposed rule are available from *http://www.regulations.gov* or from the

ATTACHMENT D

NATIONAL HISTORIC PRESERVATION ACT DOCUMENTATION

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Gill; Street No: 23; Street Name: French King Hwy; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year

ATTACHMENT E

RECEIVING WATER HYDROLOGIC INFORMATION

StreamStats Report

Region ID: MA
Workspace ID: MA20170822150425431000
Clicked Point (Latitude, Longitude): 42.61138, -72.54496
Time: 2017-08-22 15:05:53 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0839	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	-100000	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	6.091	percent
BSLDEM10M	Mean basin slope computed from 10 m DEM	9.608	percent
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	71.27	percent
FOREST	Percentage of area covered by forest	6.17	percent

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0839	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	6.091	percent	0.32	24.6

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit

Flow-Duration Statistics Citations

Low-Flow Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0839	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	6.091	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1

Low-Flow Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit

Low-Flow Statistics Citations

August Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0839	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	6.091	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1

August Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit

August Flow-Duration Statistics Citations

Bankfull Statistics Parameters [Bankfull Statewide SIR2013 5155]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0839	square miles	0.6	329
BSLDEM10M	Mean Basin Slope from 10m DEM	9.608	percent	2.2	23.9

Bankfull Statistics Disclaimers [Bankfull Statewide SIR2013 5155]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Bankfull Statistics Flow Report [Bankfull Statewide SIR2013 5155]

Statistic	Value	Unit
Bankfull Width	5.98	ft
Bankfull Depth	0.485	ft
Bankfull Area	2.84	ft^2
Bankfull Streamflow	7.19	ft^3/s

Bankfull Statistics Citations

Bent, G.C., and Waite, A.M.,2013, Equations for estimating bankfull channel geometry and discharge for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2013–5155, 62 p., (http://pubs.usgs.gov/sir/2013/5155/)

Probability Statistics Parameters [Perennial Flow Probability]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0839	square miles	0.01	1.99
PCTSNDGRV	Percent Underlain By Sand And Gravel	71.27	percent	0	100
FOREST	Percent Forest	6.17	percent	0	100
MAREGION	Massachusetts Region	1	dimensionless	0	1

Probability Statistics Flow Report [Perennial Flow Probability]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIl	PIu	PC

Probability Stream Flowing Perennially	0.853	dim	71

Probability Statistics Citations

Bent, G.C., and Steeves, P.A.,2006, A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006–5031, 107 p. (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)

ATTACHMENT F

MASSDEP CORRESPONDENCE

From: Ruan, Xiaodan (DEP)
To: Meaghan M. Broderick
Subject: RE: 7Q10 Calculation
Date: Wednesday, August 30, 2017 4:31:42 PM

Hi Meaghan,

I am sorry for getting back to you late.
I reviewed the information and documents you provided. Because the discharge goes into an ephemeral stream which is likely intermittent, no dilution will be granted and the dilution factor equals to 1.

Please let me know if you have any questions.
Thanks,
Xiaodan
617-654-6517

From: Meaghan M. Broderick [mailto:mmbroderick@geoinc.com]
Sent: Wednesday, August 23, 2017 1:11 PM
To: Ruan, Xiaodan (DEP)
Subject: 7Q10 Calculation

Hi Xiaodan,

I am working on a Remediation General Permit for a site located in Gill, MA. I used StreamStats to try and get the 7Q10 value for our outfall location. We plan to discharge to a storm water catch basin which has an outfall to an ephemeral stream. The ephemeral stream flows about 600 yards before discharging to the Connecticut River. I attached a figure showing the site, catch basin, and stream location.

I generated two reports on StreamStats (see attached). One using the ephemeral stream as the delineation point and one using the stream outfall to the CT River as the delineation point. Neither scenario provides low-flow statistics. Would you advise that we identify the ephemeral stream or the CT River as our outfall location for RGP discharge?

I'm assuming if we go with the ephemeral stream, our 7Q10 and dilution factor would be 0. If we can use the CT River, is there a way to get the 7Q10 value so we can calculate the dilution factor? There is a stream gauge in the CT River located approximately 500 yards downstream of the outfall.

Any guidance would be greatly appreciated.

Thank you,
Meaghan M. Broderick, P.G.
Project Geologist
GeoInsight, Inc.
186 Granite Street
3rd Floor, Suite A

Manchester, NH 03101
Tel: (603) 314-0820
Fax: (603) 314-0821
www.geoinsightinc.com

Environmental Strategy & Engineering

Practical in Nature

ATTACHMENT G

USEPA APPENDIX V DILUTION FACTOR AND WQBEL SPREADSHEET

Enter number values in green boxes below

Enter values in the units specified

↓

0	Q_R = Enter upstream flow in **MGD**
0.144	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Enter a dilution factor, if other than zero

↓

1

Enter values in the units specified

↓

120	C_d = Enter influent hardness in **mg/L** $CaCO_3$
48.1	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

Enter **receiving water** concentrations in the units specified

↓

6.75	pH in **Standard Units**
14.5	Temperature in **°C**
0.7	Ammonia in **mg/L**
48.1	Hardness in **mg/L** $CaCO_3$
0	Salinity in **ppt**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
1	Copper in **µg/L**
180	Iron in **µg/L**
0.4	Lead in **µg/L**
0.08	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
10	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓

50	TRC in **µg/L**
700	Ammonia in **mg/L**
0	Antimony in **µg/L**
40	Arsenic in **µg/L**
0.7	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
20	Copper in **µg/L**
18,000	Iron in **µg/L**
3	Lead in **µg/L**
0.07	Mercury in **µg/L**
5	Nickel in **µg/L**
0	Selenium in **µg/L**
0.04	Silver in **µg/L**
40	Zinc in **µg/L**
0	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

Notes:

Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved

Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry

Discharge flow is equal to the design flow or 1 MGD, whichever is less

Only if approved by State as the entry for Q_R; leave 0 if no entry

Saltwater (estuarine and marine): only if approved by the State

Leave 0 if no entry

Freshwater only

pH, temperature, and ammonia required for all discharges

Hardness required for freshwater

Salinity required for saltwater (estuarine and marine)

Metals required for all discharges if present and if dilution factor is > 1

Enter 0 if non-detect or testing not required

if >1 sample, enter maximum

if >10 samples, may enter 95th percentile

Enter 0 if non-detect or testing not required

Dilution Factor	1.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	0.2	mg/L	**11**	µg/L	50	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	640	µg/L		
Arsenic	104	µg/L	**10**	µg/L		
Cadmium	10.2	µg/L	**0.3098**	µg/L		
Chromium III	**323**	µg/L	100.1	µg/L		
Chromium VI	**323**	µg/L	11.4	µg/L		
Copper	242	µg/L	**10.9**	µg/L		
Iron	5000	µg/L	**1000**	µg/L		
Lead	**160**	µg/L	4.01	µg/L		
Mercury	**0.739**	µg/L	0.91	µg/L		
Nickel	**1450**	µg/L	60.9	µg/L		
Selenium	**235.8**	µg/L	5.0	µg/L		
Silver	**35.1**	µg/L	5.2	µg/L		
Zinc	**420**	µg/L	139.8	µg/L		
Cyanide	**178**	mg/L	5.2	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	1.6	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.3	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			

D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.2	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			