NOTICE OF INTENT FOR

MASSACHUSETTS REMEDIATION GENERAL PERMIT

COLBEA-SHELL GASOLINE STATION
506 WEST CENTER STREET
WEST BRIDGEWATER, MA
RTN 4-19737

Prepared for:
COLBEA ENTERPRISES LLC
2050 PLAINFIELD PIKE
CRANSTON, RI 02921

October 29, 2018

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1.0 INTRODUCTION

Tg2 Solutions, LLC (Tg2) prepared Notice of Intent (NOI) for a Massachusetts Remediation General Permit (RGP) for construction dewatering at the Shell-branded gasoline station located at Shell-branded service station located at 506 West Center Street in West Bridgewater, Massachusetts, on behalf of the site owner, Colbea Enterprises LLC (Colbea). This NOI is being submitted to the United State Environmental Protection Agency (USEPA) in accordance with the requirements of the Massachusetts General Permit No. MAG070000. This site was formerly identified by Massachusetts Department of Environmental Protection (MassDEP) as Release Tracking Number (RTN) 4-19737 and is regulated in accordance with Massachusetts Contingency Plan (MCP) 310 CMR 40.0000. The site is presently in Phase V Remedy Operation Status.

This NOI for an RGP is being submitted to account for site renovation activities being conducted at the facility. A portion of these activities include the dewatering of an excavation to allow for the removal and replacement of gasoline underground storage tanks (USTs). For the purpose of this NOI, the "facility" is defined as the area located within the property boundaries of 506 West Center Street in West Bridgewater, Massachusetts. A Site Locus Map is presented as **Figure 1**. A Site Plan is presented as **Figure 2**. A copy of the NOI is included as **Attachment A**.

2.0 GENERAL FACILITY INFORMATION

General site information for which this Phase I applies includes the following:

Property Owner/Facility Operator:	Thomas Breckel Operator Colbea Enterprises LLC 2050 Plainfield Pike Cranston, RI 02920 Tel: (401) 943-0005
Owner/Facility Operator Contact:	Dennis Darveau, Director of Construction Ddarveau@seasoncornermarket.com Tel: (401) 490-2209
USGS Quadrangle:	Brockton, Massachusetts
Longitude, Latitude: (approximate)	71° 2' 24.94" W, 42° 0' 54.18" N
Site Zoning:	Commercial
County:	Plymouth

2.1 Facility Description

The facility is a Shell-branded service station located at 506 West Center Street, in a commercial area of West Bridgewater, Massachusetts. In 2008, Motiva Enterprises LLC,

the former owner/operator of the property and original responsible party for the RTN, sold the facility to Colbea. The property is developed with a single-story convenience store containing a Dunkin Donuts, two restrooms, an office area, and a storage area. The facility serves gasoline via two pump islands and has a separate automated car wash. The majority of the facility is paved. The site has operated as a retail gasoline station since 1969 when it was constructed by the Shell Oil Company, US (Shell). Refer to **Figure 2** - Site Plan, for the location of existing UST systems, dispensers, sampling locations, and pertinent facility features.

2.2 Sensitive Environmental Receptors

The nearest surface water body is an unnamed pond bordered by wetland located approximately 800 feet east/southeast of the facility. Depth to water at the disposal site ranges from approximately 6 to 16 feet below grade, depending on measurement location. Groundwater does not intersect surface water or wetland areas within the boundaries of the disposal site.

The western and downgradient portions of the disposal site are located within a Zone II Aquifer Protection Area. Portions of the disposal site are also located within a Medium Yield, Non-Potential Drinking Water Source Area and a Medium Yield, Potentially Productive Aquifer. The nearest public water supply wells, identified as 4322000-06G and 4322000-07G, are located approximately 0.5 miles northwest of the facility. Additionally, four private wells were previously identified within 500 feet of the disposal site at the time of the MCP Phase II submittal for this RTN. These wells were located at 19 and 22 High Street, and 486 and 488 West Center Street. However, subsequent conversations with the West Bridgewater Water Department indicate that one of the structures with a private well was razed and the remaining three properties receive town water; therefore, according to the West Bridgewater Water Department, these wells are considered irrigation wells. All of these locations are located upgradient of the disposal site.

A waterbody assessment and TMDL status relative to the facility location is provided in **Figure 3**. Areas of Concern in relation to the facility are located on **Figure 4**. **Figure 5** provides a Bureau of Waste Site Cleanup Receptor Map identifying potential environmental receptors within a 500 foot and ½ mile radius from the site.

2.3 National Pollutant Discharge Elimination System (NPDES) Status

A NPDES permit has not been previously applied for or granted for this discharge. Site redevelopment construction activities have not yet begun at the facility; however, they are planned for late fall 2018. The facility is not covered by an individual NPDES permit and there are no pending applications on file for any other permit with US EPA for this facility. As defined by 40 CFR Section 122.2, a new discharger means any building, structure, facility, or installation:

A) From which there is or may be a "discharge of pollutants;"
B) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;

C) Which is not a "new source;" and,
D) Which has never received a finally effected NPDES permit for discharges at that "site."

Based on groundwater samples collected at the facility, this site is not considered a new discharge.

3.0 DISCHARGE INFORMATION

This NOI for an RGP is being applied for groundwater discharge necessary during site redevelopment construction activities. These activities include the raze and rebuild of the facility building, and removal and replacement of the existing USTs and associated piping, and dispenser islands. The proposed discharge location for treated groundwater is a catch basin located adjacent to the property to the north off West Center Street, as depicted on **Figure 2A**. This catch basin discharges to an unnamed wetland that discharges to an unnamed pond that discharges to another wetland, Flaggy Meadow, which flows into the West Meadow Brook located approximately 2,600 feet to the east of the site. The latitude and longitude of the catch basin discharge and outfall point are:

Catch Basin Discharge Point:

Latitude: 42.015155
Longitude: -71.040294

Outfall (unnamed wetland) Point:

Latitude: 42.015644
Longitude: -71.035916

The dewatering and treatment system anticipated for this work includes a 20,000-gallon baffled setting fractionation tank, sediment bag filters, a greensand filter vessel for iron removal, and two activated carbon filter vessels for remaining contaminant removal. This system is designed to meet the required effluent limits for this permit. A diagram of the treatment system is provided on **Figure 6**.

Only one discharge point, described above, will be necessary for dewatering activities. The estimated maximum daily flow is 40 gallons per minute (gpm), with a design flow of 60 gpm. These estimations are expected to decrease once the excavation has been dewatered, and do not include surface run-off following precipitation events. The pH of onsite groundwater was measured at 6.78 (s.u.) and site activities are not anticipated to alter this pH. Discharge activities will only occur during site redevelopment, which is expected to occur between October to December 2018. The discharge point for these dewatering activities is a catch basin located immediately adjacent to the facility to the north off West Center Street. Areas of Concern in relation to the facility are located on **Figure 4**. **Figure 5** provides a Bureau of Waste Site Cleanup Receptor Map identifying potential environmental receptors within a 500 foot and ½ mile radius from the site.

If needed, modifications to the system will be made. Modifications to the system will be submitted for approval via a Notice of Change (NOC).

3.1 Receiving Water Information

The receiving water for the indirect discharge of groundwater from the facility is an unnamed wetland that discharges to an unnamed pond and then flows into another wetland, Flaggy Meadow, discharging to West Meadow Brook. West Meadow Brook flows through another wetland area and into the Town River. StreamStats 4.0 was consulted and it was determined based on the where the discharge outfall location is at the unnamed wetland, there is no 7Q10, however, the 7Q10 where the unnamed wetland enters the West Meadow Brook is 0.078 cubic feet per second (cfs). The StreamStats Reports are provided in **Attachment B**. Per the Waterbody Assessment and TMDL Status Map (**Figure 3**), West Meadow Brook was not assigned a TMDL status.

3.2.1 Receiving Water Classification

The discharge (outfall) point is an unnamed wetland that eventually leads into the West Meadow Brook, which discharges to Town River. West Meadow Brook is not classified. Town River is a Category 3 (no uses assessed) and is water Class B.

http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/tblfig.pdf

https://www.mass.gov/files/documents/2017/08/zu/16ilwplist.pdf

The receiving water bodies are not Outstanding Resources. The West Meadow Brook segment ID is MA62-208, and impairment causes include non-native aquatic plants.
The Town River segment ID is MA62-11.

4.0 CONATAMINANT INFORMATION

On September 14, 2018, groundwater samples were collected from on-site monitoring well RGP Well MW-6 and the outfall discharge location at the outfall (unnamed wetland) off West Center Street (Receiving Water). Influent RGP samples from MW-6 were submitted to ESS Laboratory, Cranston, Rhode Island (ESS) for analysis of metals, hardness, ethanol, chloride, total cyanide, total petroleum hydrocarbons (TPH), total suspended solids (TSS), total residual chlorine (TRC), ammonia, hexavalent chromium, trivalent chromium, phenol, 1,4-dioxane, ethylene dibromide, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PBCs), tert-butyl alcohol (TBA), and tert-amyl methyl ether (TAME). Surface water samples from the discharge location, Receiving Water, were submitted to ESS for analysis of ammonia, hexavalent chromium, metals, iron, pH, hardness, and salinity.

Results from the groundwater sampling of MW-6 demonstrated concentrations of benzo(a)pyrene, benzo(b)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, and TSS above technology-based effluent limitations (TBELs). Total cyanide was detected above Massachusetts Department of Environmental Protection (MassDEP) reportable

concentrations for groundwater (RCGW-2). The facility has previously been, and is currently, a gasoline and service station, and does not use any pH neutralization or dechlorination chemicals. Based on the summarized groundwater sampling results there are potential water-quality issues in the vicinity of the discharge.

Results from the surface water sample (Receiving Water) did not demonstrate concentrations of potential contaminants of concern (pCOCs) exceeding TBELs. **Table 1** provides a summary of detected pCOCs from groundwater collected at the facility (influent) and the surface water sample. Groundwater and surface water laboratory analytical reports are provided in **Attachment C**.

5.0 DILUTION FACTOR

MassDEP was contacted on October 8, 2018 to confirm the 7Q10 flow and determine a dilution factor. Final correspondence received on October 10, 2018 confirmed a dilution factor of zero (0). The Dilution Factor and Effluent Limitation Calculations fillable electronic spreadsheet was subsequently completed. Copies of the Dilution Factor and Effluent Limitation Calculations fillable electronic spreadsheet, StreamStats Report, and MassDEP correspondence are provided in **Attachment B**.

6.0 DETERMINATION OF ENDANGERED SPECIES ACT ELIGIBILITY (ESA)

The United States Department of the Interior Fish and Wildlife Service – New England Ecological Services Field Office was contacted regarding the determination of endangered species act eligibility (ESA). There are no endangered or candidate species and no critical habitats within the project area for this NOI. There is one threatened species, the Northern Long-eared Bat (*Myotis septentrionalis*), on the list for this facility. However, no critical habitat has been designated for this species. Per the U.S. Fish and Wildlife Services, the Northern Long-eared Bat hibernates in caves and mines, swarming in surrounded wooded areas in autumn, and foraging in upland forests in late spring and summer. Based on the location and scope of this work (i.e. facility being redeveloped into another gasoline station), it is unlikely that dewatering activities associated with the redevelopment of this facility will adversely affect the Northern Long-eared Bat. Therefore, this ESA determination is FWS Criterion C. Fish and Wildlife Service – New England Service Field Office Correspondence is provided as **Attachment D**.

7.0 DOCUMENTATION OF NATION HISTORIC PRESERVATION ACT (NHPA) REQUIREMENTS

Listings of historic places within the West Bridgewater were obtained from the Massachusetts Cultural Resources Information System (MARCIS) online database:

http://mhc-macris.net/Towns.aspx?Page=towns.asp

A site vicinity map showing historic places within a quarter mile of the facility is provided on **Figure 7**. One historic place is located within 500 feet of the facility. Based on the scope of this work, it is unlikely that dewatering activities associated with the redevelopment of this facility will adversely affect any historic places.

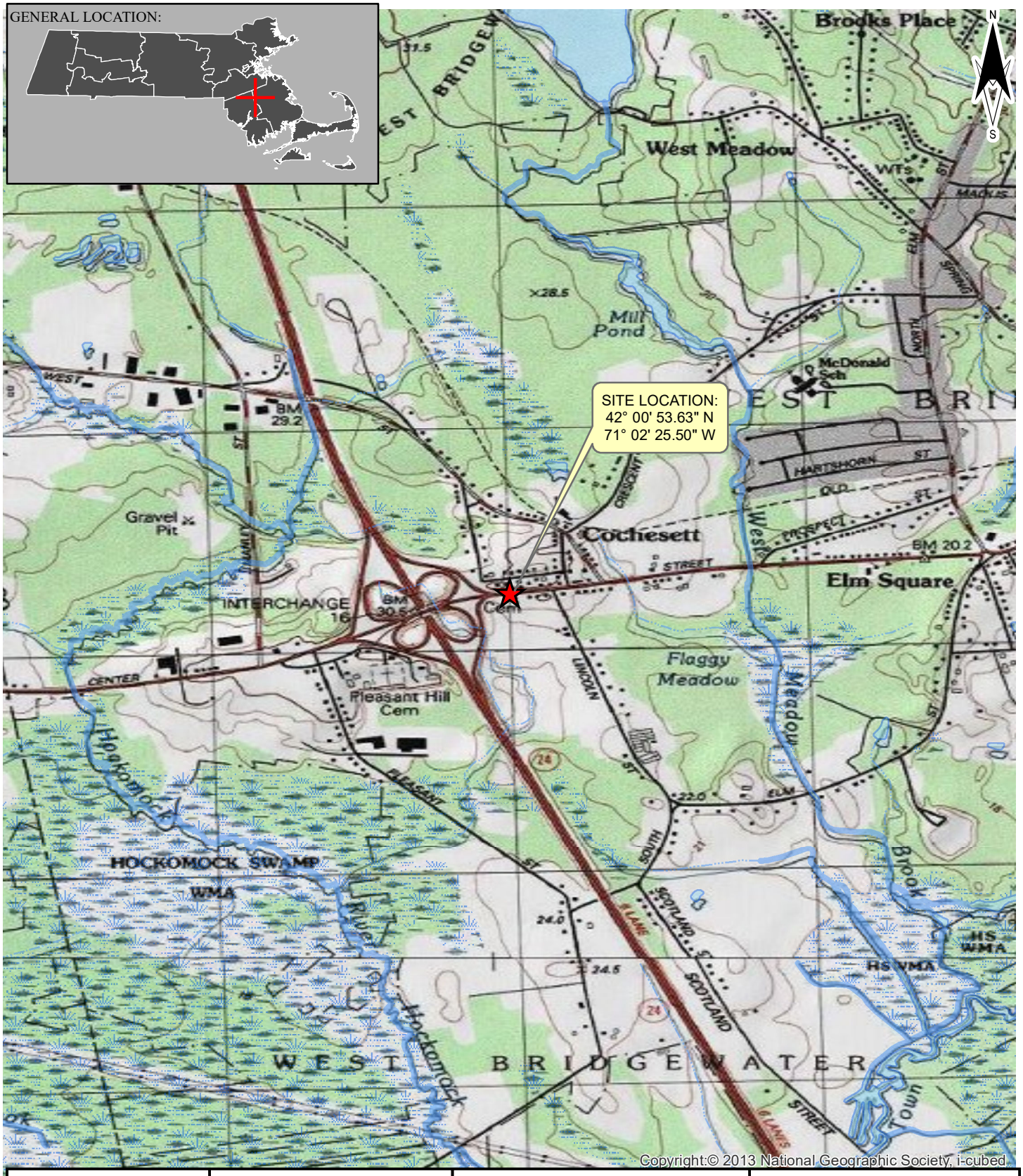
8.0 SUPPLEMENTAL INFORMATION

At this time no additional supplemental information is necessary to meet the requirements of the NOI for the RGP.

9.0 REDEVELOPMENT CONSTRUCTION SCHEDULE

Redevelopment construction activities requiring dewatering are anticipated to begin in late October 2018 and are anticipated to be complete by December 2018.

FIGURES



LEGEND

★ SITE LOCATION

NOTES:
1) NAD 83
2) LOCATION IS APPROXIMATE.

DATE: OCTOBER 3, 2018

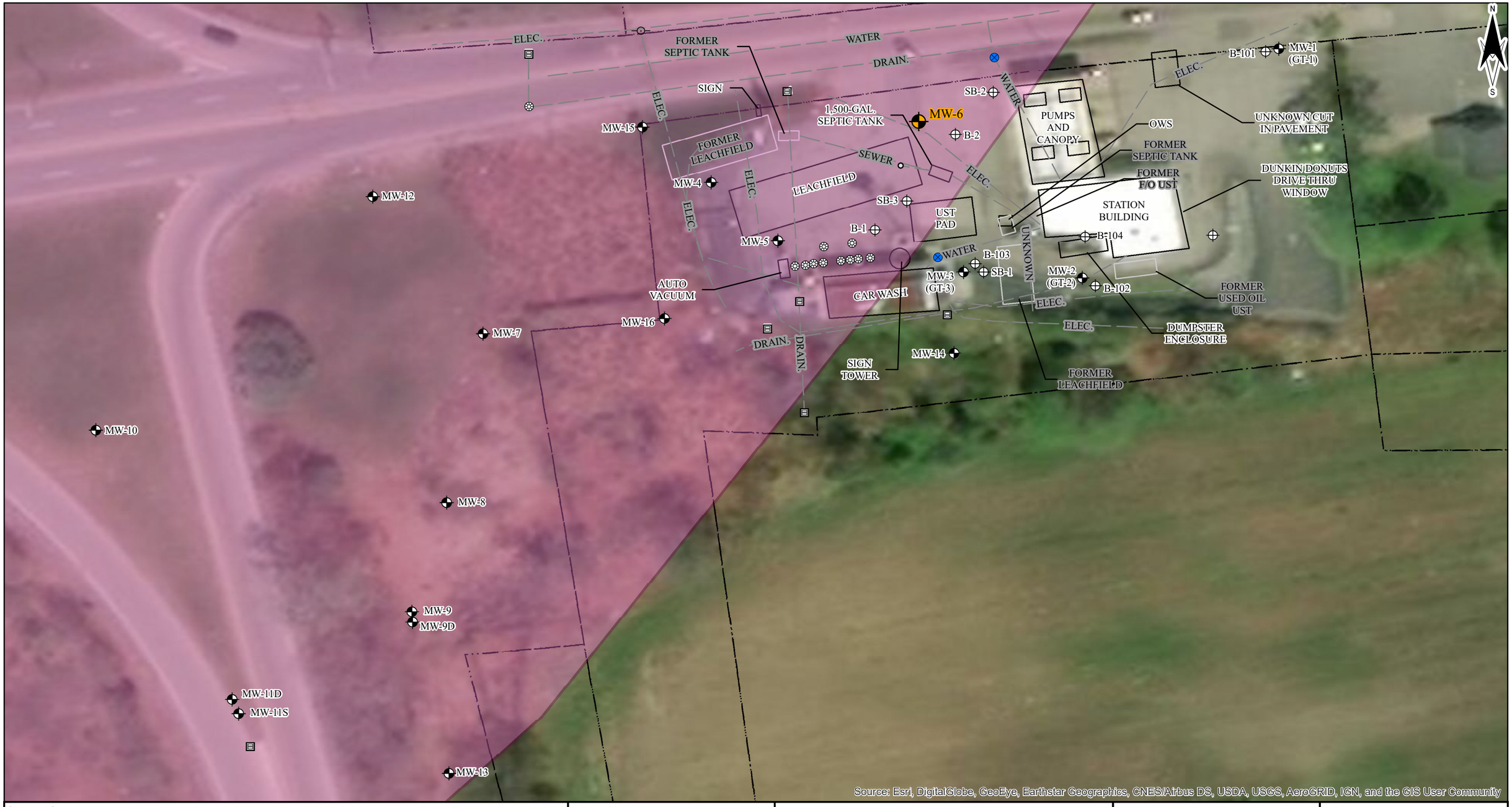
0 1,000 2,000 4,000
Feet

PREPARED BY:
TG2 SOLUTIONS LLC
231 ELM STREET
BLACKSTONE, MA 01504

FIGURE 1

SITE LOCUS MAP

SHELL-BRANDED STATION
506 WEST CENTER STREET
WEST BRIDGEWATER, MA



Legend

- CATCH BASIN
- D-BOX
- UTILITY POLE
- WATER GATE
- STORM DRAIN MANHOLE
- MONITORING WELL
- SOIL BORING
- UTILITY (APPROX.)
- PROPERTY BOUNDARY
- RGP SAMPLE LOCATION
- DEP APPROVED ZONE II
- CURRENT SITE FEATURE
- FORMER SITE FEATURE

0 30 60 120
Feet

DATE: OCTOBER 3, 2018

NOTES:
1) NAD 83
2) MASS GIS - LEVEL 3 ASSESSOR'S PARCELS (2015) AND DEP APPROVED ZONE II (2016) PROVIDED BY MASS GIS.
3) ALL FEATURE LOCATIONS AND BOUNDARIES ARE APPROXIMATE AND SHOULD NOT BE USED TO DETERMINE LEGAL OWNERSHIP.
4) ELEC. = ELECTRICAL UTILITY LINE
5) F/O = FUEL OIL
6) OWS = OIL WATER SEPERATOR
7) UST = UNDERGROUND STORAGE TANK

231 ELM STREET
BLACKSTONE, MA 01504

FIGURE 2

SITE PLAN

SHELL-BRANDED STATION
506 WEST CENTER STREET
WEST BRIDGEWATER, MA

Legend

- RGP SAMPLE LOCATION
- CATCH BASIN
- OUTFALL
- APROXIMATE SITE BOUNDARY

0 90 180 360
Feet

DATE: OCTOBER 3, 2018

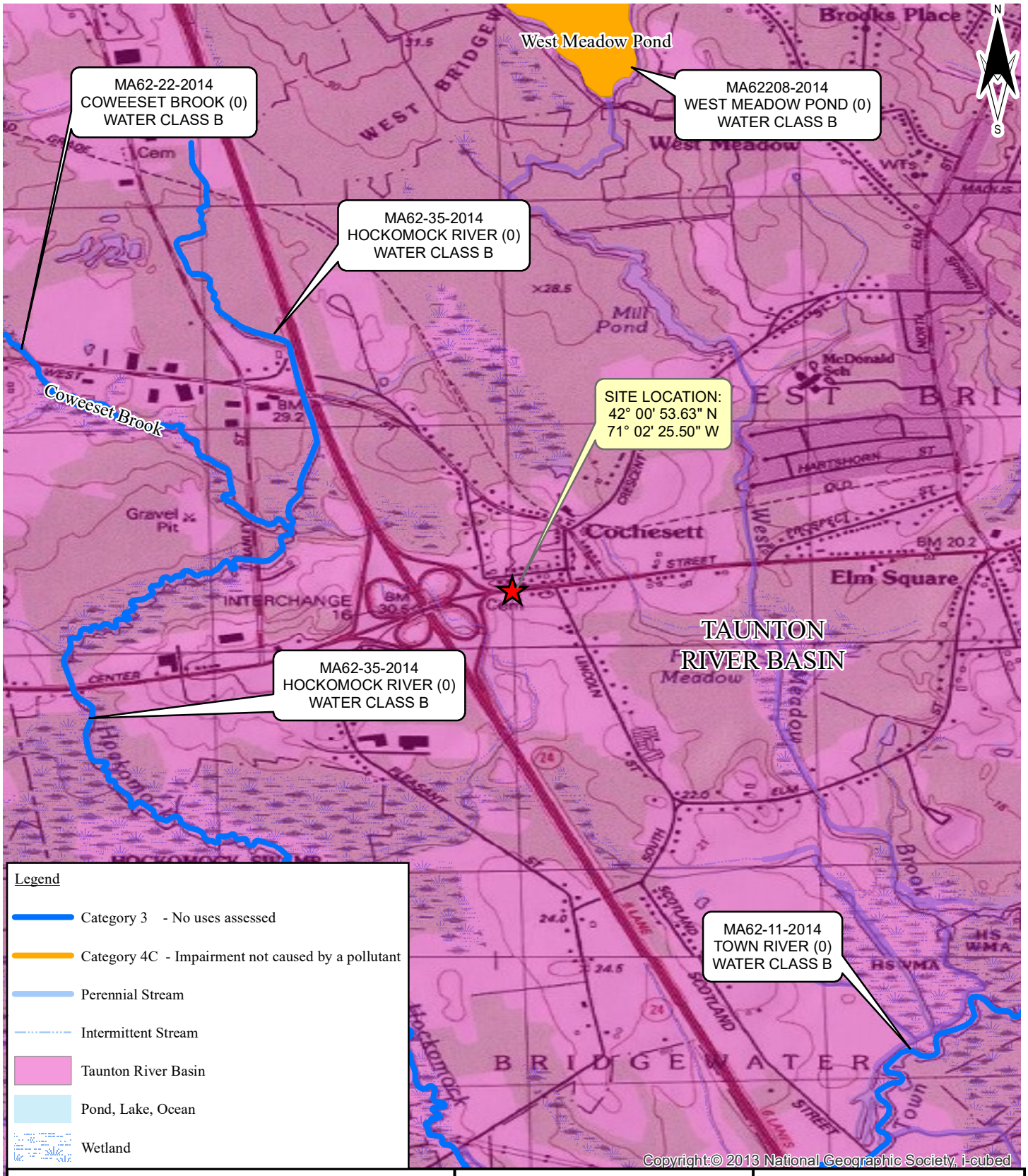
NOTES:
1) NAD 83
2) ALL FEATURE LOCATIONS AND BOUNDARIES ARE APPROXIMATE AND SHOULD NOT BE USED TO DETERMINE LEGAL OWNERSHIP.

231 ELM STREET
BLACKSTONE, MA 01504

FIGURE 2a

EXTENDED SITE PLAN

SHELL-BRANDED STATION
506 WEST CENTER STREET
WEST BRIDGEWATER, MA



NOTES:
1) NAD 83
2) MassDEP 2014 INTEGRATED LIST OF WATERS (305(b)/303(d)) (2016) AND MassDEP HYDROGRAPHY (2010)TAKEN FROM MASSGIS.
3. MA61-02_2014: ASSESSMENT ID WITH REPORTING CYCLE YEAR
4. LEE RIVER: WATERBODY NAME BASED ON SARIS, PALIS, OR CAMIS.
5: (2): NUMBER OF UNIQUE DWM/WPP TMDLs ASSOCIATED FOR ASSOCIATED REPORTING YEAR.
6: CLASS B: CLASS LISTED IN 314 CMR 4.05(3) AND (4).

0 1,000 2,000 4,000
Feet

FIGURE 3

WATERBODY ASSESSMENT & TMDL STATUS

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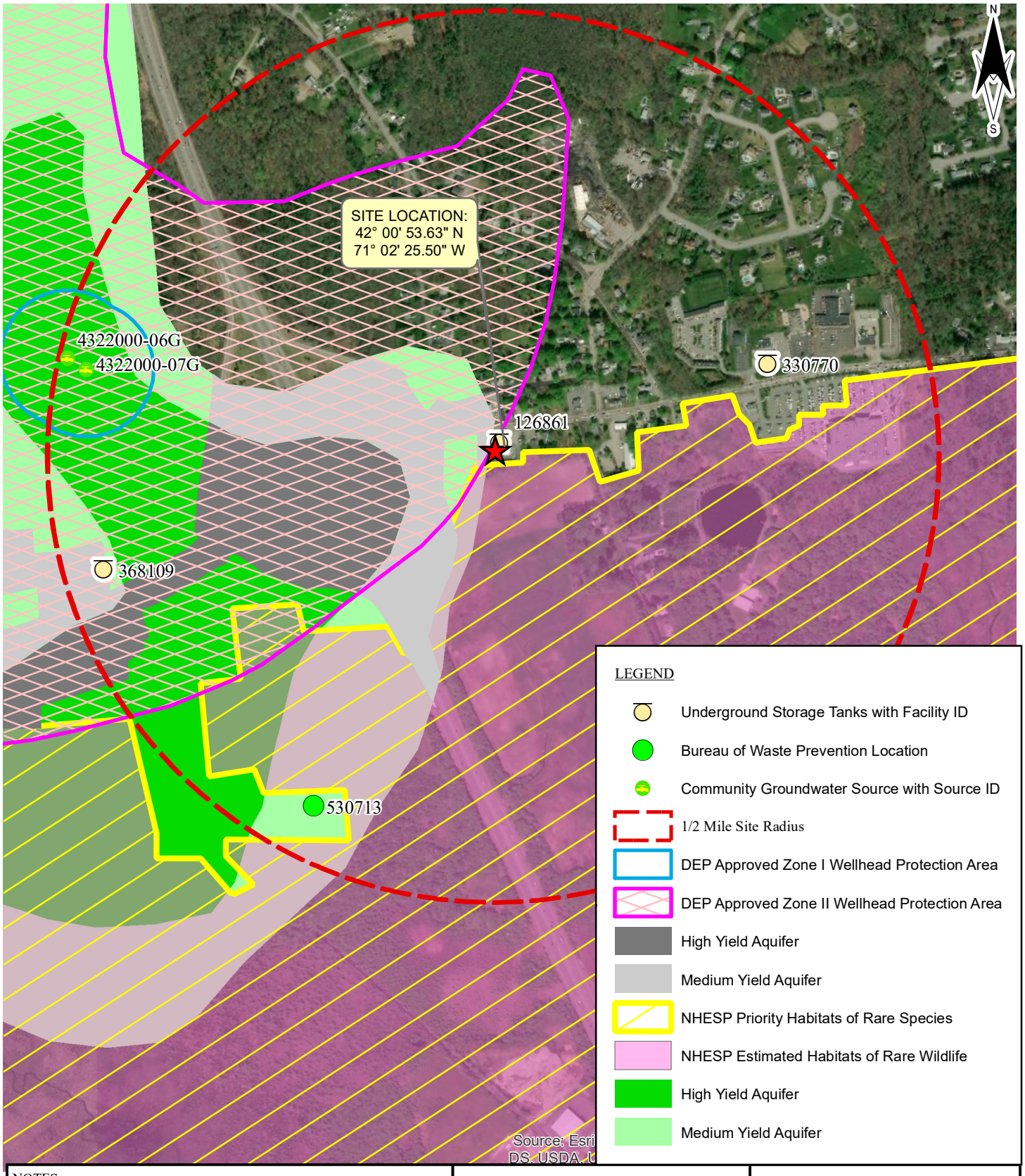
BLACKSTONE, MA 01504

SHELL-BRANDED STATION
506 WEST CENTER STREET
WEST BRIDGEWATER, MA



NOTES:
1) NAD 83 STATE PLANE MASSACHUSETTS (METERS)
2) ALL DATA LAYERS TAKEN FROM MASSGIS. THE MOST RECENT DATA WAS USED AT TIME OF CREATION, BUT MAY NOT REFLECT THE MOST RECENT AVAILABLE DATA AT TIME OF VIEWING.

DATE: OCTOBER 3, 2018

0 400 800 1,600
Feet

FIGURE 4

AREAS OF ENVIRONMENTAL CONCERN

PREPARED BY:
TG2 SOLUTIONS LLC
231 ELM STREET
BLACKSTONE, MA 01504

SHELL-BRANDED STATION
506 WEST CENTER STREET
WEST BRIDGEWATER, MA

MassDEP - Bureau of Waste Site Cleanup

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

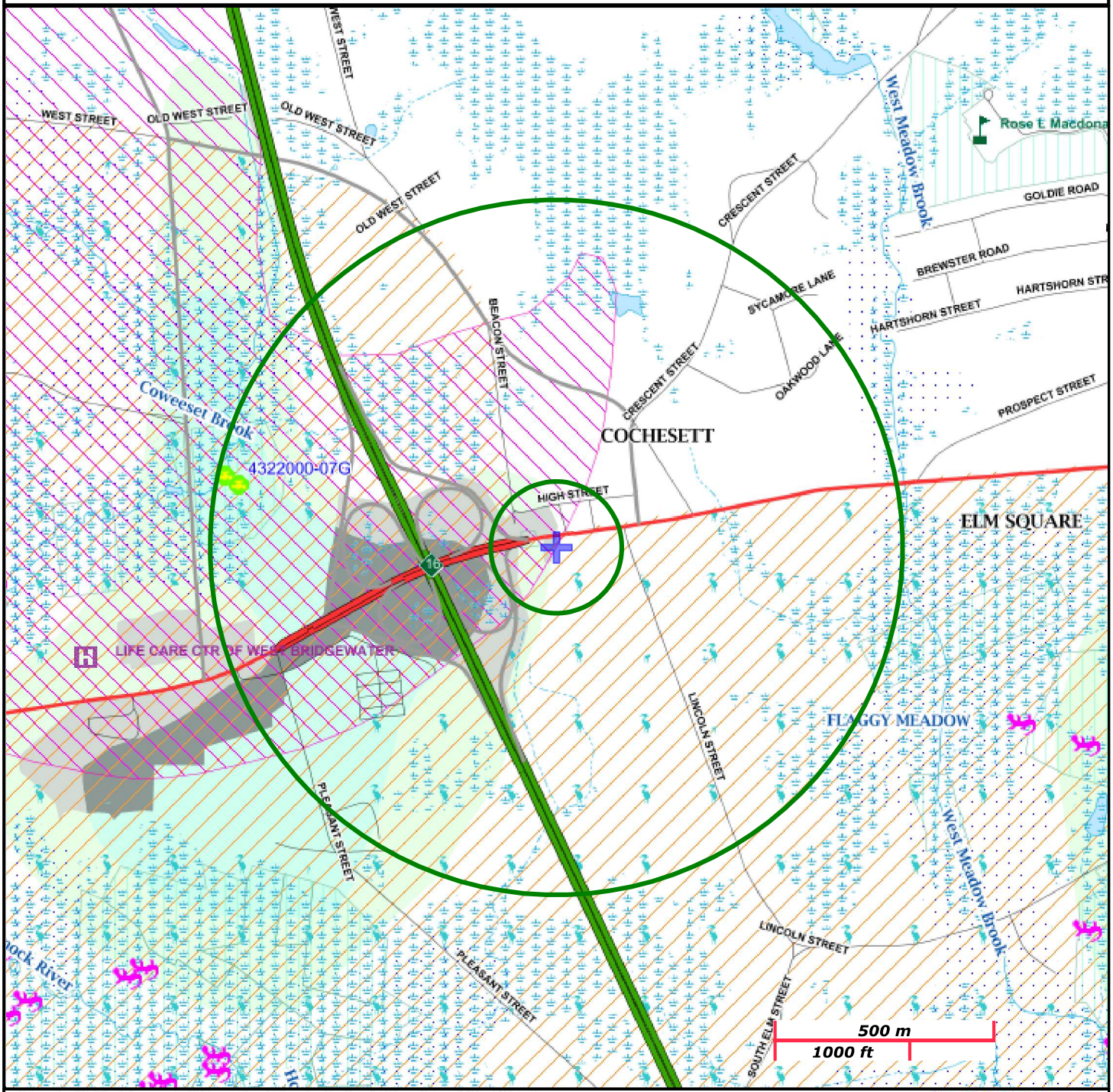
FIGURE 5

Site Information:
SHELL-BRANDED SERVICE STATION
506 WEST CENTER STREET WEST BRIDGEWATER, MA
4-000019737

NAD83 UTM Meters:
4653448mN , 331050mE (Zone: 19)
October 3, 2018

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

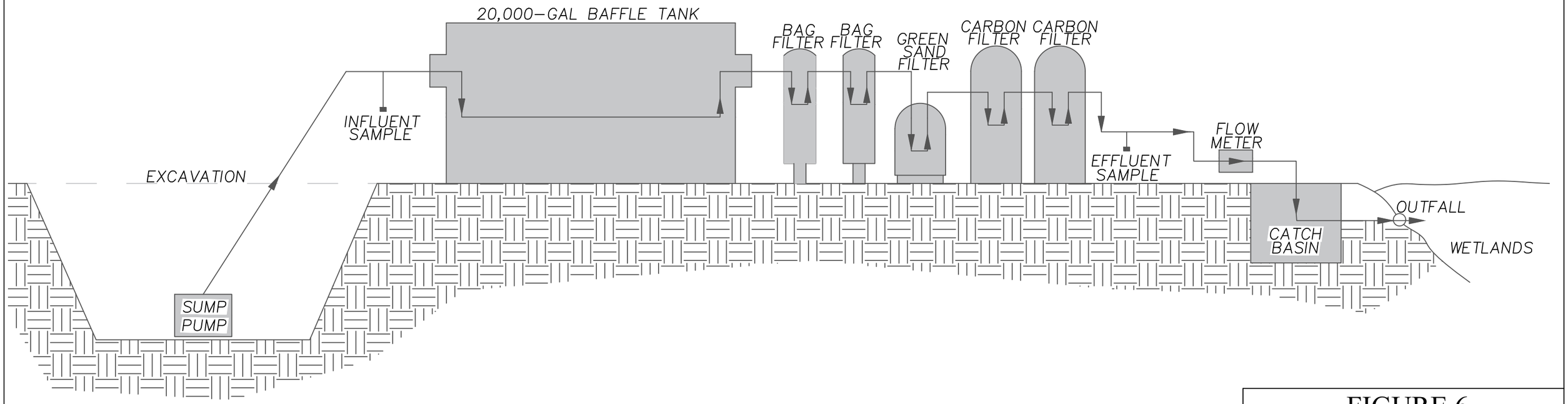
Hydrography: Open Water, PWS Reservoir, Tidal Flat

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.



NOTES:
1) NOT TO SCALE.
2) THE DISTANCE FROM THE CATCH BASIN/DISCHARGE LOCATION TO THE UNNAMED WETLAND OUTFALL IS APPROXIMATELY 1285 FEET.

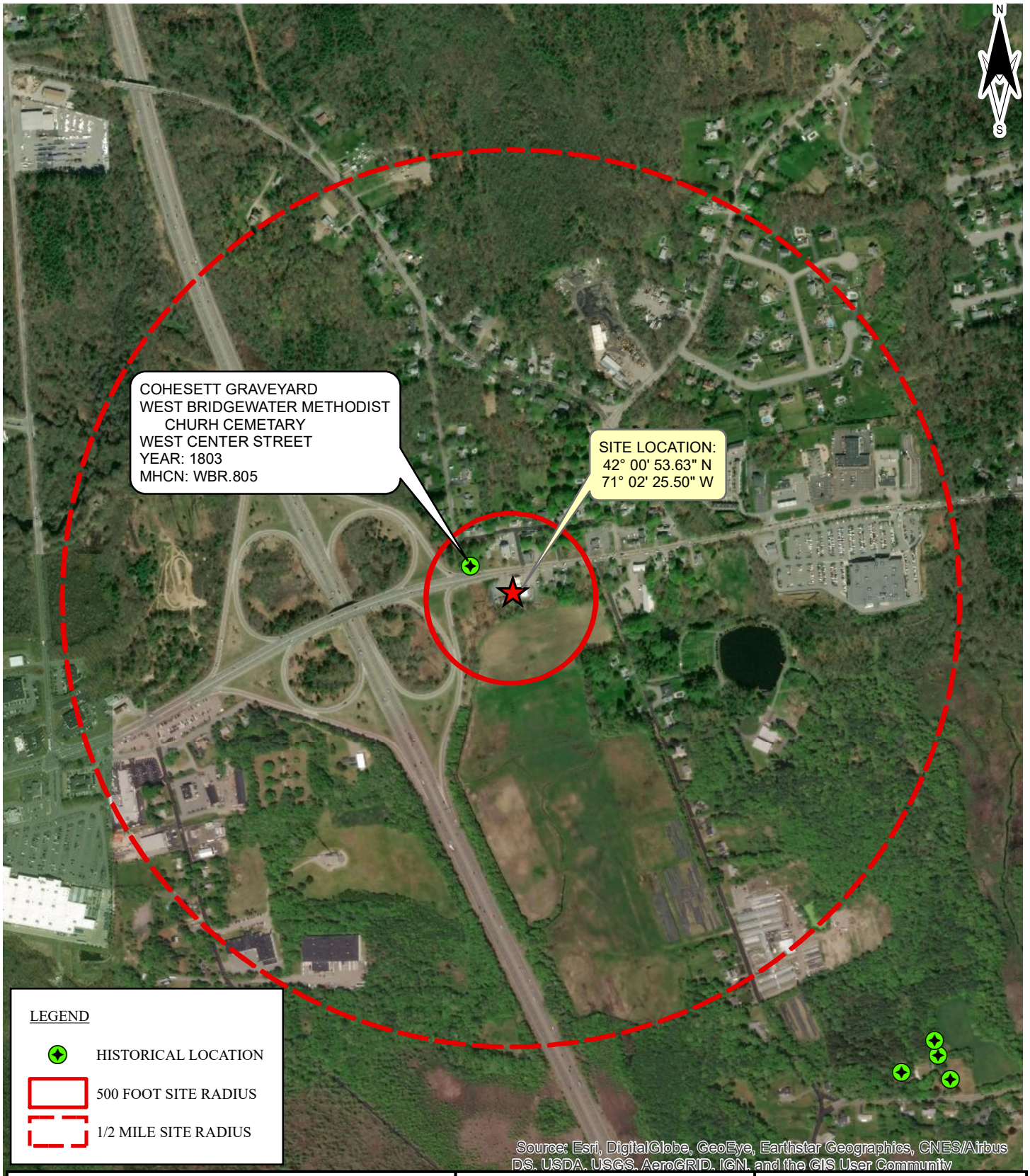
FIGURE 6

GROUNDWATER DEWATERING INSTALLATION DIAGRAM

SHELL-BRANDED SERVICE STATION
LOCATED AT
506 WEST CENTER STREET
WEST BRIDGEWATER, MA
PREPARED FOR
COLBEA ENTERPRISES LLC

TG2 SOLUTIONS, LLC
231 ELM STREET
BLACKSTONE, MA 0154

DATE: OCTOBER 3, 2018 REVISED:



NOTES:
1) NAD 83 STATE PLANE MASSACHUSETTS (METERS)
2) MASSGIS - MHC HISTORIC INVENTORY (UPDATED CONTINUALLY). The MACRIS MAPS ONLINE MAPPING APPLICATION DISPLAYS HISTORIC RESOURCES INCLUDED IN THE MASSACHUSETTS CULTURAL RESOURCE INFORMATION SYSTEM MAINTAINED BY THE MASSACHUSETTS HISTORICAL COMMISSION.

DATE: OCTOBER 3, 2018

0 400 800 1,600
Feet

PREPARED BY:
TG2 SOLUTIONS LLC
231 ELM STREET
BLACKSTONE, MA 01504

FIGURE 7

EXTENDED AREA MAP WITH MARCIS INVENTORY

SHELL-BRANDED STATION
506 WEST CENTER STREET
WEST BRIDGEWATER, MA

TABLES

TABLE 1
SUMMARY OF REMEDIAL GENERAL PERMIT ANALYTICAL DATA
Colbea Shell-Branded Service Station
506 West Center Street
West Bridgewater, Massachusetts

		Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Zinc (µg/L)	Benzo(a)-pyrene (µg/L)	Benzo(b)-fluoranthene (µg/L)	Benzo(g,h,i)-perylene (µg/L)	Benzo(k)-fluoranthene (µg/L)	Chrysene (µg/L)	Dibenzo(a,h) Anthracene (µg/L)	Indeno-(1,2,3-cd)-Pyrene (µg/L)	Ammonia (as N) (mg/L)	Chloride (mg/L)	Total Cyanide (mg/L)	Total Suspended Solids (mg/L)	Hardness (mg/L)	pH
MassDEP Reportable Concentrations (RCGW-2)		100,000	NA	10	900	1,000	400	20	100	70	40	100	NA	NA	0.03	NA	NA	NA
Effluent Limitations - TBEL		242	5,000	160	420	0.1[a]	0.1[a]	100[b]	0.1[a]	0.1[a]	0.1[a]	0.1[a]	Report	Report	178	30	NA	NA
Well ID	**Sample Date**																	
Receiving Water (unnamed wetland)	09/14/18	**5.9**	**2.56**	**8.2**	**65.5**	--	--	--	--	--	--	--	**0.23**	--	--	--	**139**	**6.16**
RGP Well MW-6	09/14/18	**14.60**	**817**	**5.1**	**37.8**	**0.18**	**0.24**	**0.38**	**0.07**	**0.13**	**0.10**	**0.30**	<0.10	**1,580**	**0.998**	**220**	**168**	**6.78**

Notes:
µg/L - micrograms per liter
mg/L - milligram per liter
<5.0 - Not detected above method detection limit (MDL). MDL included.
MassDEP - Massachusetts Department of Envnironmental Protection
NA - not available
TBEL - Technology-Based Effluent Limitations
"--" - not sampled
MTBE - Methyl tert-Butyl Ether
[a] - Total Group I PAHs is the sum of: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. The compliance level for each individual PAH is 0.1 µg/L.
[b] - Total Group II PAHs is the sum of: acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene. The total compliance level for Group II PAHs is 100 µg/L.

Bold - above method detection limits
Bold & Shaded - above RCGW-2 and/or TBEL Effluent Limitations

ATTACHMENT A

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:
Future Seasons Corner Market
506 WEST CENTER STREET
WEST BRIDGEWATER, MA</td><td colspan="3">Site address: 506 WEST CENTER STREET
Street:</td></tr>
<tr><td>City: WEST BRIDEWATER</td><td>State: MA</td><td>Zip: 02379</td></tr>
<tr><td rowspan="4">2. Site owner
Cobea Enterprises, LLC
2050 Plainfield Pike
Cranston, RI 02921

Owner is (check one): ☐ Federal ☐ State/Tribal ☑ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Dennis Darveau</td></tr>
<tr><td colspan="2">Telephone: 401-490-2209</td><td>Email: ddarveau@seasonscornermarket</td></tr>
<tr><td colspan="3">Mailing address: 7 Starline Way
Street:</td></tr>
<tr><td>City: Cranston</td><td>State: RI</td><td>Zip: 02921</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Same as owner</td><td colspan="3">Contact Person: Same as above</td></tr>
<tr><td colspan="2">Telephone:</td><td>Email:</td></tr>
<tr><td colspan="3">Mailing address:
Street:</td></tr>
<tr><td>City:</td><td>State:</td><td>Zip:</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): 4-19737
☐ 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 wetland leading to W. Meadow Brook and W. Meadow Pond	62-208	4C - impairment not caused by a pollutar

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.

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.	none
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.	none

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:

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:	
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): An unnamed wetland that discharges to an unnamed pond and then flows into another wetland, Flaggy Meadow, discharging to West Meadow Brook, which discharges to the Town River.	Outfall location(s); (Latitude, Longitude) Catch Basin Discharge Point: Latitude: 42.015155, Longitude: -71.040294 Outfall (unnamed wetland) Point: Latitude: 42.015644, Longitude: -71.035916

Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ☑ Indirect discharge, if so, specify:

catch basin

☐ 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:

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): October 2018 to December 2018 for construction - dewatering expected to be less time

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	350.1	0.10	<0.10	0	Report mg/L	---
Chloride		✓	1	300.0	500,000	1,580,000	1,580,000	Report µg/l	---
Total Residual Chlorine	✓		1	4500CI D	20.0	<20.0	0	0.2 mg/L	0.011
Total Suspended Solids		✓	1	2540D	5	220	220	30 mg/L	---
Antimony	✓		1	200.7	5.0	<5.0	0	206 µg/L	---
Arsenic	✓		1	200.7	5.0	<5.0	0	104 µg/L	---
Cadmium	✓		1	200.7	2.0	<2.0	0	10.2 µg/L	---
Chromium III	✓		1	200.7	10.0	<10.0	0	323 µg/L	---
Chromium VI	✓		1	200.7	10.0	<10.0	0	323 µg/L	---
Copper		✓	1	200.7	499	14.6	14.6	242 µg/L	14.5
Iron		✓	1	200.7	20.0	817	817	5,000 µg/L	---
Lead		✓	1	200.7	4.0	5.1	5.1	160 µg/L	---
Mercury	✓		1	200.7	0.2	<0.2	0	0.739 µg/L	---
Nickel	✓		1	200.7	5.0	<5.0	0	1,450 µg/L	---
Selenium	✓		1	200.7	5	<5	0	235.8 µg/L	---
Silver	✓		1	200.7	0.5	<0.5	0	35.1 µg/L	---
Zinc		✓	1	200.7	10.0	37.8	37.8	420 µg/L	---
Cyanide		✓	1	4500 CN CE	0.05	0.998	0.998	178 mg/L	0.0052
B. Non-Halogenated VOCs									
Total BTEX	✓		1	524.2	0.5	<0.5	0	100 µg/L	---
Benzene	✓		1	524.2	0.5	<0.5	0	5.0 µg/L	---
1,4 Dioxane	✓		1	8270D SIM	0.250	<0.250	0	200 µg/L	---
Acetone	✓		1	524.2	5.0	<5.0	0	7.97 mg/L	---
Phenol	✓		1	420.1	50	<50	0	1,080 µg/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	524.2	0.3	<0.3	0	4.4 µg/L	---
1,2 Dichlorobenzene	✓		1	524.2	0.5	<0.5	0	600 µg/L	---
1,3 Dichlorobenzene	✓		1	524.2	0.5	<0.5	0	320 µg/L	---
1,4 Dichlorobenzene	✓		1	524.2	0.5	<0.5	0	5.0 µg/L	---
Total dichlorobenzene	✓		1	524.2	0.5	<0.5	0	763 µg/L in NH	---
1,1 Dichloroethane	✓		1	524.2	0.5	<0.5	0	70 µg/L	---
1,2 Dichloroethane	✓		1	524.2	0.5	<0.5	0	5.0 µg/L	---
1,1 Dichloroethylene	✓		1	524.2	0.5	<0.5	0	3.2 µg/L	---
Ethylene Dibromide	✓		1	524.2	0.5	<0.5	0	0.05 µg/L	---
Methylene Chloride	✓		1	524.2	0.5	<0.5	0	4.6 µg/L	---
1,1,1 Trichloroethane	✓		1	524.2	0.5	<0.5	0	200 µg/L	---
1,1,2 Trichloroethane	✓		1	524.2	0.5	<0.5	0	5.0 µg/L	---
Trichloroethylene	✓		1	524.2	0.5	<0.5	0	5.0 µg/L	---
Tetrachloroethylene	✓		1	524.2	0.5	<0.5	0	5.0 µg/L	
cis-1,2 Dichloroethylene	✓		1	524.2	0.5	<0.5	0	70 µg/L	---
Vinyl Chloride	✓		1	524.2	0.2	<0.2	0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		1	625.1 SIM	2.45	<2.45	0	190 µg/L	---
Diethylhexyl phthalate	✓		1	625.1 SIM	2.45	<2.45	0	101 µg/L	---
Total Group I PAHs		✓	1	625.1 SIM	0.20	1.02	1.02	1.0 µg/L	---
Benzo(a)anthracene	✓		1	625.1 SIM	0.05	<0.05	0	As Total PAHs	---
Benzo(a)pyrene		✓	1	625.1 SIM	0.05	0.18	0.18		0.0038
Benzo(b)fluoranthene		✓	1	625.1 SIM	0.05	0.24	0.24		0.0038
Benzo(k)fluoranthene		✓	1	625.1 SIM	0.05	0.07	0.07		0.0038
Chrysene		✓	1	625.1 SIM	0.05	0.13	0.13		0.0038
Dibenzo(a,h)anthracene		✓	1	625.1 SIM	0.05	0.10	0.10		0.0038
Indeno(1,2,3-cd)pyrene		✓	1	625.1 SIM	0.05	0.30	0.30		0.0038

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	625.1 SIM	0.20	0.38	0.38	100 µg/L	---
Naphthalene	✓		1	625.1 SIM	0.20	<0.20	0	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓		1	608.3	0.09	<0.09	0	0.000064 µg/L	---
Pentachlorophenol	✓		1	625.1	0.88	<0.88	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✓		1	1664A	5	<5	0	5.0 mg/L	---
Ethanol	✓		1	D3695	10	<10	0	Report mg/L	---
Methyl-tert-Butyl Ether	✓		1	524.2	0.5	<0.5	0	70 µg/L	---
tert-Butyl Alcohol	✓		1	524.2	25.0	<25.0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		1	524.2	1.0	<1.0	0	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	200.7	499	168,000 ug/L	168,000 ug/L		
pH		✓	1	Field	--	6.78	6.78		

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.

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: Is use of a flow meter feasible? (check one): ☑ Yes ☐ No, if so, provide justification:	60 gpm
Provide the proposed maximum effluent flow in gpm.	40 gpm
Provide the average effluent flow in gpm.	< 40 gpm
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

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:

2. Provide the following information for each chemical/additive, using attachments, if necessary:

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.
Please refer to the NOI RGP Report, attached. This report includes a site map with discharge and outfall locations, water classifications, potential environmental receptors, groundwater analytical tables and laboratory analytical report, and supporting documentation for the ESA determination and historic sites within the vicinity of the facility this NOI RGP is being applied for.

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 this general permit will be developed and implemented upon initiation of 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: Eric D Simpson	Date: 10/29/18
Print Name and Title: Eric D. Simpson - Environmental Manager	

ATTACHMENT B

Subject: RE: 506 West Center Street, W. Bridgewater - EPA RGP
Date: Wednesday, October 10, 2018 at 3:29:53 PM Eastern Daylight Time
From: Ruan, Xiaodan (DEP)
To: Leah Smith
CC: Vakalopoulos, Catherine (DEP)

Hi Leah,

The outfall discharges to an unnamed wetland which appears to flow to an unnamed pond and then flows to another wetland-Flaggy Meadow and then to the West Meadow Brook. Therefore there is no dilution at this site (DF=0) which is same as what you entered in the spreadsheet.

Here is the WQ information you will need when filling out the NOI:
The West Meadow Brook flows through another wetland area and flow into the Town River which is in the Taunton Watershed. The water bodies and the wetlands are not Outstanding Resource Waters. The Town River has a segment ID of MA62-11 and is classified as Class B. There are no TMDLs for this river and to see the impairments, go to: https://www.mass.gov/files/documents/2016/08/sa/14list2_0.pdf and look up "MA62-11".

In addition to submitting the NOI to EPA, if this is not *currently* an MCP site, you will also have to apply with the state (submit same NOI to Cathy Vakalopoulos, fill out a transmittal form, and submit a $500 fee unless exempt). Instructions are located here: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent.

Please let us know if you have any additional questions.

Thanks,
Xiaodan

From: Vakalopoulos, Catherine (DEP)
Sent: Tuesday, October 09, 2018 4:56 PM
To: Leah Smith
Cc: Ruan, Xiaodan (DEP)
Subject: FW: 506 West Center Street, W. Bridgewater - EPA RGP

Hi Leah,
I haven't had time to look at this so Xiaodan will review it tomorrow.
Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026
Please consider the environment before printing this e-mail

From: Leah Smith [mailto:lsmith@tg2solutions.com]
Sent: Monday, October 08, 2018 1:31 PM
To: Vakalopoulos, Catherine (DEP)
Subject: 506 West Center Street, W. Bridgewater - EPA RGP

Hello,

I'm working on a RGP on behalf of a client to complete a NOI for a RGP for redevelopment activities at 506 West Center Street in West Bridgewater. This facility is an active gasoline station with an open RTN (4-19737) and is being redeveloped into an updated gasoline station facility with new tanks, etc.

Attached please find the dilution factor spreadsheet and effluent limit calculations, as well as the StreamStats output. The discharge location is a catch basin located adjacent to the site to the north off W. Center Street, which discharges to an unnamed wetland located east of the site – see Figure 2A. The discharge flow was calculated based on the design flow: (60 gpm x 60 mph x 24h) / 1 million = 0.0864 mgd. The latitude and longitude of the catch basin discharge and outfall point are:

Catch Basin Discharge Point:
Latitude: 42.015155
Longitude: -71.040294

Outfall (Lee River) Point:
Latitude: 42.015644
Longitude: -71.035916

The outfall leads to an unnamed wetland which appears to flow to the West Meadow Brook and into the West Meadow Pond, ID MA62-208. Impairment causes non-native aquatic plants.

I've also attached a table with the summary of contaminants detected in the influent sample (site groundwater) and the outfall surface water sample.

Could you verify the 7Q10 information and dilution factor? Please let me know if you require any additional information.

Thanks for your help.

Leah

Enter number values in green boxes below

Enter values in the units specified

↓		
0	Q_R = Enter upstream flow in **MGD**	Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved
0.0864	Q_P = Enter discharge flow in **MGD**	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
0	Downstream 7Q10	Only if approved by State as the entry for Q_R; leave 0 if no entry

Enter a dilution factor, if other than zero

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

Leave 0 if no entry

↓
0

Enter values in the units specified

↓		
168	C_d = Enter influent hardness in **mg/L** $CaCO_3$	Freshwater only
139	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$	

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

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

↓	
6.16	pH in **Standard Units**
19.6	Temperature in **°C**
0.23	Ammonia in **mg/L**
139	Hardness in **mg/L** $CaCO_3$
0.8	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**
5.9	Copper in **µg/L**
2.56	Iron in **µg/L**
8.2	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
65.5	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

if >1 sample, enter maximum

if >10 samples, may enter 95th percentile

Enter 0 if non-detect or testing not required

↓	
0	TRC in **µg/L**
0	Ammonia in **mg/L**
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**
14.6	Copper in **µg/L**
817	Iron in **µg/L**
5.1	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
37.8	Zinc in **µg/L**
998	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**
0.18	Benzo(a)pyrene in **µg/L**
0.24	Benzo(b)fluoranthene in **µg/L**
0.07	Benzo(k)fluoranthene in **µg/L**
0.13	Chrysene in **µg/L**
0.1	Dibenzo(a,h)anthracene in **µg/L**
0.3	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

I. Dilution Factor Calculation Method

A. 7Q10

Refer to Appendix V for determining critical low flow; must be approved by State before use in calculations.

B. Dilution Factor

Calculated as follows:

$$Df = \frac{Q_R + Q_P}{Q_P}$$

Q_R = 7Q10 in MGD

Q_P = Discharge flow, in MGD

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Downstream hardness, calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream hardness in mg/L

Q_d = Discharge flow in MGD

C_d = Discharge hardness in mg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) hardness in mg/L

Q_r = Downstream receiving water flow in MGD

Step 2. Total recoverable water quality criteria for hardness-dependent metals, calculated as follows:

Total Recoverable Criteria = $\exp\{m_c [\ln(h)] + b_c\}$

m_c = Pollutant-specific coefficient (m_a for silver)

b_c = Pollutant-specific coefficient (b_a for silver)

ln = Natural logarithm

h = Hardness calculated in Step 1

Step 3. Total recoverable water quality criteria for non-hardness-dependent metals, calculated as follows:

$$\text{WQC in µg/L} = \frac{\text{dissolved WQC in µg/L}}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_s C_s}{Q_d}$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

C_d = WQBEL in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Ustream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/L
Q_d = Discharge flow in MGD
Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream concentration in µg/L
Q_d = Discharge flow in MGD
C_d = Influent concentration in µg/L
Q_s = Upstream flow (7Q10) in MGD
C_s = Upstream (receiving water) concentration in µg/L
Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with Step 1, above, and the discharge concentration of a parameter are greater than the WQC calculated for that parameter in accordance with II.A, above

AND

2) the WQBEL determined for that parameter in accordance with II.B, above, is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1 of the RGP for that parameter applies.

Step 2. For a parameter not sampled in or not detected in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL determined for that parameter in accordance with II.A or II.B, above;

AND

2) the WQBEL determined for that parameter in accordance with II.A or II.B, above is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in

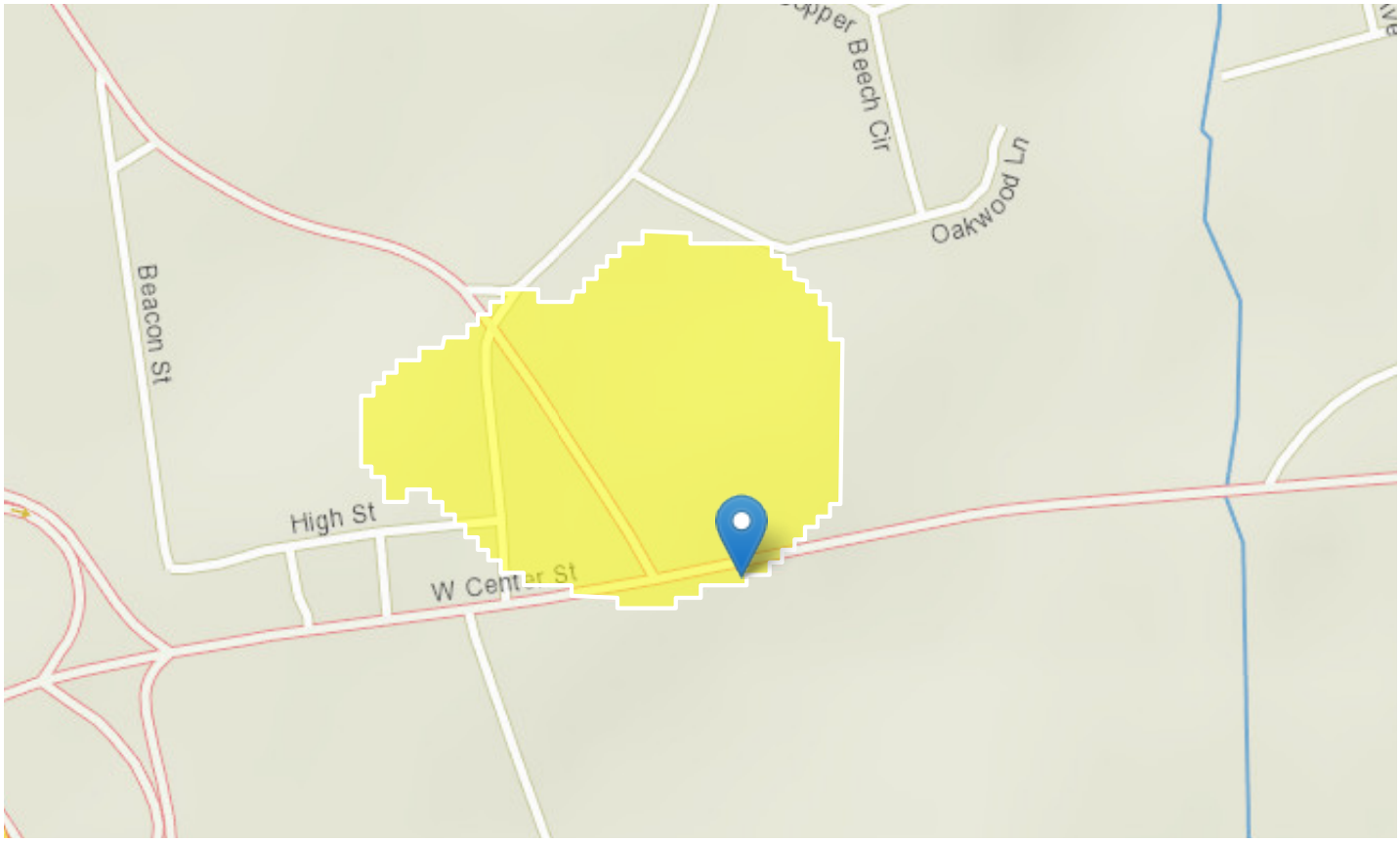
Part 2.1.1 of the RGP for that parameter applies.

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	0.3975	µg/L		
Chromium III	**323**	µg/L	131.8	µg/L		
Chromium VI	**323**	µg/L	11.4	µg/L		
Copper	242	µg/L	**14.5**	µg/L		
Iron	**5000**	µg/L	1000	µg/L		
Lead	**160**	µg/L	6.16	µg/L		
Mercury	**0.739**	µg/L	0.91	µg/L		
Nickel	**1450**	µg/L	80.9	µg/L		
Selenium	**235.8**	µg/L	5.0	µg/L		
Silver	**35.1**	µg/L	9.2	µg/L		
Zinc	**420**	µg/L	186.0	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	0.1	µg/L
Benzo(b)fluoranthene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Benzo(k)fluoranthene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Chrysene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Dibenzo(a,h)anthracene	1.0	µg/L	**0.0038**	µg/L	0.1	µg/L
Indeno(1,2,3-cd)pyrene	1.0	µg/L	**0.0038**	µg/L	0.1	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	---			

StreamStats Report

Region ID:
MA
Workspace ID:
MA20181007220343198000
Clicked Point (Latitude, Longitude):
42.01562, -71.03571
Time:
2018-10-07 18:03:56 -0400



506 West Center Street in West Bridgewater outfall

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
ACRSDFT	Area underlain by stratified drift	0.0279	square miles
BSLDEM10M	Mean basin slope computed from 10 m DEM	2.381	percent

BSLDEM10M	Mean basin slope computed from 10 m DEM	3.381	percent
BSLDEM250	Mean basin slope computed from 1:250K DEM	0.411	percent
CENTROIDX	Basin centroid horizontal (x) location in state plane coordinates	238358.1	feet
CENTROIDY	Basin centroid vertical (y) location in state plane units	863036.9	feet
CRSDFT	Percentage of area of coarse-grained stratified drift	72.81	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.2	square mile per mile
DRNAREA	Area that drains to a point on a stream	0.0361	square miles
ELEV	Mean Basin Elevation	87.4	feet
FOREST	Percentage of area covered by forest	27.41	percent
LAKEAREA	Percentage of Lakes and Ponds	0	percent
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	0	percent
LC11DEV	Percentage of developed (urban) land from NLCD 2011 classes 21-24	92.7	percent
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	37.2	percent
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
MAXTEMPC	Mean annual maximum air temperature over basin area, in degrees Centigrade	15.4	feet per mi
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	238455	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	862905	feet
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	72.81	percent
PRECPRIS00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	48.5	inches
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	0.14	miles
WETLAND	Percentage of Wetlands	2.54	percent

WETLAND	Percentage of Wetlands	0.54	percent

Application Version: 4.2.1

ATTACHMENT C

CERTIFICATE OF ANALYSIS

Jason Sherburne
Tg2 Solutions
231 Elm Street
Blackstone, MA 01504

RE: West Bridge - RGP (N/A)
ESS Laboratory Work Order Number: 1809361

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 2:39 pm, Oct 01, 2018

Analytical Summary
The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

SAMPLE RECEIPT

The following samples were received on September 14, 2018 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2017 Remediation General Permit under the National Pollutant Discharge Elimination System (NPDES).

ESS Laboratory is unable to achieve the required detection limit of 0.4 mg/L for Ethanol for the RGP permit. We have also been unable to procure a subcontract laboatory that is able to achieve this limit. The data for Ethanol has been reported using our current method reporting limit.

Lab Number	Sample Name	Matrix	Analysis
1809361-01	MW-6	Ground Water	1664A, 200.7, 245.1, 2540D, 300.0, 350.1, 3500Cr B-2009, 420.1, 4500 CN CE, 4500Cl D, 504.1, 524.2, 608.3, 625.1 SIM, 8270D SIM, ASTM D3695
1809361-02	Receiving Water	Ground Water	200.7, 245.1, 2520B, 350.1, 3500Cr B-2009, 4500 H+ B

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

PROJECT NARRATIVE

625.1(SIM) Semi-Volatile Organic Compounds

C8I0374-CCV1 [redacted]
Pentachlorophenol (124% @ 80-120%)

C8I0374-CCV1 [redacted]
Pentachlorophenol (24% @ 20%)

C8I0374-CCV1 [redacted]
Perylene-d12 (213% @ 50-200%)

Classical Chemistry

1809361-01 [redacted]

1809361-02 [redacted]

Dissolved Metals

1809361-01 [redacted]
Cadmium , Lead

Total Metals

1809361-01 [redacted]
Cadmium

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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[redacted]

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

1010A - Flashpoint
6010C - ICP
6020A - ICP MS
7010 - Graphite Furnace
7196A - Hexavalent Chromium
7470A - Aqueous Mercury
7471B - Solid Mercury
8011 - EDB/DBCP/TCP
8015C - GRO/DRO
8081B - Pesticides
8082A - PCB
8100M - TPH
8151A - Herbicides
8260B - VOA
8270D - SVOA
8270D SIM - SVOA Low Level
9014 - Cyanide
9038 - Sulfate
9040C - Aqueous pH
9045D - Solid pH (Corrosivity)
9050A - Specific Conductance
9056A - Anions (IC)
9060A - TOC
9095B - Paint Filter
MADEP 04-1.1 - EPH
MADEP 04-2.1 - VPH

Prep Methods

3005A - Aqueous ICP Digestion
3020A - Aqueous Graphite Furnace / ICP MS Digestion
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
3060A - Solid Hexavalent Chromium Digestion
3510C - Separatory Funnel Extraction
3520C - Liquid / Liquid Extraction
3540C - Manual Soxhlet Extraction
3541 - Automated Soxhlet Extraction
3546 - Microwave Extraction
3580A - Waste Dilution
5030B - Aqueous Purge and Trap
5030C - Aqueous Purge and Trap
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A/200.7

Dissolved Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.0)		200.7		1	KJK	09/18/18 12:15	100	10	CI81744
Arsenic	ND (5.00)		200.7		1	KJK	09/18/18 12:15	100	10	CI81744
Cadmium	**EL** ND (2.00)		200.7		2	KJK	09/18/18 15:25	100	10	CI81744
Chromium	ND (2.0)		200.7		1	KJK	09/18/18 12:15	100	10	CI81744
Copper	**4.7** (4.0)		200.7		2	KJK	09/18/18 15:25	100	10	CI81744
Iron	ND (200)		200.7		20	KJK	09/18/18 15:31	100	10	CI81744
Lead	**EL** ND (4.0)		200.7		2	KJK	09/18/18 15:25	100	10	CI81744
Mercury	ND (0.20)		245.1		1	MJV	09/18/18 11:29	20	40	CI81746
Nickel	ND (5.0)		200.7		1	KJK	09/18/18 12:15	100	10	CI81744
Selenium	ND (5.0)		200.7		1	KJK	09/18/18 12:15	100	10	CI81744
Silver	ND (1.0)		200.7		1	KJK	09/18/18 12:15	100	10	CI81744
Zinc	**23.6** (10.0)		200.7		2	KJK	09/18/18 15:25	100	10	CI81744

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A/200.7

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.0)		200.7		1	KJK	09/18/18 11:40	100	10	CI81744
Arsenic	ND (5.0)		200.7		1	KJK	09/18/18 11:40	100	10	CI81744
Cadmium	**EL** ND (2.00)		200.7		2	KJK	09/18/18 15:35	100	10	CI81744
Chromium	ND (4.0)		200.7		2	KJK	09/18/18 15:35	100	10	CI81744
Chromium III	ND (10.0)		200.7		2	CCP	09/18/18 15:35	1	1	[CALC]
Copper	**14.6** (4.0)		200.7		2	KJK	09/18/18 15:35	100	10	CI81744
Hardness	**168000** (499)		200.7		10	KJK	09/18/18 15:52	1	1	[CALC]
Iron	**817** (20.0)		200.7		2	KJK	09/18/18 15:35	100	10	CI81744
Lead	**5.1** (4.0)		200.7		2	KJK	09/18/18 15:35	100	10	CI81744
Mercury	ND (0.2)		245.1		1	MJV	09/18/18 11:25	20	40	CI81746
Nickel	ND (5.0)		200.7		1	KJK	09/18/18 11:40	100	10	CI81744
Selenium	ND (5)		200.7		1	KJK	09/18/18 11:40	100	10	CI81744
Silver	ND (0.5)		200.7		1	KJK	09/18/18 11:40	100	10	CI81744
Zinc	**37.8** (10.0)		200.7		2	KJK	09/18/18 15:35	100	10	CI81744

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A
Initial Volume: 25
Final Volume: 25
Extraction Method: 524.2

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: MD

524.2 Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,1,1-Trichloroethane	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
1,1,2-Trichloroethane	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
1,1-Dichloroethane	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
1,1-Dichloroethene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
1,2-Dichlorobenzene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
1,2-Dichloroethane	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
1,3-Dichlorobenzene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
1,4-Dichlorobenzene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Acetone	ND (5.0)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Benzene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Carbon Tetrachloride	ND (0.3)		524.2		1	09/14/18 16:16	C8I0249	CI81428
cis-1,2-Dichloroethene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Ethylbenzene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Methyl tert-Butyl Ether	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Methylene Chloride	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Naphthalene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Tertiary-amyl methyl ether	ND (1.0)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Tertiary-butyl Alcohol	ND (25.0)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Tetrachloroethene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Toluene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Trichloroethene	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Vinyl Chloride	ND (0.2)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Xylene O	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428
Xylene P,M	ND (0.5)		524.2		1	09/14/18 16:16	C8I0249	CI81428

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*101 %*		*80-120*
Surrogate: 4-Bromofluorobenzene	*100 %*		*80-120*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A
Initial Volume: 1070
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: CAD
Prepared: 9/19/18 14:01

608.3 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1221	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1232	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1242	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1248	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1254	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1260	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1262	ND (0.09)		608.3		1	09/20/18 3:13		CI81903
Aroclor 1268	ND (0.09)		608.3		1	09/20/18 3:13		CI81903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*59 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A
Initial Volume: 1020
Final Volume: 0.25
Extraction Method: 3510C

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: IBM
Prepared: 9/20/18 13:15

625.1(SIM) Semi-Volatile Organic Compounds

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Acenaphthene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Acenaphthylene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Anthracene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Benzo(a)anthracene	ND (0.05)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Benzo(a)pyrene	**0.18** (0.05)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Benzo(b)fluoranthene	**0.24** (0.05)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Benzo(g,h,i)perylene	**0.38** (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Benzo(k)fluoranthene	**0.07** (0.05)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
bis(2-Ethylhexyl)phthalate	ND (2.45)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Butylbenzylphthalate	ND (2.45)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Chrysene	**0.13** (0.05)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Dibenzo(a,h)Anthracene	**0.10** (0.05)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Diethylphthalate	ND (2.45)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Dimethylphthalate	ND (2.45)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Di-n-butylphthalate	ND (2.45)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Di-n-octylphthalate	ND (2.45)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Fluoranthene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Fluorene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Indeno(1,2,3-cd)Pyrene	**0.30** (0.05)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Naphthalene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Pentachlorophenol	ND (0.88)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Phenanthrene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001
Pyrene	ND (0.20)		625.1 SIM		1	09/21/18 12:49	C8I0374	CI82001

	%Recovery	Qualifier	Limits
Surrogate: 1,2-Dichlorobenzene-d4	*48 %*		*30-130*
Surrogate: 2,4,6-Tribromophenol	*76 %*		*15-110*
Surrogate: 2-Fluorobiphenyl	*64 %*		*30-130*
Surrogate: Nitrobenzene-d5	*82 %*		*30-130*
Surrogate: p-Terphenyl-d14	*107 %*		*30-130*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A
Initial Volume: 500
Final Volume: 0.5
Extraction Method: 3535A

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: IBM
Prepared: 9/21/18 19:45

8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,4-Dioxane	ND (0.250)		8270D SIM		1	09/25/18 17:01	C8I0468	CI82164

	%Recovery	Qualifier	Limits
Surrogate: 1,4-Dioxane-d8	47 %		15-115

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	ND (0.10)		350.1		1	JLK	09/17/18 18:35	mg/L	CI81723
Chloride	**1580000** (500000)		300.0		1000	EEM	09/17/18 20:47	ug/L	CI81718
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	CCP	09/14/18 16:29	ug/L	CI81459
Phenols	ND (50)		420.1		1	JLK	09/17/18 15:46	ug/L	CI81742
Total Cyanide	**998** (50.0)		4500 CN CE		10	EEM	09/18/18 11:50	ug/L	CI81819
Total Petroleum Hydrocarbon	ND (5)		1664A		1	LAB	09/21/18 11:01	mg/L	CI81919
Total Residual Chlorine	ND (20.0)		4500Cl D		1	CCP	09/17/18 13:49	ug/L	CI81740
Total Suspended Solids	**220** (5)		2540D		1	CCP	09/18/18 17:48	mg/L	CI81841

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A
Initial Volume: 35
Final Volume: 2
Extraction Method: 504/8011

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: SMR
Prepared: 9/24/18 15:49

504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
1,2-Dibromoethane	ND (0.015)		504.1		1	09/24/18 18:55		CI82460

	%Recovery	Qualifier	Limits
Surrogate: Pentachloroethane	*120 %*		*30-150*
Surrogate: Pentachloroethane [2C]	*112 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: MW-6
Date Sampled: 09/14/18 10:00
Percent Solids: N/A
Initial Volume: 1
Final Volume: 1
Extraction Method: No Prep

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-01
Sample Matrix: Ground Water
Units: mg/L
Analyst: ZLC
Prepared: 9/19/18 14:23

Alcohol Scan by GC/FID

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Sequence	Batch
Ethanol	ND (10)		ASTM D3695		1	ZLC	09/21/18 10:52		CI81934

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: Receiving Water
Date Sampled: 09/14/18 11:00
Percent Solids: N/A

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-02
Sample Matrix: Ground Water
Units: ug/L

Extraction Method: 3005A/200.7

Total Metals

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	I/V	F/V	Batch
Antimony	ND (5.0)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Arsenic	ND (5.0)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Beryllium	ND (0.100)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Cadmium	ND (1.00)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Chromium	ND (2.0)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Copper	**5.9** (2.0)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Hardness	**139000** (82.4)		200.7		1	KJK	09/18/18 12:09	1	1	[CALC]
Iron	**2.56** (0.010)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Lead	**8.2** (2.0)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Mercury	ND (0.2)		245.1		1	MJV	09/18/18 11:27	20	40	CI81746
Nickel	ND (5)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Selenium	ND (5)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Silver	ND (0.5)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Thallium	ND (10.0)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744
Zinc	**65.5** (5.0)		200.7		1	KJK	09/18/18 12:09	100	10	CI81744

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP
Client Sample ID: Receiving Water
Date Sampled: 09/14/18 11:00
Percent Solids: N/A

ESS Laboratory Work Order: 1809361
ESS Laboratory Sample ID: 1809361-02
Sample Matrix: Ground Water

Classical Chemistry

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyst	Analyzed	Units	Batch
Ammonia as N	**0.23** (0.10)		350.1		1	JLK	09/17/18 18:36	mg/L	CI81723
Hexavalent Chromium	ND (10.0)		3500Cr B-2009		1	CCP	09/14/18 16:29	ug/L	CI81459
pH	**6.16** (N/A)		4500 H+ B		1	CCP	09/14/18 19:18	S.U.	CI81439
pH Sample Temp	**Aqueous pH measured in water at 19.6 ºC.** (N/A)								
Salinity	**0.8** (0.1)		2520B		1	EEM	09/18/18 14:20	ppt	CI81825

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Dissolved Metals										
Batch CI81744 - 3005A/200.7										
Blank										
Antimony	ND	5.0	ug/L							
Arsenic	ND	5.00	ug/L							
Cadmium	ND	1.00	ug/L							
Chromium	ND	2.0	ug/L							
Copper	ND	2.0	ug/L							
Iron	ND	10.0	ug/L							
Lead	ND	2.0	ug/L							
Nickel	ND	5.0	ug/L							
Selenium	ND	5.0	ug/L							
Silver	ND	1.0	ug/L							
Zinc	ND	5.0	ug/L							
LCS										
Antimony	48.8	5.0	ug/L	50.15		97	85-115			
Arsenic	47.9	5.00	ug/L	50.00		96	85-115			
Cadmium	23.1	1.00	ug/L	25.02		92	85-115			
Chromium	48.1	2.0	ug/L	50.00		96	85-115			
Copper	53.6	2.0	ug/L	50.00		107	85-115			
Iron	236	10.0	ug/L	250.1		94	85-115			
Lead	48.2	2.0	ug/L	50.00		96	80-120			
Nickel	48.7	5.0	ug/L	50.00		97	85-115			
Selenium	90.5	5.0	ug/L	99.95		91	80-120			
Silver	24.9	1.0	ug/L	24.98		100	85-115			
Zinc	49.6	5.0	ug/L	50.00		99	85-115			
Batch CI81746 - 245.1/7470A										
Blank										
Mercury	ND	0.20	ug/L							
LCS										
Mercury	5.77	0.20	ug/L	6.000		96	85-115			
Total Metals										
Batch CI81459 - [CALC]										
Blank										
Chromium III	ND	10.0	ug/L							
LCS										
Chromium III	ND		ug/L							
LCS Dup										
Chromium III	ND		ug/L							
Batch CI81744 - 3005A/200.7										
Blank										
Antimony	ND	5.0	ug/L							
Arsenic	ND	5.0	ug/L							
Beryllium	ND	0.100	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Total Metals										
Batch CI81744 - 3005A/200.7										
Cadmium	ND	1.00	ug/L							
Chromium	ND	2.0	ug/L							
Chromium III	ND	2.00	ug/L							
Copper	ND	2.0	ug/L							
Hardness	ND	82.4	ug/L							
Iron	ND	10.0	ug/L							
Iron	ND	0.010	mg/L							
Lead	ND	2.0	ug/L							
Nickel	ND	5.0	ug/L							
Nickel	ND	5	ug/L							
Selenium	ND	5	ug/L							
Silver	ND	0.5	ug/L							
Thallium	ND	10.0	ug/L							
Zinc	ND	5.0	ug/L							
LCS										
Antimony	48.8	5.0	ug/L	50.15		97	85-115			
Arsenic	47.9	5.0	ug/L	50.00		96	85-115			
Beryllium	4.76	0.100	ug/L	5.000		95	85-115			
Cadmium	23.1	1.00	ug/L	25.02		92	85-115			
Chromium	48.1	2.0	ug/L	50.00		96	85-115			
Chromium III	48.1	2.00	ug/L							
Copper	53.6	2.0	ug/L	50.00		107	85-115			
Hardness	3120	82.4	ug/L							
Iron	0.236	0.010	mg/L	0.2501		94	85-115			
Iron	236	10.0	ug/L	250.1		94	85-115			
Lead	48.2	2.0	ug/L	50.00		96	85-115			
Nickel	48.7	5.0	ug/L	50.00		97	85-115			
Nickel	48.7	5	ug/L	50.00		97	85-115			
Selenium	90	5	ug/L	99.95		91	85-115			
Silver	24.9	0.5	ug/L	24.98		100	85-115			
Thallium	48.2	10.0	ug/L	50.05		96	85-115			
Zinc	49.6	5.0	ug/L	50.00		99	85-115			
LCS Dup										
Arsenic	47.5	5.0	ug/L	50.00		95	85-115	0.9	20	
Chromium III	48.6	2.00	ug/L							
Hardness	3150	82.4	ug/L							
Batch CI81746 - 245.1/7470A										
Blank										
Mercury	ND	0.2	ug/L							
LCS										
Mercury	5.8	0.2	ug/L	6.000		96	85-115			
LCS Dup										
Mercury	5.7	0.2	ug/L	6.000		96	85-115	0.7	20	

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch CI81428 - 524.2										
Blank										
1,1,1-Trichloroethane	ND	0.5	ug/L							
1,1,2-Trichloroethane	ND	0.5	ug/L							
1,1-Dichloroethane	ND	0.5	ug/L							
1,1-Dichloroethene	ND	0.5	ug/L							
1,2-Dichlorobenzene	ND	0.5	ug/L							
1,2-Dichloroethane	ND	0.5	ug/L							
1,3-Dichlorobenzene	ND	0.5	ug/L							
1,4-Dichlorobenzene	ND	0.5	ug/L							
Acetone	ND	5.0	ug/L							
Benzene	ND	0.5	ug/L							
Carbon Tetrachloride	ND	0.3	ug/L							
cis-1,2-Dichloroethene	ND	0.5	ug/L							
Ethylbenzene	ND	0.5	ug/L							
Methyl tert-Butyl Ether	ND	0.5	ug/L							
Methylene Chloride	ND	0.5	ug/L							
Naphthalene	ND	0.5	ug/L							
Tertiary-amyl methyl ether	ND	1.0	ug/L							
Tertiary-butyl Alcohol	ND	25.0	ug/L							
Tetrachloroethene	ND	0.5	ug/L							
Toluene	ND	0.5	ug/L							
Trichloroethene	ND	0.5	ug/L							
Vinyl Chloride	ND	0.2	ug/L							
Xylene O	ND	0.5	ug/L							
Xylene P,M	ND	0.5	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*5.20*		ug/L	*5.000*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*5.15*		ug/L	*5.000*		*103*	*80-120*			
LCS										
1,1,1-Trichloroethane	10.6		ug/L	10.00		106	70-130			
1,1,2-Trichloroethane	10.3		ug/L	10.00		103	70-130			
1,1-Dichloroethane	10.0		ug/L	10.00		100	70-130			
1,1-Dichloroethene	10.8		ug/L	10.00		108	70-130			
1,2-Dichlorobenzene	10.5		ug/L	10.00		105	70-130			
1,2-Dichloroethane	10.1		ug/L	10.00		101	70-130			
1,3-Dichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,4-Dichlorobenzene	10.5		ug/L	10.00		105	70-130			
Acetone	54.8		ug/L	50.00		110	70-130			
Benzene	10.2		ug/L	10.00		102	70-130			
Carbon Tetrachloride	10.5		ug/L	10.00		105	70-130			
cis-1,2-Dichloroethene	10.6		ug/L	10.00		106	70-130			
Ethylbenzene	10.3		ug/L	10.00		103	70-130			
Methyl tert-Butyl Ether	10.1		ug/L	10.00		101	70-130			
Methylene Chloride	11.5		ug/L	10.00		115	70-130			
Naphthalene	10.2		ug/L	10.00		102	70-130			
Tertiary-amyl methyl ether	10.4		ug/L	10.00		104	70-130			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
524.2 Volatile Organic Compounds										
Batch CI81428 - 524.2										
Tertiary-butyl Alcohol	49.9		ug/L	50.00		100	70-130			
Tetrachloroethene	10.3		ug/L	10.00		103	70-130			
Toluene	10.6		ug/L	10.00		106	70-130			
Trichloroethene	10.4		ug/L	10.00		104	70-130			
Vinyl Chloride	9.7		ug/L	10.00		97	70-130			
Xylene O	10.3		ug/L	10.00		103	70-130			
Xylene P,M	20.5		ug/L	20.00		102	70-130			
Surrogate: 1,2-Dichlorobenzene-d4	*5.31*		ug/L	*5.000*		*106*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*5.23*		ug/L	*5.000*		*105*	*80-120*			
LCS Dup										
1,1,1-Trichloroethane	10.7		ug/L	10.00		107	70-130	1	20	
1,1,2-Trichloroethane	10.5		ug/L	10.00		105	70-130	2	20	
1,1-Dichloroethane	10.2		ug/L	10.00		102	70-130	2	20	
1,1-Dichloroethene	11.0		ug/L	10.00		110	70-130	2	20	
1,2-Dichlorobenzene	10.6		ug/L	10.00		106	70-130	2	20	
1,2-Dichloroethane	10.2		ug/L	10.00		102	70-130	1	20	
1,3-Dichlorobenzene	10.5		ug/L	10.00		105	70-130	1	20	
1,4-Dichlorobenzene	10.6		ug/L	10.00		106	70-130	0.4	20	
Acetone	50.8		ug/L	50.00		102	70-130	8	20	
Benzene	10.4		ug/L	10.00		104	70-130	2	20	
Carbon Tetrachloride	10.6		ug/L	10.00		106	70-130	0.9	20	
cis-1,2-Dichloroethene	10.8		ug/L	10.00		108	70-130	2	20	
Ethylbenzene	10.6		ug/L	10.00		106	70-130	2	20	
Methyl tert-Butyl Ether	10.2		ug/L	10.00		102	70-130	0.8	20	
Methylene Chloride	10.9		ug/L	10.00		109	70-130	5	20	
Naphthalene	10.3		ug/L	10.00		103	70-130	1	20	
Tertiary-amyl methyl ether	10.6		ug/L	10.00		106	70-130	2	20	
Tertiary-butyl Alcohol	51.8		ug/L	50.00		104	70-130	4	25	
Tetrachloroethene	10.5		ug/L	10.00		105	70-130	2	20	
Toluene	10.7		ug/L	10.00		107	70-130	1	20	
Trichloroethene	10.5		ug/L	10.00		105	70-130	1	20	
Vinyl Chloride	10.0		ug/L	10.00		100	70-130	2	20	
Xylene O	10.6		ug/L	10.00		106	70-130	3	20	
Xylene P,M	20.8		ug/L	20.00		104	70-130	2	20	
Surrogate: 1,2-Dichlorobenzene-d4	*5.29*		ug/L	*5.000*		*106*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*5.32*		ug/L	*5.000*		*106*	*80-120*			
608.3 Polychlorinated Biphenyls (PCB)										
Batch CI81903 - 3510C										
Blank										
Aroclor 1016	ND	0.10	ug/L							
Aroclor 1016 [2C]	ND	0.10	ug/L							
Aroclor 1221	ND	0.10	ug/L							
Aroclor 1221 [2C]	ND	0.10	ug/L							
Aroclor 1232	ND	0.10	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
608.3 Polychlorinated Biphenyls (PCB)										
Batch CI81903 - 3510C										
Aroclor 1232 [2C]	ND	0.10	ug/L							
Aroclor 1242	ND	0.10	ug/L							
Aroclor 1242 [2C]	ND	0.10	ug/L							
Aroclor 1248	ND	0.10	ug/L							
Aroclor 1248 [2C]	ND	0.10	ug/L							
Aroclor 1254	ND	0.10	ug/L							
Aroclor 1254 [2C]	ND	0.10	ug/L							
Aroclor 1260	ND	0.10	ug/L							
Aroclor 1260 [2C]	ND	0.10	ug/L							
Aroclor 1262	ND	0.10	ug/L							
Aroclor 1262 [2C]	ND	0.10	ug/L							
Aroclor 1268	ND	0.10	ug/L							
Aroclor 1268 [2C]	ND	0.10	ug/L							
Surrogate: Decachlorobiphenyl	*0.0319*		ug/L	*0.05000*		*64*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0361*		ug/L	*0.05000*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0305*		ug/L	*0.05000*		*61*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0368*		ug/L	*0.05000*		*74*	*30-150*			
LCS										
Aroclor 1016	0.96	0.10	ug/L	1.000		96	50-140			
Aroclor 1016 [2C]	0.95	0.10	ug/L	1.000		95	50-140			
Aroclor 1260	0.92	0.10	ug/L	1.000		92	1-164			
Aroclor 1260 [2C]	0.96	0.10	ug/L	1.000		96	1-164			
Surrogate: Decachlorobiphenyl	*0.0404*		ug/L	*0.05000*		*81*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0446*		ug/L	*0.05000*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0366*		ug/L	*0.05000*		*73*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0379*		ug/L	*0.05000*		*76*	*30-150*			
LCS Dup										
Aroclor 1016	0.94	0.10	ug/L	1.000		94	50-140	2	36	
Aroclor 1016 [2C]	0.94	0.10	ug/L	1.000		94	50-140	1	36	
Aroclor 1260	0.88	0.10	ug/L	1.000		88	1-164	4	38	
Aroclor 1260 [2C]	0.92	0.10	ug/L	1.000		92	1-164	4	38	
Surrogate: Decachlorobiphenyl	*0.0370*		ug/L	*0.05000*		*74*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0407*		ug/L	*0.05000*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0356*		ug/L	*0.05000*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0368*		ug/L	*0.05000*		*74*	*30-150*			
625.1(SIM) Semi-Volatile Organic Compounds										
Batch CI82001 - 3510C										
Blank										
Acenaphthene	ND	0.20	ug/L							
Acenaphthylene	ND	0.20	ug/L							
Anthracene	ND	0.20	ug/L							

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625.1(SIM) Semi-Volatile Organic Compounds										
Batch CI82001 - 3510C										
Benzo(a)anthracene	ND	0.05	ug/L							
Benzo(a)pyrene	ND	0.05	ug/L							
Benzo(b)fluoranthene	ND	0.05	ug/L							
Benzo(g,h,i)perylene	ND	0.20	ug/L							
Benzo(k)fluoranthene	ND	0.05	ug/L							
bis(2-Ethylhexyl)phthalate	ND	2.50	ug/L							
Butylbenzylphthalate	ND	2.50	ug/L							
Chrysene	ND	0.05	ug/L							
Dibenzo(a,h)Anthracene	ND	0.05	ug/L							
Diethylphthalate	ND	2.50	ug/L							
Dimethylphthalate	ND	2.50	ug/L							
Di-n-butylphthalate	ND	2.50	ug/L							
Di-n-octylphthalate	ND	2.50	ug/L							
Fluoranthene	ND	0.20	ug/L							
Fluorene	ND	0.20	ug/L							
Indeno(1,2,3-cd)Pyrene	ND	0.05	ug/L							
Naphthalene	ND	0.20	ug/L							
Pentachlorophenol	ND	0.90	ug/L							
Phenanthrene	ND	0.20	ug/L							
Pyrene	ND	0.20	ug/L							
Surrogate: 1,2-Dichlorobenzene-d4	*1.17*		ug/L	*2.500*		*47*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.00*		ug/L	*3.750*		*80*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.61*		ug/L	*2.500*		*64*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.19*		ug/L	*2.500*		*88*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.58*		ug/L	*2.500*		*103*	*30-130*			
LCS										
Acenaphthene	2.79	0.20	ug/L	4.000		70	40-140			
Acenaphthylene	2.94	0.20	ug/L	4.000		74	40-140			
Anthracene	3.04	0.20	ug/L	4.000		76	40-140			
Benzo(a)anthracene	2.85	0.05	ug/L	4.000		71	40-140			
Benzo(a)pyrene	3.17	0.05	ug/L	4.000		79	40-140			
Benzo(b)fluoranthene	3.73	0.05	ug/L	4.000		93	40-140			
Benzo(g,h,i)perylene	3.57	0.20	ug/L	4.000		89	40-140			
Benzo(k)fluoranthene	2.62	0.05	ug/L	4.000		65	40-140			
bis(2-Ethylhexyl)phthalate	3.50	2.50	ug/L	4.000		87	40-140			
Butylbenzylphthalate	3.61	2.50	ug/L	4.000		90	40-140			
Chrysene	2.76	0.05	ug/L	4.000		69	40-140			
Dibenzo(a,h)Anthracene	3.58	0.05	ug/L	4.000		90	40-140			
Diethylphthalate	3.24	2.50	ug/L	4.000		81	40-140			
Dimethylphthalate	3.24	2.50	ug/L	4.000		81	40-140			
Di-n-butylphthalate	3.39	2.50	ug/L	4.000		85	40-140			
Di-n-octylphthalate	3.53	2.50	ug/L	4.000		88	40-140			
Fluoranthene	3.25	0.20	ug/L	4.000		81	40-140			
Fluorene	3.09	0.20	ug/L	4.000		77	40-140			
Indeno(1,2,3-cd)Pyrene	3.45	0.05	ug/L	4.000		86	40-140			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
625.1(SIM) Semi-Volatile Organic Compounds										
Batch CI82001 - 3510C										
Naphthalene	2.32	0.20	ug/L	4.000		58	40-140			
Pentachlorophenol	4.65	0.90	ug/L	4.000		116	30-130			
Phenanthrene	3.00	0.20	ug/L	4.000		75	40-140			
Pyrene	2.91	0.20	ug/L	4.000		73	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	*1.23*		ug/L	*2.500*		*49*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.51*		ug/L	*3.750*		*94*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.76*		ug/L	*2.500*		*70*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.38*		ug/L	*2.500*		*95*	*30-130*			
Surrogate: p-Terphenyl-d14	*2.93*		ug/L	*2.500*		*117*	*30-130*			
LCS Dup										
Acenaphthene	2.93	0.20	ug/L	4.000		73	40-140	5	20	
Acenaphthylene	3.08	0.20	ug/L	4.000		77	40-140	5	20	
Anthracene	3.19	0.20	ug/L	4.000		80	40-140	5	20	
Benzo(a)anthracene	3.05	0.05	ug/L	4.000		76	40-140	7	20	
Benzo(a)pyrene	3.40	0.05	ug/L	4.000		85	40-140	7	20	
Benzo(b)fluoranthene	3.68	0.05	ug/L	4.000		92	40-140	1	20	
Benzo(g,h,i)perylene	3.99	0.20	ug/L	4.000		100	40-140	11	20	
Benzo(k)fluoranthene	3.11	0.05	ug/L	4.000		78	40-140	17	20	
bis(2-Ethylhexyl)phthalate	3.93	2.50	ug/L	4.000		98	40-140	12	20	
Butylbenzylphthalate	3.91	2.50	ug/L	4.000		98	40-140	8	20	
Chrysene	2.96	0.05	ug/L	4.000		74	40-140	7	20	
Dibenzo(a,h)Anthracene	4.00	0.05	ug/L	4.000		100	40-140	11	20	
Diethylphthalate	3.31	2.50	ug/L	4.000		83	40-140	2	20	
Dimethylphthalate	3.35	2.50	ug/L	4.000		84	40-140	3	20	
Di-n-butylphthalate	3.56	2.50	ug/L	4.000		89	40-140	5	20	
Di-n-octylphthalate	3.91	2.50	ug/L	4.000		98	40-140	10	20	
Fluoranthene	3.36	0.20	ug/L	4.000		84	40-140	3	20	
Fluorene	3.17	0.20	ug/L	4.000		79	40-140	3	20	
Indeno(1,2,3-cd)Pyrene	3.94	0.05	ug/L	4.000		98	40-140	13	20	
Naphthalene	2.38	0.20	ug/L	4.000		60	40-140	3	20	
Pentachlorophenol	5.21	0.90	ug/L	4.000		130	30-130	11	20	
Phenanthrene	3.16	0.20	ug/L	4.000		79	40-140	5	20	
Pyrene	3.18	0.20	ug/L	4.000		79	40-140	9	20	
Surrogate: 1,2-Dichlorobenzene-d4	*1.22*		ug/L	*2.500*		*49*	*30-130*			
Surrogate: 2,4,6-Tribromophenol	*3.53*		ug/L	*3.750*		*94*	*15-110*			
Surrogate: 2-Fluorobiphenyl	*1.77*		ug/L	*2.500*		*71*	*30-130*			
Surrogate: Nitrobenzene-d5	*2.36*		ug/L	*2.500*		*94*	*30-130*			
Surrogate: p-Terphenyl-d14	*3.00*		ug/L	*2.500*		*120*	*30-130*			
8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution										
Batch CI82164 - 3535A										
Blank										
1,4-Dioxane	ND	0.250	ug/L							
Surrogate: 1,4-Dioxane-d8	*ND*		ug/L	*5.000*		*34*	*15-115*			
LCS										

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D(SIM) Semi-Volatile Organic Compounds w/ Isotope Dilution										
Batch CI82164 - 3535A										
1,4-Dioxane	8.84	0.250	ug/L	10.00		88	40-140			
Surrogate: 1,4-Dioxane-d8	*1.94*		ug/L	*5.000*		*39*	*15-115*			
LCS Dup										
1,4-Dioxane	8.49	0.250	ug/L	10.00		85	40-140	4	20	
Surrogate: 1,4-Dioxane-d8	*2.20*		ug/L	*5.000*		*44*	*15-115*			
Classical Chemistry										
Batch CI81459 - General Preparation										
Blank										
Hexavalent Chromium	ND	10.0	ug/L							
LCS										
Hexavalent Chromium	0.499		mg/L	0.4998		100	90-110			
LCS Dup										
Hexavalent Chromium	0.504		mg/L	0.4998		101	90-110	1	20	
Batch CI81718 - General Preparation										
Blank										
Chloride	ND	500	ug/L							
LCS										
Chloride	2		mg/L	2.500		97	90-110			
Batch CI81723 - NH4 Prep										
Blank										
Ammonia as N	ND	0.10	mg/L							
LCS										
Ammonia as N	0.09	0.10	mg/L	0.09994		88	80-120			
LCS										
Ammonia as N	1.12	0.10	mg/L	0.9994		113	80-120			
Batch CI81740 - General Preparation										
Blank										
Total Residual Chlorine	ND	20.0	ug/L							
LCS										
Total Residual Chlorine	1.07		mg/L	0.9790		109	85-115			
Batch CI81742 - General Preparation										
Blank										
Phenols	ND	50	ug/L							
LCS										
Phenols	97	50	ug/L	100.0		97	80-120			
LCS										
Phenols	1000	50	ug/L	1000		100	80-120			
Batch CI81819 - TCN Prep										
Blank										

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Classical Chemistry										
Batch CI81819 - TCN Prep										
Total Cyanide	ND	5.00	ug/L							
LCS										
Total Cyanide	20.1	5.00	ug/L	20.06		100	90-110			
LCS										
Total Cyanide	149	5.00	ug/L	150.4		99	90-110			
LCS Dup										
Total Cyanide	148	5.00	ug/L	150.4		98	90-110	0.9	20	
Batch CI81825 - General Preparation										
LCS										
Salinity	1.0		ppt	1.000		96	85-115			
Batch CI81841 - General Preparation										
Blank										
Total Suspended Solids	ND	5	mg/L							
LCS										
Total Suspended Solids	22		mg/L	22.00		100	80-120			
Batch CI81919 - General Preparation										
Blank										
Total Petroleum Hydrocarbon	ND	5	mg/L							
LCS										
Total Petroleum Hydrocarbon	16	5	mg/L	19.38		80	66-114			
504.1 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane										
Batch CI82460 - 504/8011										
Blank										
1,2-Dibromoethane	ND	0.015	ug/L							
1,2-Dibromoethane [2C]	ND	0.015	ug/L							
Surrogate: Pentachloroethane	*0.240*		ug/L	*0.2000*		*120*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.208*		ug/L	*0.2000*		*104*	*30-150*			
LCS										
1,2-Dibromoethane	0.100	0.015	ug/L	0.08000		124	70-130			
1,2-Dibromoethane [2C]	0.089	0.015	ug/L	0.08000		111	70-130			
Surrogate: Pentachloroethane	*0.0955*		ug/L	*0.08000*		*119*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.0883*		ug/L	*0.08000*		*110*	*30-150*			
LCS										
1,2-Dibromoethane	0.223	0.015	ug/L	0.2000		112	70-130			
1,2-Dibromoethane [2C]	0.202	0.015	ug/L	0.2000		101	70-130			
Surrogate: Pentachloroethane	*0.241*		ug/L	*0.2000*		*120*	*30-150*			
Surrogate: Pentachloroethane [2C]	*0.204*		ug/L	*0.2000*		*102*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Alcohol Scan by GC/FID										
Batch CI81934 - No Prep										
Blank										
Ethanol	ND	10	mg/L							
LCS										
Ethanol	1070	10	mg/L	1134		95	60-140			
LCS Dup										
Ethanol	1160	10	mg/L	1134		103	60-140	8	30	

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

Notes and Definitions

Z16	Aqueous pH measured in water at 19.6 ºC.
U	Analyte included in the analysis, but not detected
Q	Calibration required quadratic regression (Q).
I	Internal Standard(s) outside of criteria (I).
HT	The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
CD+	Continuing Calibration %Diff/Drift is above control limit (CD+).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte
SUB	Subcontracted analysis; see attached report
RL	Reporting Limit
EDL	Estimated Detection Limit

CERTIFICATE OF ANALYSIS

Client Name: Tg2 Solutions
Client Project ID: West Bridge - RGP

ESS Laboratory Work Order: 1809361

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179
http://www.health.ri.gov/find/labs/analytical/ESS.pdf

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

Massachusetts Potable and Non Potable Water: M-RI002
http://public.dep.state.ma.us/Labcert/Labcert.aspx

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424
http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313
http://www.wadsworth.org/labcert/elap/comm.html

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006
http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tg2 TB/DS

Shipped/Delivered Via: Client

ESS Project ID: 1809361
Date Received: 9/14/2018
Project Due Date: 9/21/2018
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 4.6 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? Yes
7. Is COC complete and correct? Yes
8. Were samples received intact? Yes
9. **Were labs informed about short holds & rushes?** (Yes) / No / NA
10. Were any analyses received outside of hold time? Yes (No)

11. Any Subcontracting needed? Yes / (No)
    ESS Sample IDs:
    Analysis:
    TAT:
12. Were VOAs received? Yes / (No)
    a. Air bubbles in aqueous VOAs? Yes / No
    b. Does methanol cover soil completely? Yes / No / NA

13. Are the samples properly preserved? (Yes) / No
    a. If metals preserved upon receipt: Date: Time: By:
    b. Low Level VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes / (No)
    a. Was there a need to contact the client? Yes / No
    Who was contacted? Date: Time: By:

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	266312	Yes	No	Yes	VOA Vial - HCl	HCl	
01	266313	Yes	No	Yes	VOA Vial - HCl	HCl	
01	266314	Yes	No	Yes	VOA Vial - HCl	HCl	
01	266315	Yes	No	Yes	VOA Vial - HCl	HCl	
01	266316	Yes	No	Yes	VOA Vial - HCl	HCl	
01	266317	Yes	No	Yes	VOA Vial - HCl	HCl	
01	266318	Yes	No	Yes	VOA Vial - Unpres	NP	
01	266319	Yes	No	Yes	VOA Vial - Unpres	NP	
01	266325	Yes	NA	Yes	1L Amber - H2SO4	H2SO4	
01	266326	Yes	NA	Yes	1L Amber - H2SO4	H2SO4	
01	266327	Yes	NA	Yes	1L Amber - Unpres	NP	
01	266328	Yes	NA	Yes	1L Amber - Unpres	NP	
01	266329	Yes	NA	Yes	1L Amber - Unpres	NP	
01	266330	Yes	NA	Yes	1L Amber - Unpres	NP	
01	266331	Yes	NA	Yes	1L Amber - Unpres	NP	
01	266332	Yes	NA	Yes	1L Amber - Unpres	NP	
01	266333	Yes	NA	Yes	1L Poly - Unpres	NP	
01	266334	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4	
01	266335	Yes	NA	Yes	500 mL Poly - HNO3	HNO3	
01	266336	Yes	NA	Yes	500 mL Poly - HNO3	HNO3	
01	266337	Yes	NA	Yes	250 mL Poly - Unpres	NP	
01	266338	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
01	266339	Yes	NA	Yes	250 mL Poly - NaOH	NaOH	pH > 12 9/14/18 1445 RL
02	266320	Yes	NA	Yes	1L Poly - Unpres	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: Tg2 TB/DS

ESS Project ID: 1809361

Date Received: 9/14/2018

02	266321	Yes	NA	Yes	500 mL Poly - H2SO4	H2SO4
02	266322	Yes	NA	Yes	500 mL Poly - HNO3	HNO3
02	266323	Yes	NA	Yes	250 mL Poly - HNO3	HNO3
02	266324	Yes	NA	Yes	250 mL Poly - Unpres	NP

2nd Review

Are barcode labels on correct containers? (Yes / No)

Are all necessary stickers attached? (Yes / No)

Completed By: _____ Date & Time: 9/14/18 1456

Reviewed By: _____ Date & Time: 9/14/18 1505

Delivered By: _____ 9/14/18 1505

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1809361

Turn Time X STD Rush

Regulatory State

Is this project for any of the following?: ○CT RCP ○MA MCP ⊗RGP

Reporting Limits

Electonic Deliverables ☐Limit Checker ☐Standard Excel ☐Other (Please Specify →)

Company Name	Project #	Project Name	PO #
T&T		WEST BRIDGE RGP	
Contact Person	**Address**		
JASON SHERBURNE	231 ELM ST		
City	**State**	**Zip Code**	
BLACKSTONE	MA		
Telephone Number	**FAX Number**	**Email Address**	

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: CL, TRC, TSS	Cr+6	Cyanide	Ammonia	TPH 1664	Total Metals	1,4 Dioxane	EDB	SVOC 625 SIM	PCB 608	VOC 524	Ethanol	Hardness	Phenols	Metals 8 RCP (FK)
1	9/14	10:00	GW		MW-6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial — P

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 1

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other* — 1

Number of Containers per Sample:

Laboratory Use Only

Cooler Present: NA

Seals Intact: NA

Cooler Temperature: 4.6 °c/cp

Sampled by : JS

Comments: Please specify "Other" preservative and containers types in this space

RCP, WILL EMAIL DETECTION LIMIT)

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
9/14 1:30	9/14/18 1350		
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1809361

Turn Time: STD | Rush

Regulatory State

Reporting Limits

Is this project for any of the following?: ○ CT RCP ○ MA MCP ● RGP

Electonic Deliverables: ☐ Limit Checker ☐ Standard Excel ☐ Other (Please Specify →)

Company Name	Project #	Project Name
TSC		WEST DRIPPE RGP

Contact Person	Address
JASON SHERBURNE	231 ELM STREET

City	State	Zip Code	PO #
BLACKSTONE	MA		

Telephone Number	FAX Number	Email Address

Analysis:

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PP-13 + IRON	AMMONIA	CR +6	HARDNESS	SALINITY	PH
2	9/14	11:00		GW	RECEIVING WATER	X	X	X	X	X	X

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Ascorbic Acid 12-Other*

Number of Containers per Sample:

Laboratory Use Only

Cooler Present: X

Seals Intact: NA

Cooler Temperature: 4.6 °C Ice

Sampled by :

Comments: Please specify "Other" preservative and containers types in this space

RGP, WILL EMAIL DETECTION LIMITS

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
[signature] 1:30 9/14	[signature] 9/14/18 1350		

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

ATTACHMENT D

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: October 08, 2018
Consultation Code: 05E1NE00-2019-SLI-0050
Event Code: 05E1NE00-2019-E-00106
Project Name: Colbea Gasoline Station, 506 West Center Street, West Bridgewater

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: 05E1NE00-2019-SLI-0050

Event Code: 05E1NE00-2019-E-00106

Project Name: Colbea Gasoline Station, 506 West Center Street, West Bridgewater

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: NOI for a RGP for groundwater discharge necessary during site redevelopment construction activities. These activities include the raze and rebuild of the facility building, and removal and replacement of the existing USTs and associated piping, and dispenser islands.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.014905167104395N71.04040884773588W

Counties: Plymouth, 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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.

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Colbea Gasoline Station, 506 West Center Street, West Bridgewater

LOCATION

Plymouth County, Massachusetts

DESCRIPTION

NOI for a RGP for groundwater discharge necessary during site redevelopment construction activities. These activities include the raze and rebuild of the facility building, and removal and replacement of the existing USTs and associated piping, and dispenser islands.

Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

http://www.fws.gov/newengland

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

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

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds
  http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
King Rail Rallus elegans This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Nelson's Sparrow Ammodramus nelsoni This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Sep 5
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the

probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

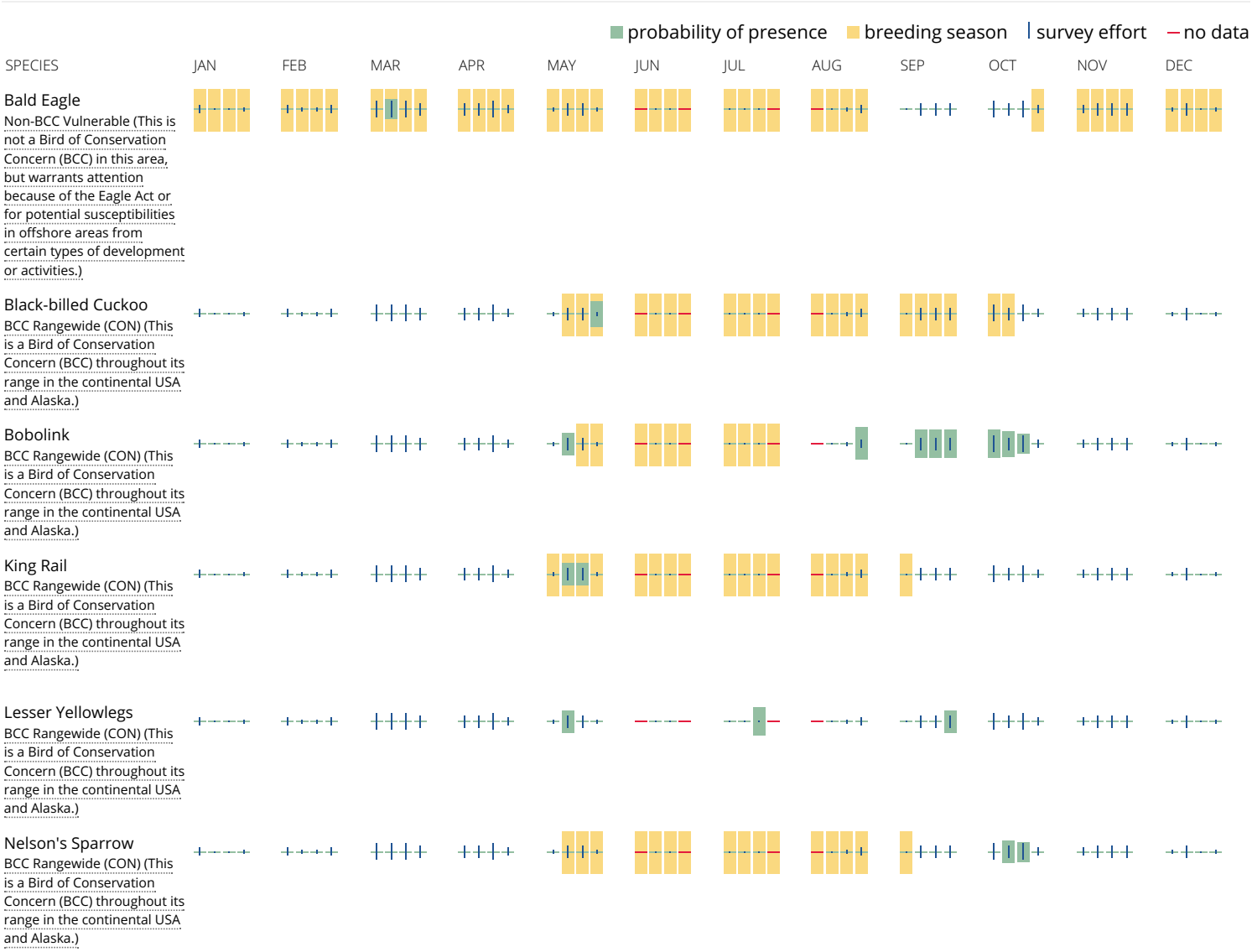
Breeding Season (▮)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

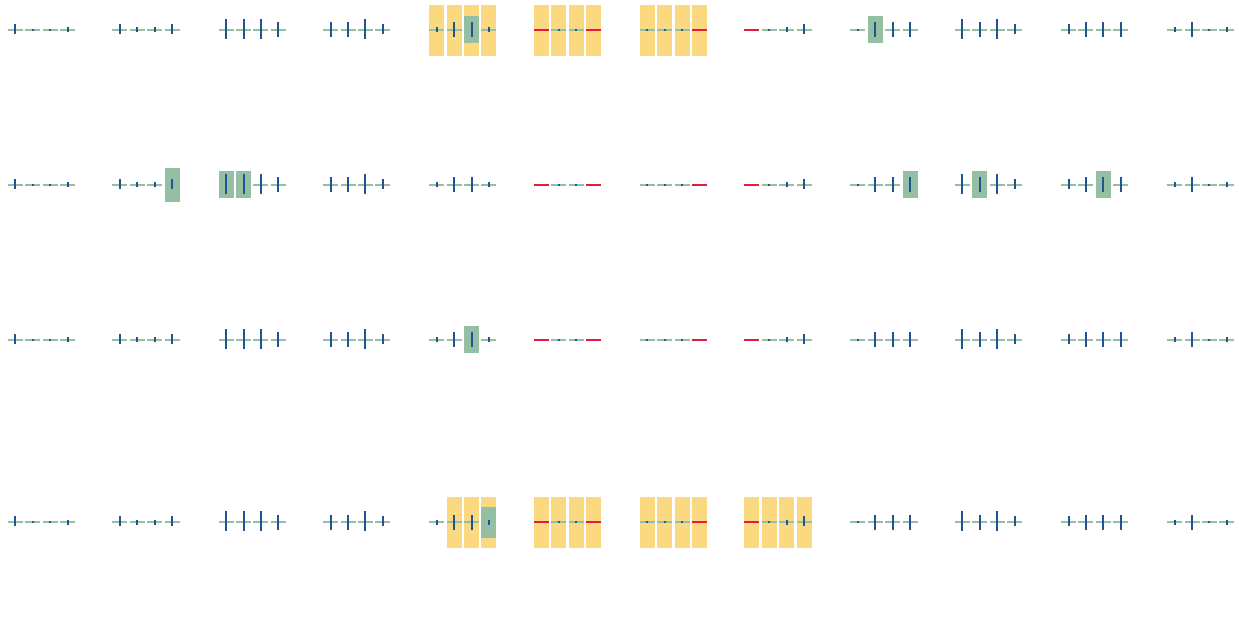
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

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

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

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

Data exclusions

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

Data precautions

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