RANSOM
Consulting, LLC

Consulting
Engineers
and Scientists

Via email: NPDES.Generalpermits@epa.gov

February 21, 2020 Project 061.01184.006

U.S. Environmental Protection Agency, Region I
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square - Suite 100 (OEP06-01)
Boston, Massachusetts 02109-3912
Attn: Shauna Little

RE: Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

Dear Ms. Little:

On behalf of the Ipswich Utilities Department (Ipswich), Ransom Consulting, LLC (Ransom) is submitting this revised Notice of Intent (NOI) to continue a sump discharge from the basement of the Ipswich Power Plant (Power Plant) located at 276 High Street in Ipswich, Massachusetts (the Site). An Authorization to Discharge under the Remediation General Permit (RGP) was last issued to the Site by the United States Environmental Protection Agency (U. S. EPA) on March 16, 2011.

BACKGROUND

In July 2017, Ipswich submitted an NOI to continue discharging in accordance with the newly promulgated 2017 RGP. Because the discharge from the Site flows to an Outstanding Resource Water (ORW), the Massachusetts Department of Environmental Protection (MassDEP) is required to perform an additional review in accordance with the *Antidegradation Provisions of the Massachusetts Surface Water Quality Standards (314 CMR 4.00)* and MassDEP policies. MassDEP must first authorize the discharge before it can be eligible for permitting by U.S. EPA.

On June 26, 2018, MassDEP requested additional information from Ipswich; Ipswich provided a response to MassDEP on July 26, 2018. At that time, Ipswich was underway with extensive repairs of the Dow Brook Reservoir dam. The dam was leaking into the on-site cooling pond (the initial discharge point for the sump discharge), such that seepage from the dam was estimated to account for 95 percent of the flow from the Site to the Egypt River (the ORW). Ipswich's hope was that the dam repairs would eliminate the discharge from the Site. MassDEP postponed their decision until the impacts of the dam repair on the

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60 Valley Street, Building F, Suite 106, Providence, Rhode Island 02909, Tel (401) 433-2160
2127 Hamilton Avenue, Hamilton, New Jersey 08619, Tel (609) 584-0090

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discharge from the Site could be assessed; authorization under the RGP has been on hold pending completion of the ORW review.

On January 21, 2020, MassDEP informed Ipswich that authorize the discharge to the ORW would be provided to U.S. EPA. At that time, MassDEP requested that Ipswich provide a definite action plan and schedule to bring the Site into compliance with the RGP with the understanding that future violations would be enforceable. A copy of MassDEP's Approval to Discharge to the ORW dated February 21, 2020 is provided as Attachment A.

Therefore, the purpose of this letter is to:

1. Supplement the completed NOI Form excerpted from Remediation General Permit (RGP) Appendix IV and included as Attachment B to this letter; and

2. Provide an action plan and a schedule to bring the Site into compliance with the RGP.

Ideally, Ipswich wished to eliminate infiltration into the basement and thereby eliminate the need for discharge under the RGP. Following the dam repairs, the average influent flow into the basement was reduced to 1,630 gallons per day (down from 2,250 gallons per day); however, seepage into the basement was not eliminated. On January 28, 2020, an engineer from Gale Associates, Inc. (Gale Associates) visited the Site to provide an opinion regarding the feasibility of waterproofing the basement. Given the existing conditions, Gale Associates indicated that such an effort would likely not eliminate all seepage into the building. As a result, Ipswich is limiting its current seepage reduction efforts to redirecting stormwater flow from the roof and the roadway away from the building foundation.

On January 17, 2020, Ransom contacted Evoqua Water Technologies (Evoqua) to request a treatment system design. On January 22, 2020, Evoqua was present at the Site to collect water samples for use in the design. The analytical results were provided to Ipswich on February 10, 2020, along with a conceptual design (Refer to the discussion below for NOI Section E).

IMPLEMENTATION SCHEDULE

The proposed implementation schedule is as follows:

Date	Milestone
March 16, 2020	Completion of Final Design from Evoqua
May 1, 2020	Completion of Ancillary System Design (OWS, oil alarm, pumps, piping, etc.)
July 3, 2020	Completion of Procurement; Section of Vendor
August 14, 2020	Installation of New Treatment System
August 28, 2020	Evaluation of Initial Sampling Result

COMMENTS ON NOTICE OF INTENT FORM

NOI Section A.5

The property was identified as a MassDEP "disposal site" in 2002 as a result of a release of diesel fuel to soil and groundwater. The primary contaminants were extractable petroleum hydrocarbons (EPH) and polycyclic aromatic hydrocarbons (PAHs); lesser concentrations of volatile petroleum hydrocarbons (VPH) and volatile organic compounds were also identified in soil and groundwater. A groundwater treatment system was installed in 2003. Soil excavation was completed in 2011. A Class A-3 Response Action Outcome Statement (now known as a Permanent Solution Statement with Conditions) was submitted to the MassDEP for this release (Release Tracking No. 3-21793) in June 2012. A Site Location Map and an aerial photograph are provided as Figures 1 and 2 (see Attachment C).

NOI Section B.1

As noted in Section B.1 of the NOI Form, the Site discharges to the Egypt River (an ORW) upstream from a National Heritage Endangered Species Program (NHESP) habitat and an Area of Critical Environmental Concern (ACEC). Refer to Figure 3 (see Attachment C). The MassDEP issued a Draft *Tentative Determination to Issue Antidegradation Authorization to Discharge to an Outstanding Resource Water* for public comment on October 9, 2019. The final authorization to discharge to this ORW is being provided to U.S. EPA by MassDEP under separate cover.

NOI Sections B.4 - B.6

Ransom determined the seven day-ten-year low flow (7Q10) of the receiving water to be 0.12 cubic feet per second (ft^3/s) using modeling provided via the online United States Geological Survey (USGS) StreamStats program referenced in RGP Appendix V (streamstatsags.cr.usgs.gov/streamstats). Measurements/observations of the flow in the Egypt River indicate that the portion of the river into which the Site discharges is no longer intermittent. However, in an email from Catherine Vakolopoulos of MassDEP dated February 5, 2020, MassDEP determined that a 1:1 dilution factor must be used at the Site.

NOI Section B.7

On January 17, 2020, an upstream sample was collected from the Egypt River ("Receiving Water") for analysis of pH, temperature, hardness, and ammonia. To provide current concentrations of metals in the receiving water, the sample was also analyzed for the total recoverable metals determined to be present in 2017 when the full list of inorganic parameters was last analyzed (i.e., antimony, arsenic, cadmium, copper, iron, lead, mercury, nickel, and zinc). A copy of the chemical analysis report (L2002469) from Alpha Analytical, Inc. (Alpha) of Westborough, Massachusetts is provided as Attachment D.

Temperature and pH of the surface water measured in the field using hand-held meters were 3.5° C and 7.2 S.U., respectively.

NOI Section C.1-C.2

The system treats groundwater that passively infiltrates into the basement of the Power Plant. A sample of the influent was collected on January 17, 2020 and analyzed for hardness; the analytical data is included in the laboratory chemical analysis report provided as Attachment D.

A summary of influent concentrations for arsenic, copper, iron, lead, zinc, chloride, and 1,1-dichloroethene (1,1-DCE) measured during the last 12 months of RGP sampling for the Power Plant is provided as Attachment E. On January 22, 2020, Evoqua was present at the Site to collect influent water samples for use in designing an ion exchange treatment system. Because of concerns that the existing separation tanks may be negatively impacting the water quality, influent samples were collected before and after the existing separation tanks. Summaries of the influent chemical analysis results for the samples collected by Evoqua are included as Attachment E.

The chemical analyses for halogenated and non-halogenated volatile and semi-volatile organic compounds, fuels parameters, ammonia, cyanide, and chlorine for a source water sample collected from the basement ("Influent") on June 6, 2017 were included in the 2017 NOI. Concentrations of Group II PAHs reported on the NOI were taken from the June 6, 2017 samples.

NOI Section D.1

The discharge consists of groundwater and stormwater collected by the sump system in the basement of the Power Plant. When the water level rises in the collection system, it is pumped intermittently in batches through the treatment vessels and discharged to the adjacent stormwater pond (a.k.a., the cooling pond). The pond routinely discharges through its overflow pipe to the Egypt River at the location shown on Figure 4 in Attachment C. Based on flow estimates obtained from Ipswich Power Plant personnel, the pond has discharged at an average rate of approximately 15 gallons per minute between September 2018 and January 2020. A discharge does not occur when the pond is being actively used to cool the generators, which is approximately 5 days per year.

NOI Section D.4

Analytical data from the previous 12 months of monitoring under the RGP for chloride, arsenic, copper, iron, lead, zinc, and 1,1-DCE were used to update the influent characteristics provided in Section D.4. The concentrations provided in the NOI for these parameters are the 95th Percentile provided by Shauna Little in an email dated January 21, 2020. The chemical analysis data for the remaining RGP monitoring parameters collected in May and June 2017 are unchanged from the 2017 NOI. A copy of the *MALimitsBook* Excel spreadsheet used to calculate the Water Quality Based Effluent Limits (WQBEL) is provided as Attachment F. An editable Excel file will be submitted to U.S. EPA along with this letter.

Based on the analytical results, ten metals, ammonia, chloride, and three Group II PAH were present in the influent sample. However, of these parameters, only arsenic, copper, iron, and lead were occasionally present in influent water above the WQBEL.

NOI Section E

The treatment system currently in place (i.e., liquifuge oil/water separator [OWS] and granular activated carbon [GAC] tanks) was designed to capture a potential release of petroleum inside the plant and to

address volatile organic compounds historically present in groundwater. The current system was not designed to treat metals. The existing system will be removed from service and replaced with an ion exchange system that will reduce the concentrations of metals to meet the discharge limits. The existing metal tanks providing oil separation will be removed and replaced with non-metallic tank(s) and equipped with an oleophilic sensor to detect the presence of petroleum in the OWS. If oil is detected, a kill switch will deactivate the discharge pump to prevent petroleum from being discharged to the ionization tanks and ultimately to the cooling pond. A schematic of the existing system in shown in Figure 4 (See Attachment C).

Ipswich is working with Evoqua to provide an appropriate treatment system. Based on historical influent concentrations and effluent limits calculated using no dilution factor, Evoqua anticipates using three 3.6 cubic foot ion exchange tanks in series. A copy of Evoqua's conceptual design is provided as Attachment G.

Based on the flow measurements collected from February 2019 through January 2020, the daily flow through the treatment system has ranged between approximately 300 and 6,400 gallons per day, with an average daily flow of 1,700 gallons. The proposed maximum flow will be limited by the inflow into the basement. For design purposes, we have assumed a maximum effluent flow of 9,000 gallons per day. Design of the pump is pending determination of the storage volume; however, we anticipate that flow through the system will be intermittent and will not exceed 5 gallons per minute.

NOI Section F

No chemicals or additives are applied to the effluent prior to discharge.

NOI Section G

On June 7, 2017, Ransom contacted the U.S. Fish and Wildlife Service (USFWS) requesting a determination on potential impacts to listed species in the area. On June 16, 2017, Mr. David Simmons responded that the project as described is unlikely to have any effect on the listed species. Correspondence related to the USFWS consultation is provided as Attachment G.

NOI Section H

Certification was provided regarding the absence of historic properties with the submittal of previous NOIs. Continuation of the existing discharge will not require construction activities that will disturb the ground or existing structures.

NOI Section J

Best management practices (BMPs) for spill control and equipment operation and maintenance are in use at the power plant. A certification statement relative to the use of BMPs is included as Attachment H.

Required MassDEP Forms

A copy of the Permit Transmittal Form (Number X275647) was provided with the 2017 NOI. The applicant is a municipality; therefore, no project fee applies.

U.S. Environmental Protection Agency, Region I
Office of Ecosystem Protection

If you have any questions regarding this NOI submittal, please feel free to contact us at (978) 465-1822.

Sincerely,

RANSOM CONSULTING, LLC

Nancy Marshall

Digitally signed by Nancy Marshall
Date: 2020.02.21 16:48:56 -05'00'

Nancy E. Marshall, P.E.
Project Manager

Timothy J. Snay, LSP
Principal, Vice President

NEM/TJS:cnt
Attachments

cc: Mr. Jon Blair, Ipswich Utilities
MassDEP RGP Coordinator

ATTACHMENT A

MassDEP Approval for
Discharge to Outstanding Resource Waters

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

MassDEP
Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

February 21, 2020

Jonathan Blair, Electric Light Manager
Town of Ipswich Power Company
272 High Street
Ipswich, MA 01938

RE: Remediation General Permit- MassDEP Approval for Discharge to Outstanding Resource Waters
Name of Site: Ipswich Power Plant, 276 High Street, Ipswich, Massachusetts
Name of Receiving Water(s) and Town: Egypt River, Ipswich, MA
MassDEP Transmittal No. X275647

Dear Mr. Blair,

The Massachusetts Department of Environmental Protection ("MassDEP") received a Remediation General Permit ("RGP") Notice of Intent ("NOI") on 7/7/17 prepared by Ransom Consulting, Inc. on behalf of Ipswich Municipal Light Department (IMLD) requesting discharge to Egypt River, which MassDEP classifies as an Outstanding Resource Water ("ORW") according to 314 CMR 4.06. The RGP for the Commonwealth of Massachusetts, jointly signed by EPA and MassDEP on 3/9/2017, states that discharge to ORWs are ineligible for coverage unless an Antidegradation Authorization is granted by MassDEP.

Based on the NOI, additional information provided in letters dated July 26, 2018 and February 12, 2020, and additional information provided in an e-mail dated July 19, 2019 (from Nancy E. Marshall, Ransom Consulting, Inc. on behalf of IMLD), MassDEP prepared the document, "Tentative Determination To Issue Antidegradation Authorization To Discharge To An Outstanding Resource Water," which was announced for public comment in the MEPA Environmental Monitor on 10/9/2019. The comment period extended from 10/9/2019 to 11/8/2019, in accordance with 314 CMR 4.00 and 314 CMR 2.06. Comments were accepted via U.S. mail or by e-mail to dep.talks@mass.gov. No comments or requests for a public hearing were received.

Therefore MassDEP finalized the Antidegradation Authorization in the attached document "Determination to Issue Antidegradation Authorization to Discharge to an Outstanding Resource Water".

Please include this final Antidegradation Authorization in the NOI that you submit to EPA in order to proceed with review of the authorization to discharge under the 2017 RGP.

If you have any questions or require any additional information, please contact Jennifer Wood at 617-654-6536 or jennifer.wood@mass.gov .

Sincerely,

Lealdon Langley, Director
Division of Watershed Management
Department of Environmental Protection

Cc: Nancy Marshall, Ransom Consulting, Inc. (via e-mail)
Jon Blair, Ipswich Utilities (via e-mail)
David Butler, MassDEP NERO (via e-mail)
Shauna Little, EPA Region 1 (via e-mail)

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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Secretary

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Commissioner

DETERMINATION TO ISSUE ANTIDEGRADATION AUTHORIZATION TO DISCHARGE TO AN OUTSTANDING RESOURCE WATER

NAME OF SITE	: Ipswich Power Plant, 276 High Street, Ipswich, MA
SITE OWNER	: Town of Ipswich Power Company
SITE OPERATOR (if different than owner)	: Ipswich Municipal Light Department (IMLD)
NPDES PERMIT NUMBER ASSIGNED BY EPA	: MAG910200
MASSDEP TRANSMITTAL NUMBER	: X275647
NAME OF RECEIVING WATER(S) AND TOWN	: Egypt River, Ipswich, MA
PERMIT AUTHORITY FOR DISCHARGE	: NPDES Remediation General Permit (RGP), effective April 8, 2017

The 2017 RGP was issued by both the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) on March 9, 2017, with an effective date of April 8, 2017. The RGP is available for sites located in Massachusetts and New Hampshire that discharge 1.0 million gallons per day or less as a result of remediation activities from eight general categories including collection structure dewatering/remediation.

As required by the RGP, a Notice of Intent (NOI) was submitted on July 7, 2017 by Ransom Consulting, Inc. on behalf of IMLD requesting discharge to the Egypt River, which MassDEP classifies as an Outstanding Resource Water (ORW). Section 1.3 of the 2017 RGP states that discharges to ORWs are ineligible for coverage unless an Antidegradation Authorization is granted by MassDEP, and therefore MassDEP was required to perform an additional review in accordance with the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards (314 CMR 4.04) and MassDEP policy,

"Implementation Procedures For the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00" ("the Policy") prior to Antidegradation Authorization of the discharge. Also, according to 314 CMR 4.04(5)(c), "Where an authorization Is at issue, the Department shall circulate a public notice in accordance with 314 CMR 2.06. Said notice shall state an authorization is under consideration by the Department, and indicate the Department's tentative determination. The applicant shall have the burden of justifying the authorization. Any authorization granted pursuant to 314 CMR 4.04 shall not extend beyond the expiration date of the permit."

Based on the NOI, additional information provided in letters dated July 26, 2018 and February 12, 2020, and additional information provided in an e-mail dated July 19, 2019 (from Nancy E. Marshall, Ransom Consulting, Inc. on behalf of IMLD), and pursuant to the authority granted by Chapter 21, Sections 26-53 of the Massachusetts General Laws, as amended, 314 CMR 2.00, and 314 CMR 4.00, MassDEP has determined to issue the following Antidegradation Authorization for Discharge to an ORW.

MassDEP's Antidegradation Authorization does not provide authorization to discharge. With the completion of Antidegradation Authorization, the EPA can proceed with EPA Authorization to discharge under the 2017 RGP.

Project Description

As described in the NOI, discharge originates from groundwater in the basement of the Ipswich Power Plant at 276 High Street ("the Site"), which passively collects in six basement sumps and is treated in two oil/water separators and two Granular Activated Carbon (GAC) vessels. The site operator is Ipswich Municipal Light Department (IMLD). Treatment was designed to reduce petroleum hydrocarbons and VOCs in the discharge. Following treatment, discharge is pumped to a manmade cooling pond used to cool the Power Plant engines when they operate (typically less than 10 days per year). The pond naturally overflows to the Egypt River through an emergency overflow pipe when the pond level exceeds the design capacity as a result of the treated sump pump discharge, precipitation, and high groundwater. The discharge from the treatment system is ongoing and long term and operated between December 2016 to June 2017 at approximately 1,860 gallons per day (gpd) with a range of approximately 550 to 8,900 gpd. The discharge volume from the cooling pond has not been measured. Coverage under the RGP was initially issued by EPA on April 13, 2006 for discharges associated with the treatment system.

The 2017 NOI is currently proposing the continued operation of the existing treatment system and associated discharge.

The NOI states the following:
"In May 2002, the Power Plant was identified as a Disposal Site under the Massachusetts Contingency Plan. During the initial site investigations, groundwater was discovered to have been impacted by oil and hazardous material (OHM). Therefore, beginning in May 2003, granular activated carbon (GAC) vessels were added."

"Remedial response actions addressed soil and groundwater contamination at the Site, and the release at the Disposal Site was "closed" in accordance with the MCP in June 2012. Since that time, the groundwater discharge has included low concentrations of some metals, but petroleum hydrocarbons and VOCs have not been present above laboratory detection limits."

"The treatment system currently in place (i.e., liquifuge oil/water separation and granular activated carbon tanks) are not designed to remove the metals that are present in the influent water. The Town of Ipswich is in discussions with vendors for design of a treatment system to reduce metals concentrations. Based on historical flow measurements, the daily flow through the treatment system has ranged between approximately 550 and 8,900 gallons per day, with the lower volume recorded in times of drought, and the higher volume recorded when there was a break in a nearby underground water line."

Project Site

From the cooling pond located at the Site, discharge flows into the Egypt River, which according to Massachusetts Surface Water Quality Standards 314 CMR 4.05 and 4.06 (MASWQS), is classified as an ORW.

Jurisdiction

The 2017 RGP authorization will include pollutant effluent limits based on submitted groundwater data and water quality criteria for freshwater in the MA SWQS, which reference USEPA's *National Water Quality Criteria: 2002*), and available dilution at the point of discharge. The 2017 NOI included a Dilution Factor of 1 for the point of discharge based on the intermittent nature of the Egypt River.

In the previous EPA authorization for this Site dated March 16, 2011 ("2011 EPA Authorization"), EPA allowed the Site to discharge according to the RGP issued on September 9, 2010 ("2010 RGP"). Since an NOI was submitted for the 2017 RGP, the Site continues to operate according to the requirements put forth in the 2011 EPA Authorization. The 2011 EPA Authorization included monthly effluent limitations or monitoring for organics, inorganics, metal, and other parameters. The 2011 EPA Authorization is located at the following web link:
https://www3.epa.gov/region1/npdes/remediation/noi/2011/TheIpswichMunicipalLightDept2011AuthorizationLetter.pdf.

MASWQS and the RGP state that discharges to ORWs in Massachusetts are ineligible for coverage unless an Antidegradation Authorization is granted by MassDEP. As described in the Request for Authorization letter dated July 26, 2018, Ransom Consulting, Inc. ("Ransom") on behalf of IMLD submitted letters dated July 26, 2018 and February 12, 2020, and additional information provided in an e-mail dated July 19, 2019 (from Nancy E. Marshall, Ransom Consulting, Inc. on behalf of IMLD), describing how the project would demonstrate compliance with the MASWQS requirements for Antidegradation Authorization listed in 314 CMR 4.04(5)(a)(2) through 4.04(5)(a)(4). The information below includes these paraphrased responses and additional relevant information added by MassDEP where necessary.

- Item 1, based on 314 CMR 4.04(5)(a)(2):
  Are there less environmentally damaging alternative sites for the discharge, sources of disposal, or methods to eliminate the discharge that are reasonably available or feasible?
  - Response: Municipal sewer lines are not available near the Site, so a direct sewer line connection is not available. IMLD considered hauling the discharge water to the municipal sewer plant; however, additional evaluation would be needed to assess the feasibility of this option because of existing treatment limits in place at the municipal treatment facility. This option was not given further consideration because it would only address a fraction of the discharge to the Egypt River from the Site (estimated at approximately 5 percent), since the majority of the discharge consists of the overflow of the cooling pond.

    In an assessment of site conditions, redirecting discharge from the cooling pond to the on-site subsurface sanitary disposal system or a subsurface infiltration basin were considered. The sanitary disposal (septic) system was designed with a limited capacity to service one rest room and a kitchenette used by IMLD workers. Massachusetts state regulations at 310 CMR 15.000 regulate the use of septic systems in state. According to 310 CMR 15.004(5), the Ipswich Power Plant sump pump discharge would be categorized according to the industrial category "Electric, Gas Services (Power Generation Gas Production Only), identified by following SIC Codes: 4911, 4925, 4931, or 4939. According to 310 CMR 15.004(6), "No person shall discharge or allow the discharge of wastes from the industry categories listed in 310 CMR 15.004(5) to any system regulated under 310 CMR 15.000." Therefore, discharge of the sump pump discharge to the septic system was not considered as an option. Regarding other subsurface infiltration areas, the cooling pond is located immediately adjacent to the parking lot to the west, High Street/Route 1A is 50 feet to the east of the building, and the Egypt River is approximately 30 feet south of the access road. Based on the limited land area, there are no practicable locations for the installation of a new infiltration structure. Therefore, on-site infiltration of the discharge was eliminated as a feasible alternative.

- Item 2, based on 314 CMR 4.04(5)(a)(3):
  To the maximum extent feasible, are the discharge and activity designed and conducted to minimize adverse impacts on water quality, including implementation of source reduction practices?
  - Response: In a review of analytical results after the treatment system from September 2015 through June 2018, the concentrations of copper and iron have exceeded their RGP effluent limits 25 and 33 times, respectively, out of the last 34 sampling events. Lead and zinc have exceeded their RGP effluent limits 5 and 15 times, respectively, out of the last 34 sampling events.

    The existing treatment system currently in place (i.e., liquifuge oil/water separator [OWS] and granular activated carbon [GAC] tanks) was designed to capture a potential release of petroleum inside the plant and to address volatile organic compounds historically present in groundwater.

The current system was not designed to treat metals. Item 4 below includes a description of how IMLD intends to remediate this situation.

- Item 3, based on 314 CMR 4.04(5)(a)(4):
  Will the discharge impair existing uses of the receiving water or result in a level of water quality less than the specified for the Class?
  - Response: The existing discharge is subject to discharge limits set by EPA as to not impair the existing uses of the receiving water. As stipulated by the EPA, the discharge water is sampled and analyzed monthly to ensure compliance. In a review of analytical results after the treatment system from September 2015 through June 2018, the concentrations of copper and iron have exceeded their RGP effluent limits. Item 4 below includes a description of how IMLD intends to remediate this situation.

- Item 4
  Since expiration of the previous RGP on September 9, 2015, did discharge from the facility meet the requirements of the 2010 RGP? If the facility has been in noncompliance, explain how the facility plans to return to compliance.
  - Response:

    The existing system will be removed from service and replaced with an ion exchange system that will reduce the concentrations of metals to meet the discharge limits. The existing metal tanks providing oil separation will be removed and replaced with non-metallic tank(s) and equipped with an oleophilic sensor to detect the presence of petroleum in the OWS. If oil is detected, a kill switch will deactivate the discharge pump to prevent petroleum from being discharged to the ionization tanks and ultimately to the cooling pond. A schematic of the existing system is shown in Attachment B, Figure 4 of the NOI.

    IMLD is working with Evoqua to provide an appropriate treatment system. Based on historical influent concentrations and effluent limits calculated using no dilution factor, Evoqua anticipates using three 3.6 cubic foot ion exchange tanks in series. A copy of Evoqua's conceptual design is provided as Attachment F of the NOI. Evoqua is in the process of developing a proposal for the recommended treatment system.

    Based on the flow measurements collected from February 2019 through January 2020, the daily flow through the treatment system has ranged between approximately 300 and 6,400 gallons per day, with an average daily flow of 1,631gallons. The proposed maximum flow will be limited by the inflow into the basement. For design purposes, Ransom has assumed a maximum effluent flow of 9,000 gallons per day. Design of the pump is pending determination of the storage volume; however, we anticipate that flow through the system will be intermittent and will not exceed 5 gallons per minute.

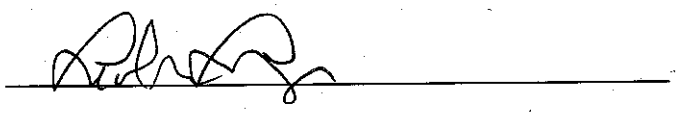
Ransom presented the following schedule for implementation of the new technology:

Date	Milestone
March 16, 2020	Completion of Final Design from Evoqua
May 1, 2020	Completion of Ancillary System Design (OWS, oil alarm, pumps, piping, etc.)
July 3, 2020	Completion of Procurement; Section of Vendor
August 14, 2020	Installation of New Treatment System
August 28, 2020	Evaluation of Initial Sampling Result

Conclusion

The above schedule for implementation of the new technology is enforceable. If a deviation from the proposed technology and/or the schedule is necessary, IMLD must submit a request to MassDEP and EPA for approval. Such a request must be timely in consideration of the schedule, with the expectation that any alternative must be proven to be an equivalent to the technology presented, and not include an excessive amount of time for approval.

The NOI and Request for Authorization have sufficiently defined the nature and general elements of the project for the purposes of MassDEP review and demonstrated that impact on the ORW will be minimized to the extent practicable. Based on review of the documents provided and comments received, MassDEP determined that the discharge meets the requirements for authorization listed in 314 CMR 4.04(5)(b) and 314 CMR 4.04(5)(a)2-4 and is proposing to authorize the discharge, subject to the terms and conditions of EPA's authorization to discharge under the RGP. Any future violations of the RGP are subject to enforcement by EPA or MassDEP.



2/21/2020

Lealdon Langley, Director
Division of Watershed Planning & Permitting

[Date]

ATTACHMENT B

Completed Appendix IV - NOI
Remediation General Permit

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

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:
Ipswich Power Plant</td><td colspan="3">Site address: : 276 High Street
Street:</td></tr>
<tr><td>City: : Ipswich</td><td>State: MA</td><td>Zip: 01938</td></tr>
<tr><td rowspan="4">2. Site owner
Town of Ipswich Power Company

Owner is (check one): ☐ Federal ☐ State/Tribal ☐ Private
■ Other; if so, specify: Municipality</td><td colspan="3">Contact Person: Jon Blair</td></tr>
<tr><td colspan="2">Telephone: 978-356-6635 x2113</td><td>Email: jblair@ipswichutilities.org</td></tr>
<tr><td colspan="3">Mailing address: 272 High Street
Street:</td></tr>
<tr><td>City: Ipswich</td><td>State: MA</td><td>Zip: 01938</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Ipswich Municipal Light Department</td><td colspan="3">Contact Person: Jon Blair</td></tr>
<tr><td colspan="2">Telephone: 978-356-6635 x2113</td><td>Email: jblair@ipswichutilities.org</td></tr>
<tr><td colspan="3">Mailing address:
Street: 272 High Street</td></tr>
<tr><td>City: Ipswich</td><td>State: MA</td><td>Zip: 01938</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
MAG910200

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):
3-21793
☐ 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):
Egypt River	MA91-13 9152925	B

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: National Heritage Endangered Species Program (NHESP) habitat; Great Marsh Area of Critical Environmental Concern

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. On 2014 List as Category 3; TMDL Count: 0

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.	0.12 ft^3/s
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 allowed

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: 2/5/2020

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	☐ Contaminated surface water	☐ The receiving water	☐ Potable water; if so, indicate municipality or origin:
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	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	☐ A surface water other than the receiving water; if so, indicate waterbody:	■ Other; if so, specify: Basement Sump

2. Source water contaminants: Arsenic, Copper, Iron, Lead	
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): Basement Sump Discharges to Cooling Pond; Cooling Pond overflows to the Egypt River	Outfall location(s): (Latitude, Longitude) Lat: 42 41' 54.79" Long: 70 52' 12.48"
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: Overflow from a storm water basin constructed for use as a cooling pond for the Power Plant; currently used for cooling water approximately 5 days/year. ☐ 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): February 2020 - indefinitely 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	4500NH3-	0.375 mg/l	0.437 mg/l	0.437 mg/l	Report mg/L	---
Chloride		✔	12	300.0	12,500	220,000	127,000	Report µg/l	---
Total Residual Chlorine	✔		1	4500CL-D	0.020 mg/l	< 0.02 mg/l	0	0.2 mg/L	11 ug/l
Total Suspended Solids		✔	1	2540D	5 mg/l	93 mg/l	93 mg/l	30 mg/L	---
Antimony		✔	1	200.8	0.42	0.43	0.43	206 µg/L	640 ug/;
Arsenic		✔	12	6010C	5	18.17	8.84	104 µg/L	10 ug/l
Cadmium		✔	1	200.8	0.05	0.16	0.16	10.2 µg/L	0.2845 ug/l
Chromium III	✔		1	200.8	10	0	0	323 µg/L	91.1 ug/l
Chromium VI	✔		1	7196A	3	0	0	323 µg/L	11.4ug/l
Copper		✔	12	6010C	10	48.18	22.69	242 µg/L	9.9 ug/l
Iron		✔	12	6010C	50	15,300	5860	5,000 µg/L	1,000 ug/l
Lead		✔	12	6010C	10	13.75	5.11	160 µg/L	3.47ug/l
Mercury		✔	1	245.1	0.06	0.08	0.08	0.739 µg/L	0.91ug/l
Nickel		✔	1	200.8	0.55	4.82	4.82	1,450 µg/L	55.2 ug/l
Selenium	✔		1	200.8	1.73	0	0	235.8 µg/L	5.0 ug/l
Silver	✔		1	200.8	0.26	0	0	35.1 µg/L	4.3 ug/l
Zinc		✔	12	6010C	50	84.91	38.77	420 µg/L	126.9ug/l
Cyanide		✔	1	4500CN-C	5	5	5	178 mg/L	178 ug/l
B. Non-Halogenated VOCs									
Total BTEX	✔		1	8260C	1.0	0	0	100 µg/L	---
Benzene	✔		1	8260C	0.50	0	0	5.0 µg/L	---
1,4 Dioxane	✔		1	8260C-SI	3.0	0	0	200 µg/L	---
Acetone	✔		1	8260C	5.0	0	0	7.97 mg/L	---
Phenol	✔		1	8260C	5.0	0	0	1,080 µg/L	300 ug/l

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		1	8260C	0.50	0	0	4.4 µg/L	1.6 ug/l
1,2 Dichlorobenzene	✔		1	8260C	2.5	0	0	600 µg/L	---
1,3 Dichlorobenzene	✔		1	8260C	2.5	0	0	320 µg/L	---
1,4 Dichlorobenzene	✔		1	8260C	2.5	0	0	5.0 µg/L	---
Total dichlorobenzene	✔		1	8260C	2.5	0	0	763 µg/L in NH	---
1,1 Dichloroethane	✔		1	8260C	0.75	0	0	70 µg/L	---
1,2 Dichloroethane	✔		1	8260C	0.50	0	0	5.0 µg/L	---
1,1 Dichloroethylene	✔		12	8260C	0.50	0	0	3.2 µg/L	---
Ethylene Dibromide	✔		1	504.1	0.010	0	0	0.05 µg/L	---
Methylene Chloride	✔		1	8260C	3.0	0	0	4.6 µg/L	---
1,1,1 Trichloroethane	✔		1	8260C	0.50	0	0	200 µg/L	---
1,1,2 Trichloroethane	✔		1	8260C	0.75	0	0	5.0 µg/L	---
Trichloroethylene	✔		1	8260C	0.50	0	0	5.0 µg/L	---
Tetrachloroethylene	✔		1	8260C	0.50	0	0	5.0 µg/L	3.3 ug/l
cis-1,2 Dichloroethylene	✔		1	8260C	0.50	0	0	70 µg/L	---
Vinyl Chloride	✔		1	8260C	1.0	0	0	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		1	8270D	5.0	0	0	190 µg/L	---
Diethylhexyl phthalate	✔		1	8270D	3.0	0	0	101 µg/L	2.2 ug/l
Total Group I PAHs	✔		1	8270D-SI	0.10	0	0	1.0 µg/L	---
Benzo(a)anthracene	✔		1	8270D-SI	0.10	0	0	As Total PAHs	0.0038 ug/l
Benzo(a)pyrene	✔		1	8270D-SI	0.10	0	0		0.0038 ug/l
Benzo(b)fluoranthene	✔		1	8270D-SI	0.10	0	0		0.0038 ug/l
Benzo(k)fluoranthene	✔		1	8270D-SI	0.10	0	0		0.0038 ug/l
Chrysene	✔		1	8270D-SI	0.10	0	0		0.0038 ug/l
Dibenzo(a,h)anthracene	✔		1	8270D-SI	0.10	0	0		0.0038 ug/l
Indeno(1,2,3-cd)pyrene	✔		1	8270D-SI	0.10	0	0		0.0038 ug/l

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs		✔	1	8270D-SI	0.10	0.43	0.43	100 µg/L	---
Naphthalene		✔	1	8270D-SI	0.10	0.16	0.16	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		1	608	0.250	0	0	0.000064 µg/L	---
Pentachlorophenol	✔		1	8260D-SI	0.80	0	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	1664A	4.0 mg/l	0	0	5.0 mg/L	---
Ethanol	✔		1	1671	2 mg/l	0	0	Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	8260C	1.0	0	0	70 µg/L	20 ug/l
tert-Butyl Alcohol	✔		1	8260C	10	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	8260C	2.0	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:									
Group II PAH:									
Acenaphthalene			1	8270D-SI	0.10	0.12	0.12		
Naphthalene			1	8270D-SI	0.10	0.16	0.16		
Fluorene			1	8270D-SI	0.10	0.15	0.15		
pH			12	field meter	NA	6.6- 7.9	7.3		
Hardness			1	200.7	0.660 mg/l	107 mg/l	107 mg/l		

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:

Oil/Water Separator

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

The current system has an oil/water separator (OWS) and GAC tanks. The OWS will be replaced with a non-metallic OWS equipped with an oil alarm and kill switch for the discharge pump. The existing GAC tanks will be removed and replaced with three 3.6 cf ion exchange tanks. The pump is expected to operate intermittently with a maximum flow rate of 5 gallons per minute. Storage volume is to be determined with the final design.

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: ion exchange

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: The seepage volume provides the upper limit of flow volume from the Site. The maximum design flow is 9,000 gal/ day. Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm.	
Provide the average effluent flow in gpm.	5
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	NA

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

F. Chemical and additive information

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

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

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.

See Letter of Transmittal.

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

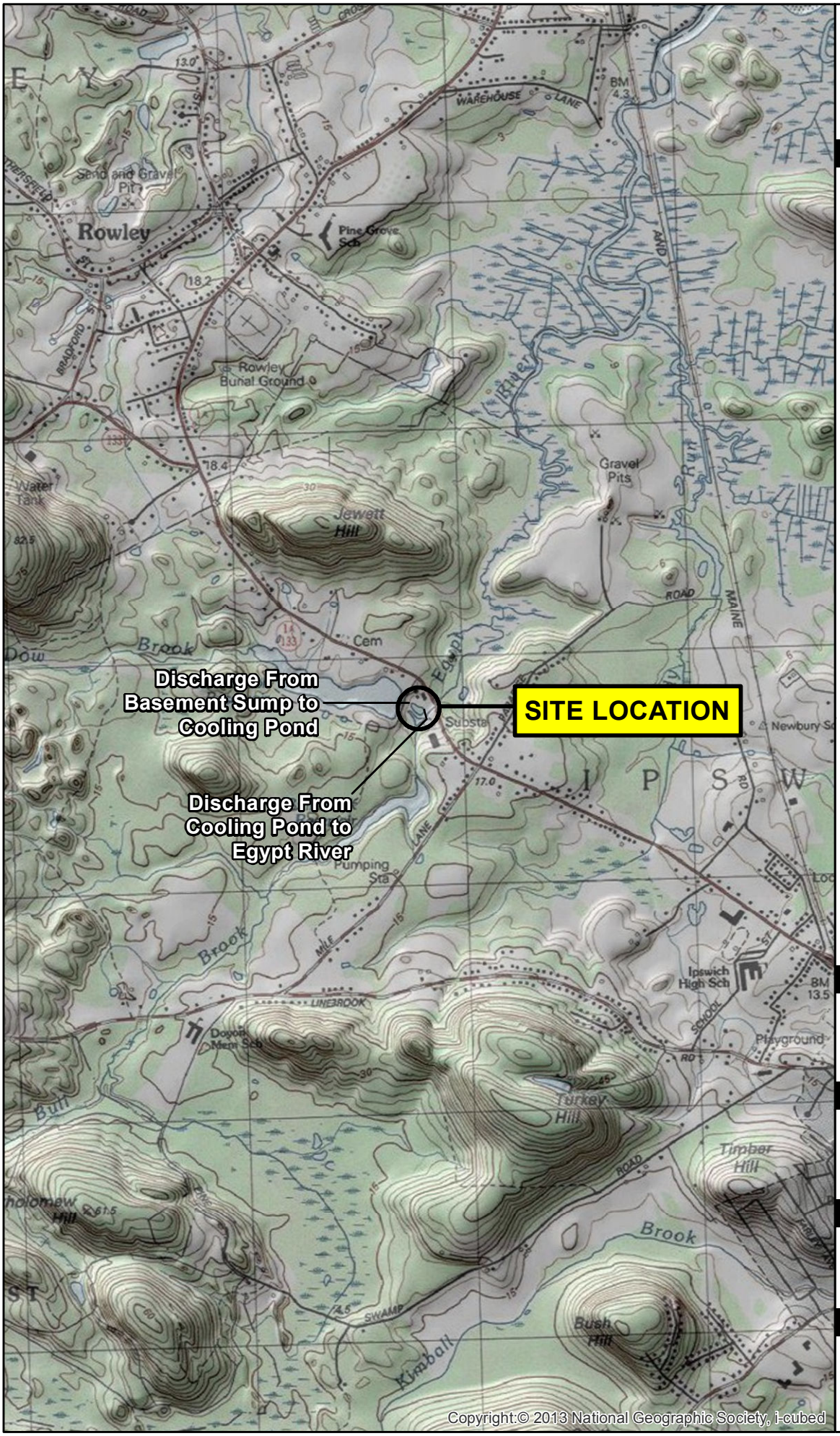
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage 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: See Attached.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ☐ No ☐ NA ■
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ☐ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■
Signature:	Date: February 12, 2020
Print Name and Title: Jonathan Blair, Electric Manager	

ATTACHMENT C

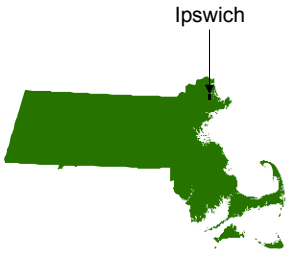
Figures

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000



RANSOM
Consulting Engineers and Scientists

Regional Locator Map



Notes

1. Data Source: USGS National Map Seamless Server, 24K DRG, 1/3" NED
2. USGS Quad Name: Ipswich
3. Latitude: 42° 41' 55" N
   Longitude: 70° 52' 12" W
   UTM Northing: 4728819 mN
   UTM Easting: 346831 mE

Scale and Orientation

0 1,000 2,000

Prepared For

Ipswich Municipal Light Department
272 High Street
Ipswich, Massachusetts

Site Address

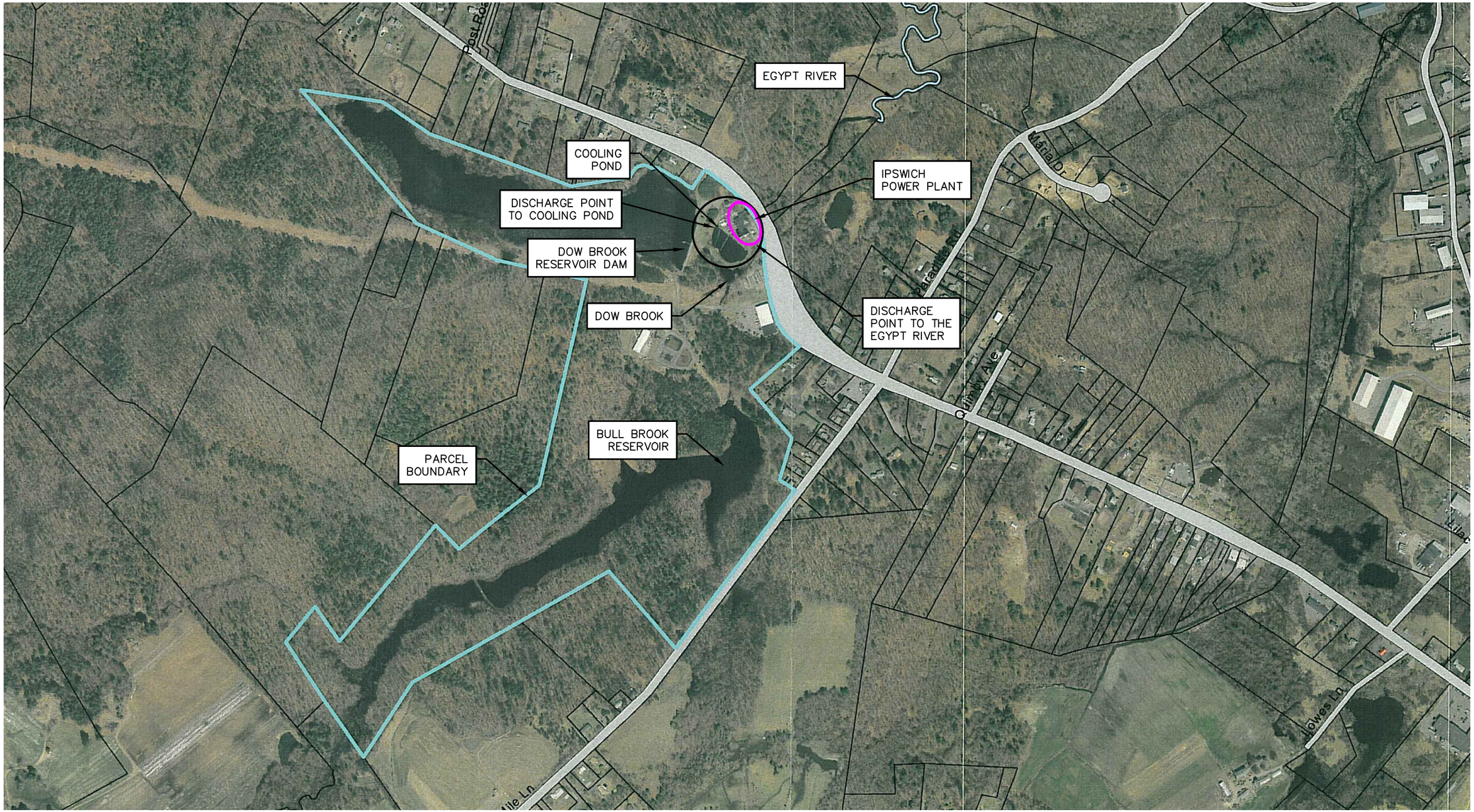
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

061.01184 | July 2017

Figure 1

Site Location Map

G:\Data\MA\Project\061_01184\Maps\Figure_1.mxd



NOTE:

1. SITE PLAN BASED ON MAPPING PROVIDED BY IPSWICH MUNICIPAL LIGHT DEPARTMENT.

0 300 600 1200

SCALE in FEET

RANSOM Consulting, Inc.

PREPARED FOR:
IPSWICH MUNICIPAL LIGHT DEPARTMENT
272 HIGH STREET
IPSWICH, MASSACHUSETTS

SITE:
IPSWICH POWER PLANT
276 HIGH STREET
IPSWICH, MASSACHUSETTS

SITE AREA PLAN

DATE: JULY 2017
PROJECT: 061.01184
FIGURE: 2

\\maserver\projects\2006\061184\RA0\061184-SITE AREA-2017.dwg Jul 07, 2017 - 10:12am

MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
IPSWICH POWER PLANT
276 HIGH STREET IPSWICH, MA
NAD83 UTM Meters:
5266124mN , -7889159mE (Zone: 18)
July 6, 2017

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection

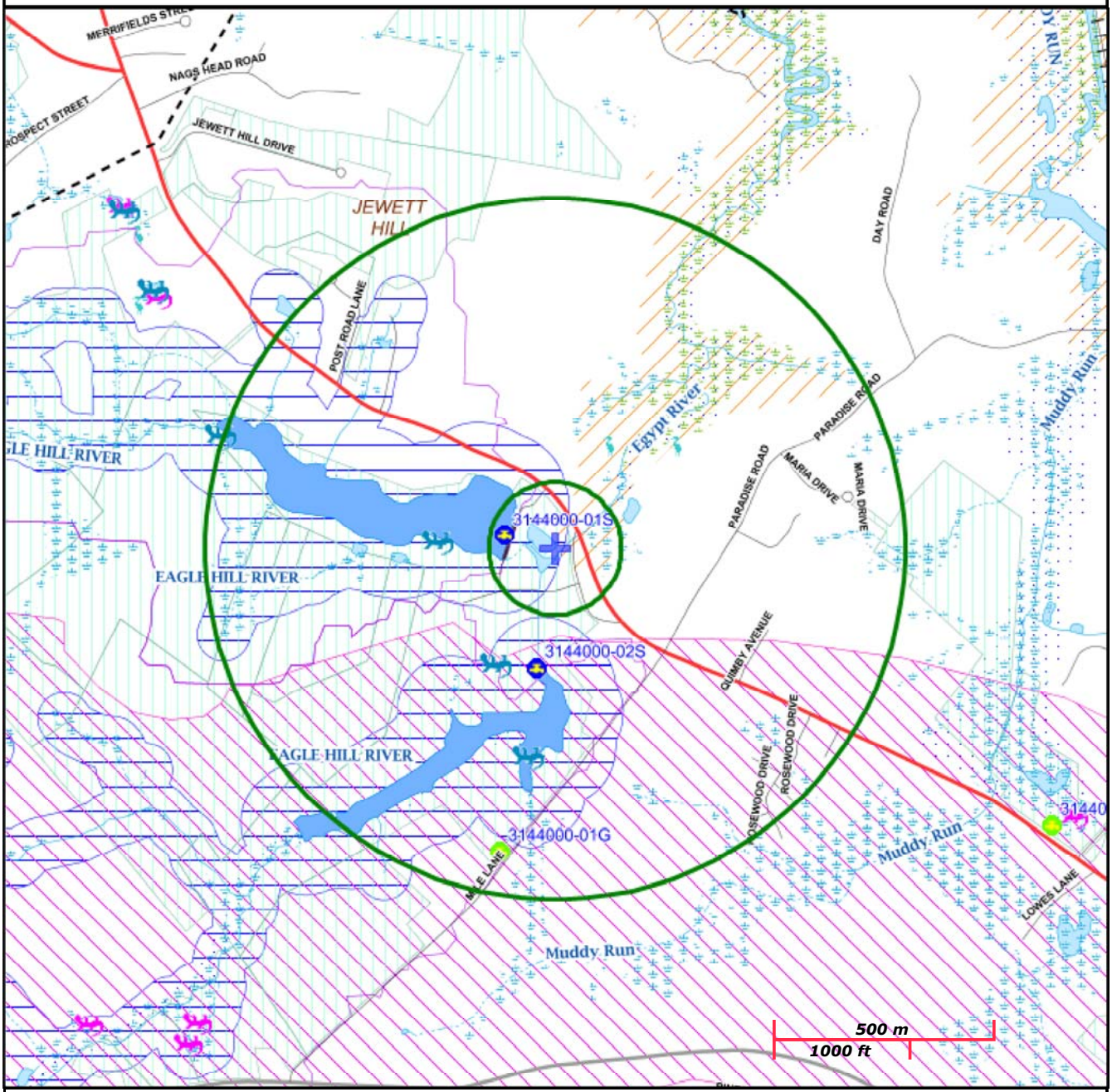
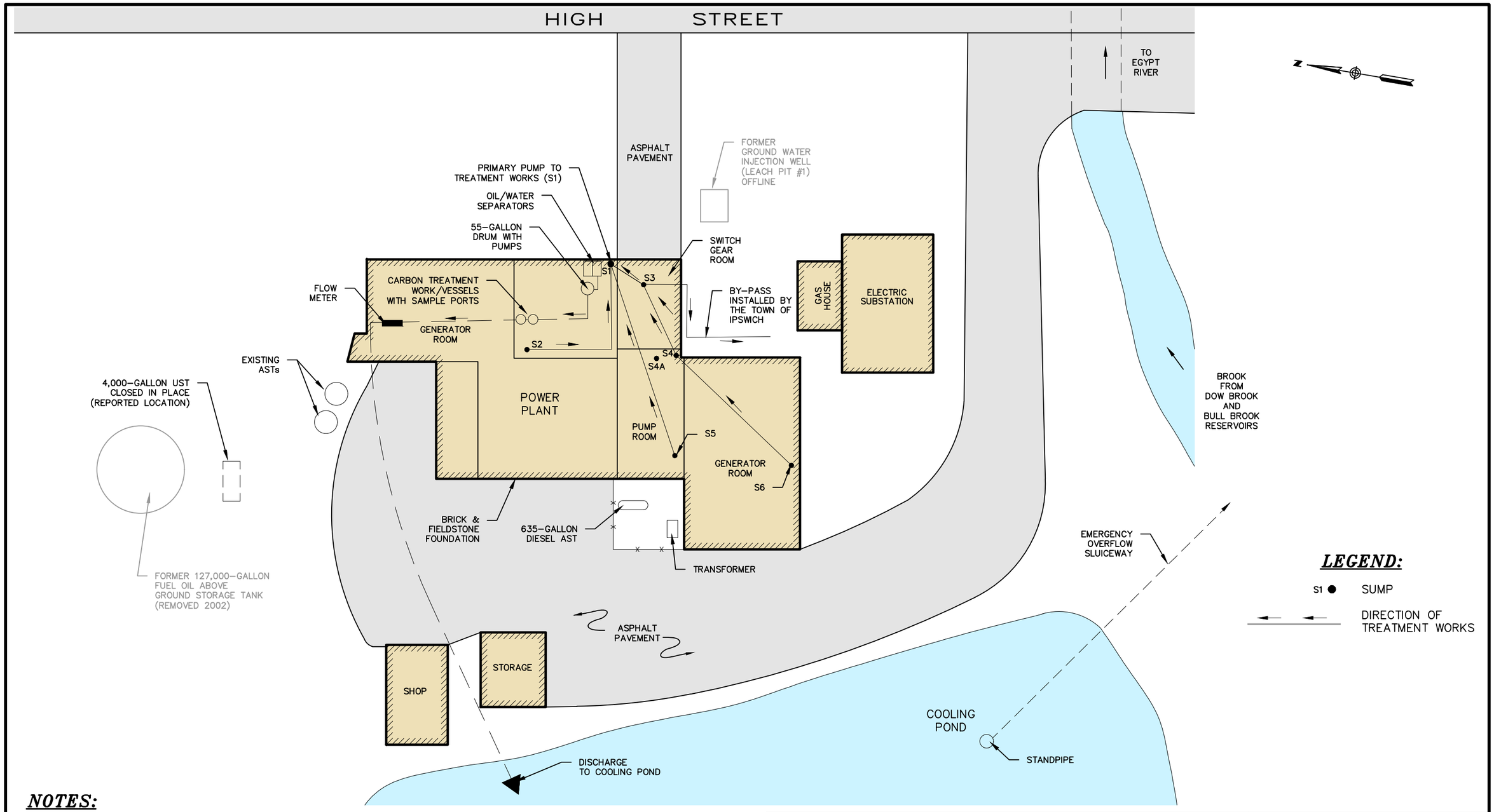


Figure 3: Sensitive Resources



LEGEND:

S1 ● SUMP

DIRECTION OF TREATMENT WORKS

NOTES:

1. SITE PLAN BASED ON MEASUREMENTS AND OBSERVATIONS MADE BY RANSOM ENVIRONMENTAL CONSULTANTS, INC.
2. COLLECTION TRENCHES IN THE FLOOR LEAD TO IDENTIFIED SUMPS, WHICH PUMP TO THE TREATMENT SYSTEM.
3. SOME FEATURES ARE APPROXIMATE IN LOCATION AND SCALE.

0 15 30 60

SCALE in FEET

RANSOM Environmental Consultants, Inc.

PREPARED FOR:
IPSWICH MUNICIPAL LIGHT DEPARTMENT
272 HIGH STREET
IPSWICH, MASSACHUSETTS

SITE:
IPSWICH POWER PLANT
276 HIGH STREET
IPSWICH, MASSACHUSETTS

GROUNDWATER COLLECTION AND TREATMENT SYSTEM

DATE: JULY 2017
PROJECT: 061.01184.002
FIGURE: 4

\\maserver\projects\2006\061184\BG 002 Treatment System\2010 RGP NOI\061.01184-002.dwg Jul 07, 2017 - 10:22am

ATTACHMENT D

Chemical Analysis Results
Receiving Water and Influent Hardness
(Analytical Report No. L2002469)

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

ANALYTICAL REPORT

Lab Number:	L2002469
Client:	Ransom Consulting, Inc. 12 Kent Way Suite 100 Byfield, MA 01922-1221
ATTN:	Nancy Marshall
Phone:	(978) 465-1822
Project Name:	IPSWICH POWER PLANT
Project Number:	061.01184
Report Date:	01/23/20

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: IPSWICH POWER PLANT
Project Number: 061.01184

Lab Number: L2002469
Report Date: 01/23/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2002469-01	INFLUENT-W1-011720	WATER	IPSWICH, MA	01/17/20 09:00	01/17/20
L2002469-02	UPSTREAM-W1-011720	WATER	IPSWICH, MA	01/17/20 09:10	01/17/20

Project Name:	IPSWICH POWER PLANT	**Lab Number:**	L2002469
Project Number:	061.01184	**Report Date:**	01/23/20

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

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

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 01/23/20

METALS

Project Name: IPSWICH POWER PLANT
Lab Number: L2002469
Project Number: 061.01184
Report Date: 01/23/20

SAMPLE RESULTS

Lab ID: L2002469-01
Client ID: INFLUENT-W1-011720
Sample Location: IPSWICH, MA
Date Collected: 01/17/20 09:00
Date Received: 01/17/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	107		mg/l	0.660	NA	1	01/18/20 04:38	01/20/20 18:09	EPA 3005A	19,200.7	LC

Project Name: IPSWICH POWER PLANT
Lab Number: L2002469
Project Number: 061.01184
Report Date: 01/23/20

SAMPLE RESULTS

Lab ID: L2002469-02
Client ID: UPSTREAM-W1-011720
Sample Location: IPSWICH, MA
Date Collected: 01/17/20 09:10
Date Received: 01/17/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	01/18/20 04:38	01/20/20 19:47	EPA 3005A	3,200.8	MG
Arsenic, Total	ND		mg/l	0.00100	--	1	01/18/20 04:38	01/20/20 19:47	EPA 3005A	3,200.8	MG
Cadmium, Total	ND		mg/l	0.00020	--	1	01/18/20 04:38	01/20/20 19:47	EPA 3005A	3,200.8	MG
Copper, Total	ND		mg/l	0.00100	--	1	01/18/20 04:38	01/20/20 19:47	EPA 3005A	3,200.8	MG
Iron, Total	0.270		mg/l	0.050	--	1	01/18/20 04:38	01/20/20 18:13	EPA 3005A	19,200.7	LC
Lead, Total	ND		mg/l	0.00100	--	1	01/18/20 04:38	01/20/20 19:47	EPA 3005A	3,200.8	MG
Mercury, Total	ND		mg/l	0.00020	--	1	01/20/20 12:07	01/21/20 11:22	EPA 245.1	3,245.1	GD
Nickel, Total	ND		mg/l	0.00200	--	1	01/18/20 04:38	01/20/20 19:47	EPA 3005A	3,200.8	MG
Zinc, Total	ND		mg/l	0.01000	--	1	01/18/20 04:38	01/20/20 19:47	EPA 3005A	3,200.8	MG
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	40.2		mg/l	0.660	NA	1	01/18/20 04:38	01/20/20 18:13	EPA 3005A	19,200.7	LC

Project Name: IPSWICH POWER PLANT **Lab Number:** L2002469

Project Number: 061.01184 **Report Date:** 01/23/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1331499-1										
Iron, Total	ND		mg/l	0.050	--	1	01/18/20 04:38	01/20/20 17:08	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01-02 Batch: WG1331499-1										
Hardness	ND		mg/l	0.660	NA	1	01/18/20 04:38	01/20/20 17:08	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1331500-1										
Antimony, Total	ND		mg/l	0.00400	--	1	01/18/20 04:38	01/20/20 16:00	3,200.8	AM
Arsenic, Total	ND		mg/l	0.00100	--	1	01/18/20 04:38	01/20/20 16:00	3,200.8	AM
Cadmium, Total	ND		mg/l	0.00020	--	1	01/18/20 04:38	01/20/20 16:00	3,200.8	AM
Copper, Total	ND		mg/l	0.00100	--	1	01/18/20 04:38	01/20/20 16:00	3,200.8	AM
Lead, Total	ND		mg/l	0.00100	--	1	01/18/20 04:38	01/20/20 16:00	3,200.8	AM
Nickel, Total	ND		mg/l	0.00200	--	1	01/18/20 04:38	01/20/20 16:00	3,200.8	AM
Zinc, Total	ND		mg/l	0.01000	--	1	01/18/20 04:38	01/20/20 16:00	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Project Name: IPSWICH POWER PLANT
Project Number: 061.01184
Lab Number: L2002469
Report Date: 01/23/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 02 Batch: WG1331893-1										
Mercury, Total	ND		mg/l	0.00020	--	1	01/20/20 12:07	01/21/20 10:44	3,245.1	GD

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: IPSWICH POWER PLANT

Project Number: 061.01184

Lab Number: L2002469

Report Date: 01/23/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1331499-2								
Iron, Total	104		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01-02 Batch: WG1331499-2								
Hardness	101		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1331500-2								
Antimony, Total	90		-		85-115	-		
Arsenic, Total	105		-		85-115	-		
Cadmium, Total	105		-		85-115	-		
Copper, Total	96		-		85-115	-		
Lead, Total	105		-		85-115	-		
Nickel, Total	100		-		85-115	-		
Zinc, Total	109		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1331893-2								
Mercury, Total	94		-		85-115	-		

INORGANICS
&
MISCELLANEOUS

Project Name: IPSWICH POWER PLANT
Project Number: 061.01184
Lab Number: L2002469
Report Date: 01/23/20

SAMPLE RESULTS

Lab ID: L2002469-02
Client ID: UPSTREAM-W1-011720
Sample Location: IPSWICH, MA
Sample Depth:
Matrix: Water
Date Collected: 01/17/20 09:10
Date Received: 01/17/20
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	01/19/20 18:38	01/20/20 20:40	121,4500NH3-BH	AT

Project Name: IPSWICH POWER PLANT
Project Number: 061.01184
Lab Number: L2002469
Report Date: 01/23/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 02 Batch: WG1331708-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	01/19/20 18:38	01/20/20 20:25	121,4500NH3-BH	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: IPSWICH POWER PLANT

Project Number: 061.01184

Lab Number: L2002469

Report Date: 01/23/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02 Batch: WG1331708-2								
Nitrogen, Ammonia	88		-		80-120	-		20

Project Name: IPSWICH POWER PLANT
Project Number: 061.01184

Lab Number: L2002469
Report Date: 01/23/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2002469-01A	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		HARDU(180)
L2002469-02A	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),HARDU(180),FE-UI(180),CU-2008T(180),HG-U(28),AS-2008T(180),SB-2008T(180),PB-2008T(180)
L2002469-02B	Plastic 500ml H2SO4 preserved	A	<2	<2	2.0	Y	Absent		NH3-4500(28)

*Values in parentheses indicate holding time in days

Project Name:	IPSWICH POWER PLANT	**Lab Number:**	L2002469
Project Number:	061.01184	**Report Date:**	01/23/20

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	IPSWICH POWER PLANT	**Lab Number:**	L2002469
Project Number:	061.01184	**Report Date:**	01/23/20

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less

Report Format: Data Usability Report

Project Name:	IPSWICH POWER PLANT	**Lab Number:**	L2002469
Project Number:	061.01184	**Report Date:**	01/23/20

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

REFERENCES

3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 1/17/20

ALPHA Job #: L2002469

Client Information

Client: Ransom Consulting, Inc

Address: 12 Kent Way, Suite 100, Byfield, MA 01922

Phone: 978-465-1822

Email: nmarshall@ransomenv.com

Additional Project Information:

Project Information

Project Name: Ipswich Power Plant

Project Location: Ipswich, MA

Project #: 061.01184

Project Manager: Nancy Marshall

ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Report Information - Data Deliverables

☑ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #: 12245

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods

☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

☑ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)

☑ Yes ☐ No NPDES RGP

☐ Other State /Fed Program ____ Criteria ____

ANALYSIS

Columns: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 ☐ PP13; METALS: ☐ RCRA5 ☐ RCRA8; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; Hardness, Ammonia, Total Antimony; Total Arsenic, Total Cadmium; Total copper, Total iron, Total lead; Total mercury, Total nickel; Total Zinc; Hardness

SAMPLE INFO — Filtration: ☐ Field ☐ Lab to do; Preservation: ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Hardness, Ammonia, Total Antimony	Total Arsenic, Total Cadmium	Total copper, Total iron, Total lead	Total mercury, Total nickel	Total Zinc	Hardness	Sample Comments	Total # Bottles
02469-01	Influent-WI-011720	1/17/2020	9:00	I	CRW						✓		1
	Upstream-WI-011720	1/17/2020	9:10	SW	CRW	✓	✓	✓	✓	✓			2

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

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

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
Chris Williams	1/17/2020 12:10	[signature] AAL	1-17-20 12:10
[signature] AAL	1/17/20 16:45	[signature]	1/17/20 16:45

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

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

ATTACHMENT E

Summary of Influent Chemical Analysis Results

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

Ransom Consulting, LLC
Project 061.01184.006

Table 1: **Monthly Influent Sampling Results - February 2019-January 2020**
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
RGP Authorization MAG910200

RGP Required Sampling Parameters:	Total Metals					Non-Organics and Misc.		
	Arsenic	Copper	Iron	Lead	Zinc	Chloride	pH	Flow
Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(S.U.)	(gpd)
Feb 2019	6.08	34.07	4030	2.64	37.94	138	7.9	1,492
Mar 2019	9.31	25.12	7330	5.00	46.25	130	7.1	1,942
Apr 2019	5.75	19.5	4230	5.65	55.66	114	6.9	1,852
May 2019	18.17	48.18	15300	12.95	84.91	152	7.3	2,366
Jun 2019	5.15	10.94	3210	1.88	19.68	117	7.0	1,483
Jul 2019	7.18	22.07	4400	2.27	37.82	129	7.5	1,404
Aug 2019	8.63	4.19	4530	BRL (1)	23.2	124	6.6	1,172
Sep 2019	10.82	26.89	5740	13.75	30.37	118	7.3	1,202
Oct 2019	9.35	13.37	5220	3.43	28.22	124	7.5	967
Nov 2019	8.39	22.2	5620	3.63	31.3	118	7.4	1,450
Dec 2019	10.16	32.27	5410	2.70	44.6	120	7.5	2,026
Jan 2020	7.12	13.51	5300	2.29	25.33	141	7.1	2,221
Average:	**8.84**	**22.69**	**5860**	**5.11**	**38.77**	**127**	**7.3**	**1631**
95th Percentile	**14.6**	**55.9**	**10,223**	**12**	**69.9**	**--**	**--**	**--**
1/22/2020- Samples from Evoqua								
Pre-Separator	8	2	4,009	BRL	5	--	6.18	--
Post-Separator	4	9	1,560	BRL	10	--	6.98	--

Notes:
1. Samples were collected by Ransom Consulting, LLC and analyzed by Alpha Analytical, Inc. of Westborough, Massachusetts.
2. µg/L = micrograms per liter; mg/L = milligrams per liter; S.U. = Specific Units; gpd = gallons per day
3. BRL ( ) = below reporting limit indicated in parentheses.
4. Flow is based on daily readings of a flow meter recorded by Ipswich personnel.
5. 95th Percentile was provided by Shauna Little of the U.S. EPA in an email dated January 21, 2020 based on the data provided above.
6. On January 22, 2020, Evoqua collected influent samples for use in the treatment system design.

Evoqua Water Technologies LLC
2430 Rose Place
Roseville, Minnesota 55113
Telephone: (651) 638-1300
Facsimile: (651) 633-5074

ION EXCHANGE ANALYTICAL REPORT

CLIENT NAME: **Ipswich Power Plant (Ipswich, MA)**
SAMPLE DESCRIPTION: **Groundwater: Post-Oil / Water Separator**
ANALYSIS DATE: **January 28, 2020**

Cations	Total mg/L ion	Dissolved mg/L ion
Aluminum (Al^{+3})	BDL	BDL
Barium (Ba^{+2})	BDL	BDL
Beryllium (Be^{+2})	BDL	BDL
Cadmium (Cd^{+2})	BDL	BDL
Calcium (Ca^{+2})	43.4	43.4
Chromium (Cr^{Total})	BDL	BDL
Cobalt (Co^{+2})	BDL	BDL
Copper (Cu^{+2})	0.009	0.007
Iron (Fe^{+3})	1.56	0.12
Lead (Pb^{+2})	BDL	BDL
Magnesium (Mg^{+2})	7.64	7.64
Manganese (Mn^{+2})	1.78	1.78
Nickel (Ni^{+2})	BDL	BDL
Potassium (K^{+1})	4.16	4.16
Silver (Ag^{+1})	BDL	BDL
Sodium (Na^{+1})	96.8	96.8
Thallium (Tl^{+2})	BDL	BDL
Titanium (Ti^{+2})	BDL	BDL
Tin (Sn^{+2})	BDL	BDL
Zinc (Zn^{+2})	0.010	0.003
Arsenic (As)	0.004	0.002
Antimony (Sb)	BDL	BDL
Molybdenum (Mo)	BDL	BDL
Selenium (Se)	BDL	BDL
Silicon (Si)	8.65	8.65
Vanadium (V)	BDL	BDL
Free Mineral Acidity	NA	mg/L $CaCO_3$
Total Acidity	NA	mg/L $CaCO_3$
Free Carbon Dioxide (CO_2)	NA	mg/L $CaCO_3$

Anions	mg/L ion	
Bicarbonate (HCO_3^{-1})	NA	
Carbonate (CO_3^{-2})	NA	
Chloride (Cl^{-1})	160	
Chromium (Cr^{+6})	BDL	
Fluoride (F^{-1})	BDL	
Hydroxide (OH^{-1})	NA	
Nitrate (NO_3^{-1})	BDL	
Phosphate (PO_4^{-3})	BDL	
Sulfate (SO_4^{-2})	BDL	
Other Parameters		
pH	6.98	electrometric
Conductivity	738	µS/cm
TOC	10	mg/L
Total Mercury (Hg^{+2})	BDL	µg/L
Dissolved Mercury	BDL	µg/L
TSS	13	mg/L
Color	Tan	visual
Cyanide (CN)	NEG	Spot
Ferricyanide ($Fe[CN]_6$)	NEG	Spot
Odor	Slight	

1) Discharge Limits: As < 74ppb, Cu < 26ppb.
2) Batch Volume: 1,700 gallons daily.
3) Treatment Results:

Bench Test	B / S (bv)	Influent pH	Prefilter µm	Cu (ppm)		Zn (ppm)	
				Total	0.45µm	Total	0.45µm
SCU	20	Amb	5	<0.001	NA	<0.001	NA

4) Metals of interest below discharge limits.
5) SCU tanks should be changed at 6 month intervals to accommodate minimum annual changes.

NOTES:
BDL = Below Detection Limit
NA = Not Analyzed
POS = Positive Spot
NEG = Negative Spot

January 28, 2020
Justin Tomlinson
Evoqua Water Technologies LLC
Roseville, Minnesota

ATTACHMENT F

MALimitsBook

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

Enter number values in green boxes below

Enter values in the units specified

↓

0	Q_R = Enter upstream flow in **MGD**
0.0072	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Enter a dilution factor, if other than zero

↓

0

Enter values in the units specified

↓

107	C_d = Enter influent hardness in **mg/L** $CaCO_3$
40.2	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

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

↓

7.2	pH in **Standard Units**
3.5	Temperature in **°C**
0	Ammonia in **mg/L**
40.2	Hardness in **mg/L** $CaCO_3$
0	Salinity in **ppt**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
0	Copper in **µg/L**
270	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
0	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
0.437	Ammonia in **mg/L**
0.43	Antimony in **µg/L**
14.6	Arsenic in **µg/L**
0.16	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
55.9	Copper in **µg/L**
10223	Iron in **µg/L**
12	Lead in **µg/L**
0.08	Mercury in **µg/L**
4.82	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
69.9	Zinc in **µg/L**
5	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

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	0.2845	µg/L		
Chromium III	**323**	µg/L	91.1	µg/L		
Chromium VI	**323**	µg/L	11.4	µg/L		
Copper	242	µg/L	**9.9**	µg/L		
Iron	5000	µg/L	**1000**	µg/L		
Lead	160	µg/L	**3.47**	µg/L		
Mercury	**0.739**	µg/L	0.91	µg/L		
Nickel	**1450**	µg/L	55.2	µg/L		
Selenium	**235.8**	µg/L	5.0	µg/L		
Silver	**35.1**	µg/L	4.3	µg/L		
Zinc	**420**	µg/L	126.9	µg/L		
Cyanide	**178**	mg/L	5.2	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	1.6	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			

1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3.3	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			
D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.2	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						

Total Petroleum Hydrocarbons	**5.0**	mg/L	---	
Ethanol	**Report**	mg/L	---	
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L
tert-Butyl Alcohol	**120**	µg/L	---	
tert-Amyl Methyl Ether	**90**	µg/L	---	

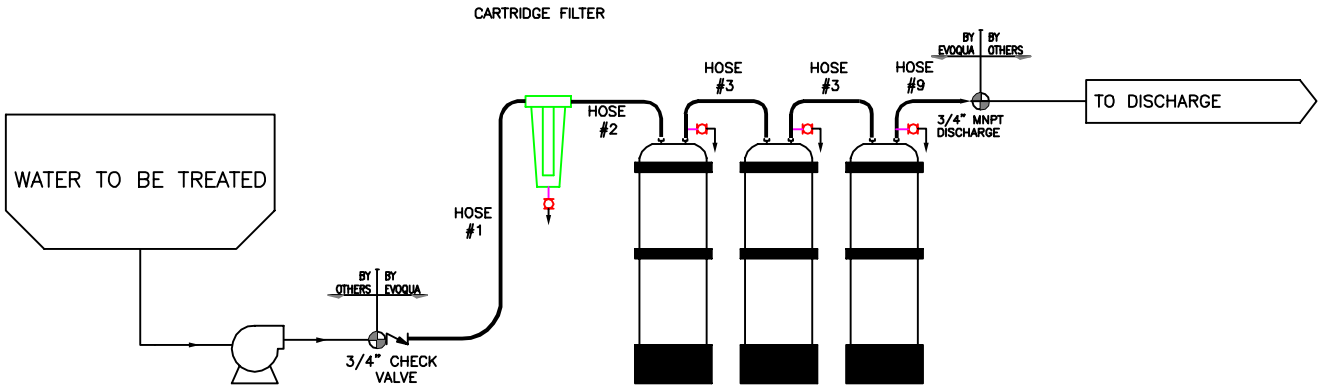
ATTACHMENT G

Conceptual Treatment System Design

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

Ransom Consulting, LLC
Project 061.01184.006

STD: BORDER–0106–8X11A | INTL REF: | BAR = 1" AT PLOT SCALE



CENTRIFUGAL PUMP
PRESSURE: <75PSIG
TEMPERATURE: <120°F

(3)3.6CF SERVICE ION EXCHANGE TANKS
FRP CONSTRUCTION
14" DIA X 50" HIGH

PRELIMINARY
NOT FOR CONSTRUCTION

DESIGNER	GDA	DATE 8/13/08
CHECKER		DATE
ENGINEER		DATE
MANAGER		DATE
FILE:		
SCALE:		

TITLE
ELEMENTARY P&ID
3.6CF THREE–TANK DISCHARGE SYSTEM

CLIENT

evoqua WATER TECHNOLOGIES
Water Technologies
Roseville, MN
651–638–1300 Fax 651–633–5074

PROJECT	CODE	DRAWING	SHEET	REV
		WXKITTHREE0360D	1 OF 1	

ATTACHMENT H

USFWS Consultation

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

RANSOM
Consulting, Inc.

Consulting
Engineers
and Scientists

June 7, 2017

Project 061.01184.006

Supervisor
U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, New Hampshire 03301

Re: Endangered Species Consultation
Ipswich Utilities Electric Power Plant
276 High Street
Ipswich, Massachusetts

Dear Supervisor:

The Ipswich Municipal Light Department (IMLD) has contracted us to prepare a Notice of Intent (NOI) under the National Pollution Discharge Elimination System (NPDES) 2017 Remediation General Permit (RGP) for a discharge of water from a basement sump in the Ipswich Power Plant located at 276 High Street in Ipswich, Massachusetts (the Site). According to Part 1, Section 1.4 of the RGP, coverage under the permit is available only if the permittee can certify that the discharge will not adversely affect endangered or threatened species or critical habitat.

Therefore, on behalf of the IMLD, Ransom Consulting, Inc. (Ransom) is requesting a determination from your office regarding the potential impacts to listed species from continuation of an existing discharge from the Ipswich Power Plant. This discharge was permitted under two previous RGPs.

PROJECT DESCRIPTION

The Ipswich Power Plant is located between High Street (Route 1A) to the northeast, the Dow Brook Reservoir dam to the west, Dow Brook to the south, and the Egypt River to the southeast. The majority of the land located upland from the Power Plant is protected watershed for the Dow Brook and Bull Brook Reservoirs, and the majority of the area to the northeast along the Egypt River is wetlands designated as the Great Marsh Area of Critical Environmental Concern (ACEC) and a Natural Heritage and Endangered Species Program (NHESP) habitat. Ipswich municipal offices and residential properties are located along High Street and Paradise Road. A Site Location Map and a Site Area Plan are provided as Figures 1 and 2.

The Power Plant was originally constructed in 1903 with mortared stone and brick masonry basement walls. A manmade pond located on the southwest side of the Power Plant is used to cool the Power Plant engines when they operate (which is typically less than 10 days per year). The elevation of the basement floor of the Power Plant is several feet lower than the groundwater table elevation and groundwater seepage into the basement is a prevalent condition. Therefore, for several years the basement of the Power Plant has relied on a system of trenches and sump pumps to passively collect groundwater that

enters the basement, pass it through an oil/water separator, and discharge it outside of the Power Plant. This is the discharge proposed for permitting under the 2017 RGP. The discharged water will be pumped to the cooling pond, which intermittently discharges directly to the Egypt River. The proposed effluent sampling location is at the discharge from the cooling pond.

In May 2002, the Power Plant was identified as a Disposal Site under the Massachusetts Contingency Plan. During the initial site investigations, groundwater was discovered to have been impacted by oil and hazardous material (OHM). Therefore, beginning in May 2003, granular activated carbon (GAC) vessels were added to the basement groundwater collection system to provide treatment for volatile organic compounds (VOCs) prior to the discharge of groundwater. The entire collection/remedial treatment system currently consists of open trenches located throughout the basement floor of the Power Plant, six basement sumps, a sediment filter bag, two 200-gallon oil-water separators, a 55-gallon collection drum, and two 300-pound aqueous- phase carbon units connected in series.

Remedial response actions addressed soil and groundwater contamination at the Site, and the release at the Disposal Site was "closed" in accordance with the MCP in June 2012. Since that time, the groundwater discharge has included low concentrations of some metals, but petroleum hydrocarbons and VOCs have not been present above laboratory detection limits.

The flow volume through the treatment system for the past 6 months (i.e., from 12/20/16 through 6/6/17) was 291,975 gallons (i.e., average ~1,860 gallons per day), but the discharge volume from the cooling pond has not been measured. The pond naturally overflows to the Egypt River through an emergency overflow pipe when the pond level exceeds the design capacity as a result of precipitation and/or high groundwater levels. The portion of the Egypt River into which the discharge flows is created by the confluence of Dow Brook and Bull Brook. Note that the streambed is dry and no discharge occurs from the pond at certain times of the year under low water conditions.

SPECIES LISTS

Ransom accessed the U.S. Fish & Wildlife Service (FWS) Information for Planning and Consultation (IPaC) website. The project area is within the range of the threatened Northern Long-eared Bat, but there is no critical habitat within the project area. A copy of the *Official Species List* from IPaC is provided in Attachment A.

Nineteen Species of migratory birds and known wetland areas are present downstream from the project area. A copy of the list of *Federally Listed Endangered and Threatened Species in Massachusetts* from the local FWS office is also provided in Attachment A.

The Massachusetts Department of Environmental Protection (MA DEP) has designated the Egypt River to be an Outstanding Resource Water (ORW). According to Part 1, Section 1.3.1 of the RGP, discharges to ORW in Massachusetts are ineligible for coverage under the RGP unless an authorization is granted the by the MA DEP. Catherine Vakalopoulos of the MA DEP Central Office is currently preparing a tentative determination to approve this discharge.

Supervisor
U.S. Fish and Wildlife Service

If you need additional information to respond to this request, please contact me as soon as possible at 978-465-1822 or via email at nmarshall@ransomenv.com.

Sincerely,

Nancy Marshall
2017.06.07 16:53:18 -04'00'

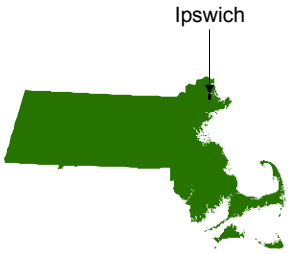
Nancy E. Marshall, P.E.
Project Manager

NEM:cnt
Attachments

cc: Jon Blair, Electric Operations Manager, Ipswich Utilities Department (jblair@ipswichutilities.org)
Catherine Vakalopoulos, MA DEP (Catherine.Vakalopoulos@MassMail.State.MA.US)

RANSOM
Consulting Engineers and Scientists

Regional Locator Map



Notes

1. Data Source: USGS National Map Seamless Server, 24K DRG, 1/3" NED
2. USGS Quad Name: Ipswich
3. Latitude: 42° 41' 55" N
   Longitude: 70° 52' 12" W
   UTM Northing: 4728819 mN
   UTM Easting: 346831 mE

Scale and Orientation

0 1,000 2,000

1 inch = 2,000 feet

Prepared For

Ipswich Municipal Light Department
272 High Street
Ipswich, Massachusetts

Site Address

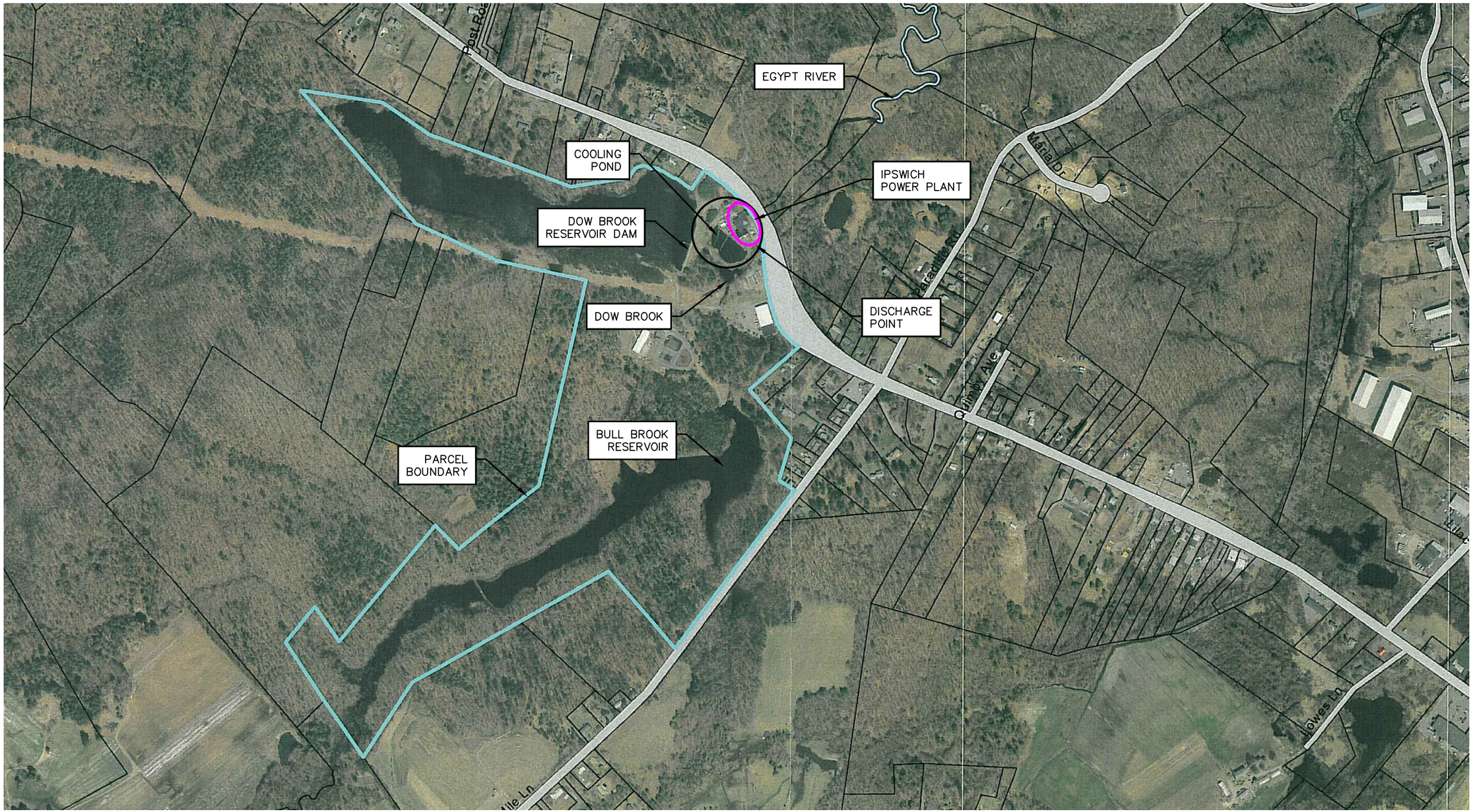
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

061.01184 | June 2017

Figure 1

Facility Location Map

G:\Data\MA\Project\061_01184\Maps\Figure_1.mxd



NOTE:

1. SITE PLAN BASED ON MAPPING PROVIDED BY IPSWICH MUNICIPAL LIGHT DEPARTMENT.

0 300 600 1200

SCALE in FEET
1"=600'

RANSOM Consulting, Inc.

PREPARED FOR:
IPSWICH MUNICIPAL LIGHT DEPARTMENT
272 HIGH STREET
IPSWICH, MASSACHUSETTS

SITE:
IPSWICH POWER PLANT
276 HIGH STREET
IPSWICH, MASSACHUSETTS

SITE AREA PLAN

DATE: JUNE 2017
PROJECT: 061.01184
FIGURE: 2

\\maserver\projects\2006\061184\RAO\061184-SITE AREA-2017.dwg Jun 07, 2017 - 8:53am

ATTACHMENT A

On-line Data Sources

Endangered Species Consultation
Ipswich Utilities Electric Power Plant
276 High Street
Ipswich, Massachusetts

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: June 07, 2017
Consultation Code: 05E1NE00-2017-SLI-1788
Event Code: 05E1NE00-2017-E-03916
Project Name: Ipswich Power Plant, 276 High St, Ipswich, MA, with discharge to the Egypt River

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 05E1NE00-2017-SLI-1788

Event Code: 05E1NE00-2017-E-03916

Project Name: Ipswich Power Plant, 276 High St, Ipswich, MA, with discharge to the Egypt River

Project Type: LAND - DRAINAGE

Project Description: A sump operating in the circa 1900 Power Plant basement collects groundwater that infiltrates through the foundation walls and flows across the basement floor. Beginning prior to 2006 and continuing to the present, a sump pump discharged the collected water through an oil/water separator and outside of the Plant. A granular activated carbon (GAC) treatment system was added prior to the discharge circa 2007. The flow volume through the system for the past 6 months (i.e., from 12/20/16 through 6/6/17) was 291,975 gallons (i.e., average ~1,860 gallons per day). Under the new RGP, the treatment system will discharge to the Power Plant's existing manmade industrial cooling pond. (Note that the pond is used to cool the Power Plant engines when they operate, which is typically less than 10 days per year). The pond naturally overflows to the Egypt River through an emergency overflow pipe when the pond level exceeds the design capacity as a result of precipitation and/or high groundwater levels. The portion of the Egypt River into which the discharge flows is created by the flow over the spillways of the Dow Brook and Bull Brook Reservoirs. Note that the streambed is dry and no discharge occurs from the pond at certain times of the year and/or under drought conditions.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.69927186135294N70.86782467102981W

Counties: Essex, MA

Endangered Species Act Species

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

Mammals

NAME	STATUS
Northern Long-eared Bat *(Myotis septentrionalis)*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9045

Critical habitats

There are no critical habitats within your project area.

IPaC **U.S. Fish & Wildlife Service**

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

Ipswich Power Plant, 276 High St, Ipswich, MA, with discharge to the Egypt River

LOCATION

Essex County, Massachusetts

DESCRIPTION

A

sump operating in the circa 1900 Power Plant basement collects groundwater that infiltrates through the foundation walls and flows across the basement floor. Beginning prior to 2006 and continuing to the present, a sump pump discharged the collected water through an oil/water separator and outside of the Plant. A granular activated carbon (GAC) treatment system was added prior to the discharge circa 2007. The flow volume through the system for the past 6 months (i.e., from 12/20/16 through 6/6/17) was 291,975 gallons (i.e., average ~1,860 gallons per day). Under the new RGP, the treatment system will discharge to the Power Plant's existing manmade industrial cooling pond. (Note that the pond is used to cool the Power Plant engines when they operate, which is typically less than 10 days per year). The pond naturally overflows to the Egypt River through an emergency overflow pipe when the pond level exceeds the design capacity as a result of precipitation and/or high groundwater levels. The portion of the Egypt River into which the discharge flows is created by the flow over the spillways of the Dow Brook and Bull Brook Reservoirs. Note that the streambed is dry and no discharge occurs from the pond at certain times of the year and/or under drought conditions.

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] are managed by the Endangered Species Program of the U.S. Fish and Wildlife Service.

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.

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 activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The migratory birds species listed below are species of particular conservation concern (e.g. Birds of Conservation Concern) that may be potentially affected by activities in this location. It is not a list of every bird species you may find in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To view available data on other bird species that may occur in your project area, please visit the AKN Histogram Tools and Other Bird Data Resources. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

NAME	SEASON(S)
American Bittern Botaurus lentiginosus https://ecos.fws.gov/ecp/species/6582	On Land: Breeding
American Oystercatcher Haematopus palliatus https://ecos.fws.gov/ecp/species/8935	On Land: Breeding
Bald Eagle Haliaeetus leucocephalus https://ecos.fws.gov/ecp/species/1626	On Land: Year-round
Black-billed Cuckoo Coccyzus erythropthalmus https://ecos.fws.gov/ecp/species/9399	On Land: Breeding
Blue-winged Warbler Vermivora pinus	On Land: Breeding
Canada Warbler Wilsonia canadensis	On Land: Breeding
Hudsonian Godwit Limosa haemastica	At Sea: Migrating

Least Bittern Ixobrychus exilis https://ecos.fws.gov/ecp/species/6175	On Land: Breeding
Least Tern Sterna antillarum	On Land: Breeding
Olive-sided Flycatcher Contopus cooperi https://ecos.fws.gov/ecp/species/3914	On Land: Breeding
Peregrine Falcon Falco peregrinus https://ecos.fws.gov/ecp/species/8831	On Land: Breeding
Pied-billed Grebe Podilymbus podiceps	On Land: Breeding
Prairie Warbler Dendroica discolor	On Land: Breeding
Purple Sandpiper Calidris maritima	On Land: Wintering
Saltmarsh Sparrow Ammodramus caudacutus	On Land: Breeding
Seaside Sparrow Ammodramus maritimus	On Land: Breeding
Short-eared Owl Asio flammeus https://ecos.fws.gov/ecp/species/9295	On Land: Wintering
Snowy Egret Egretta thula	On Land: Breeding
Willow Flycatcher Empidonax traillii https://ecos.fws.gov/ecp/species/3482	On Land: Breeding
Wood Thrush Hylocichla mustelina	On Land: Breeding

What does IPaC use to generate the list of migratory bird species potentially occurring in my specified location?

Landbirds:

Migratory birds that are displayed on the IPaC species list are based on ranges in the latest edition of the National Geographic Guide, Birds of North America (6th Edition, 2011 by Jon L. Dunn, and Jonathan Alderfer). Although these ranges are coarse in nature, a number of U.S. Fish and Wildlife Service migratory bird biologists agree that these maps are some of the best range maps to date. These ranges were clipped to a specific Bird Conservation Region (BCR) or USFWS Region/Regions, if it was indicated in the 2008 list of Birds of Conservation Concern (BCC) that a species was a BCC species only in a particular Region/Regions. Additional modifications have been made to some ranges based on more local or refined range information and/or information provided by U.S. Fish and Wildlife Service biologists with species expertise. All migratory birds that show in areas on land in IPaC are those that appear in the 2008 Birds of Conservation Concern report.

Atlantic Seabirds:

Ranges in IPaC for birds off the Atlantic coast are derived from species distribution models developed by the National Oceanic and Atmospheric Association (NOAA) National Centers for Coastal Ocean Science (NCCOS) using the best available seabird survey data for the offshore Atlantic Coastal region to date. NOAANCCOS assisted USFWS in developing seasonal species ranges from their models for specific use in IPaC. Some of these birds are not BCC species but were of interest for inclusion because they may occur in high abundance off the coast at different times throughout the year, which potentially makes them more susceptible to certain types of development and activities taking place in that area. For more refined details about the abundance and richness of bird species within your project area off the Atlantic Coast, see the Northeast Ocean Data Portal. The Portal also offers data and information about other types of taxa that may be helpful in your project review.

About the NOAANCCOS models: the models were developed as part of the NOAANCCOS project: Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf. The models resulting from this project are being used in a number of decision-support/mapping products in order to help guide decision-making on activities off the Atlantic Coast with the goal of reducing impacts to migratory birds. One such product is the Northeast Ocean Data Portal, which can be used to explore details about the relative occurrence and abundance of bird species in a particular area off the Atlantic Coast.

All migratory bird range maps within IPaC are continuously being updated as new and better information becomes available.

Can I get additional information about the levels of occurrence in my project area of specific birds or groups of birds listed in IPaC?

Landbirds:

The Avian Knowledge Network (AKN) provides a tool currently called the "Histogram Tool", which draws from the data within the AKN (latest,survey, point count, citizen science datasets) to create a view of relative abundance of species within a particular location over the course of the year. The results of the tool depict the frequency of detection of a species in survey events, averaged between multiple datasets within AKN in a particular week of the year. You may access the histogram tools through the Migratory Bird Programs AKN Histogram Tools webpage.

The tool is currently available for 4 regions (California, Northeast U.S., Southeast U.S. and Midwest), which encompasses the following 32 states: Alabama, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New Jersey, New York, North, Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia, and Wisconsin.

In the near future, there are plans to expand this tool nationwide within the AKN, and allow the graphs produced to appear with the list of trust resources generated by IPaC, providing you with an additional level of detail about the level of occurrence of the species of particular concern potentially occurring in your project area throughout the course of the year.

Atlantic Seabirds:

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 NOAANCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Facilities

Wildlife refuges

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

THERE ARE NO REFUGES 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.

This location overlaps the following wetlands:

ESTUARINE AND MARINE WETLAND

E2EM1P

FRESHWATER FORESTED/SHRUB WETLAND

PFO1E

FRESHWATER POND

PUBHh

A full description for each wetland code can be found at the National Wetlands Inventory website: https://ecos.fws.gov/ipac/wetlands/decoder

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.

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Barnstable	Piping Plover	Threatened	Coastal Beaches	All Towns
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Chatham
	Sandplain gerardia	Endangered	Open areas with sandy soils.	Sandwich and Falmouth.
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Bourne (north of the Cape Cod Canal)
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Berkshire	Bog Turtle	Threatened	Wetlands	Egremont and Sheffield
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Bristol	Piping Plover	Threatened	Coastal Beaches	Fairhaven, Dartmouth, Westport
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Fairhaven, New Bedford, Dartmouth, Westport
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Taunton
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Dukes	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	All Towns
	Piping Plover	Threatened	Coastal Beaches	All Towns
	Northeastern beach tiger beetle	Threatened	Coastal Beaches	Aquinnah and Chilmark
	Sandplain gerardia	Endangered	Open areas with sandy soils.	West Tisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Essex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Gloucester, Essex and Manchester
	Piping Plover	Threatened	Coastal Beaches	Gloucester, Essex, Ipswich, Rowley, Revere, Newbury, Newburyport and Salisbury
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Franklin	Northeastern bulrush	Endangered	Wetlands	Montague, Warwick
	Dwarf wedgemussel	Endangered	Mill River	Whately
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampshire	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Hadley
	Puritan tiger beetle	Threatened	Sandy beaches along the Connecticut River	Northampton and Hadley
	Dwarf wedgemussel	Endangered	Rivers and Streams.	Hatfield, Amherst and Northampton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hampden	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Southwick
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Middlesex	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Groton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Nantucket	Piping Plover	Threatened	Coastal Beaches	Nantucket
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Nantucket
	American burying beetle	Endangered	Upland grassy meadows	Nantucket
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN MASSACHUSETTS

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Plymouth	Piping Plover	Threatened	Coastal Beaches	Scituate, Marshfield, Duxbury, Plymouth, Wareham and Mattapoisett
	Northern Red-bellied Cooter	Endangered	Inland Ponds and Rivers	Kingston, Middleborough, Carver, Plymouth, Bourne, Wareham, Halifax, and Pembroke
	Roseate Tern	Endangered	Coastal beaches and the Atlantic Ocean	Plymouth, Marion, Wareham, and Mattapoisett.
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Suffolk	Piping Plover	Threatened	Coastal Beaches	Revere, Winthrop
	Red Knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal Towns
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Worcester	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Leominster
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar and gray wolf are considered extirpated in Massachusetts.
-Endangered gray wolves are not known to be present in Massachusetts, but dispersing individuals from source populations in Canada may occur statewide.
-Critical habitat for the Northern Red-bellied Cooter is present in Plymouth County.

Updated 02/05/2016

Christine Touchette

From: David Simmons <David_Simmons@fws.gov>
Sent: Friday, June 16, 2017 1:16 PM
To: Nancy Marshall; Heather E. Dudley-Tatman
Subject: Ipswich Power Plant, Bradford & Bigelow; projects 061.01184.006, 991.01001

Hello Ms. Marshall and Ms. Dudley-Tatman,

We are in receipt of your letters regarding activities at the Ipswich Power Plant in Ipswich, Massachusetts, and the Bradford and Bigelow property in Newburyport, Massachusetts. Thank you for contacting us about the potential for the northern long-eared bat or migratory birds to be affected by the proposed activities. If the extent of the projects is as described—pumping groundwater and dewatering an existing building basement, and discharging to existing waterways—and no tree cutting will occur, the projects are unlikely to have any effect on the northern long-eared bat or migratory birds. If this is the case, please print the "No Species Present" letter available at this link https://www.fws.gov/newengland/pdfs/2017_no_species_present_ltr.PDF, and include it with your application to EPA. To date, this letter has been sufficient to satisfy EPA's requirements for coordination with our office, provided there are no effects to the species listed in the IPaC report. Please let me know if you have any questions. Regards,

David

David Simmons
Endangered Species Program Supervisor
New England Fish and Wildlife Office
U.S. Fish and Wildlife Service
70 Commercial Street, Suite 300
Concord, New Hampshire 03301
603.227.6425

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 20, 2017

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm (accessed January 2017)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

ATTACHMENT I

Best Management Practices Certification

Transmittal of Revised Notice of Intent
2017 Remediation General Permit
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts
MAG 910000

Ransom Consulting, LLC
Project 061.01184.006

Best Management Practices Certification
Ipswich Power Plant
276 High Street
Ipswich, Massachusetts

The Ipswich Municipal Light Department (IMLD) operates the power plant owned by the Town of Ipswich Power Company located at 276 High Street in Ipswich, Massachusetts. IMLD implements Best Management Practices (BMPs) that are described in a Spill Pollution Control and Countermeasure Plan and operations and maintenance procedures.

By my signature below, I attest that previously existing BMPs have been revised to meet the terms of the 2017 Remediation General Permit (RGP), and that the revised BMPs will be implemented at the power plant. The BMPs include conducting operation and maintenance activities, recording monitoring results, and maintaining records relative to the discharges permitted under the Remediation General Permit (RGP).

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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.

Signature

Jonathan Blair, Electric Light Manager

Printed Name and Title