Global Operations, Environment, Health & Safety

1 Plastics Avenue
Pittsfield, MA 01201

February 13, 2018

Dean Tagliaferro
EPA Project Coordinator
U.S. Environmental Protection Agency
c/o Avatar Environmental
10 Lyman Street
Pittsfield, MA 01201

Re: GE-Pittsfield/Housatonic River Site
1½-Mile Reach of the Housatonic River (GECD820)
2017 Annual Monitoring Report

Dear Mr. Tagliaferro:

Enclosed is a report describing and presenting the results of the monitoring activities and follow-up response actions performed in 2017 at the 1½-Mile Reach of the Housatonic River in Pittsfield, Massachusetts.

Please call me with any questions.

Sincerely,

Lauren Patenaude for

Kevin G. Mooney
Senior Project Manager

Enclosure

cc: John Kilborn, EPA*
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ARCADIS Design & Consultancy for natural and built assets

General Electric Company
Pittsfield, Massachusetts

2017 ANNUAL MONITORING REPORT

1½-Mile Reach of the Housatonic River

February 2018

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2017 ANNUAL MONITORING REPORT

1½-Mile Reach of the Housatonic River

Prepared for:

General Electric Company
Pittsfield, Massachusetts

Prepared by:

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Date:

February 2018

CONTENTS

TABLES

FIGURES

APPENDICES

1 INTRODUCTION

In March 2011, the U.S. Environmental Protection Agency (EPA) issued the *Final Post-Removal Site Control Plan: 1½-Mile Reach Removal Action* (Final PRSC Plan) as part of the *Final Completion Report for the 1½-Mile Reach Removal Action* (Final Completion Report) prepared by Weston on EPA's behalf for the 1½-Mile Reach of the Housatonic River site (1½ Mile). The post-remediation monitoring and maintenance activities for the 1½ Mile are currently performed by the General Electric Company (GE) in accordance with the Final PRSC Plan.

EPA is the lead regulatory agency for all PRSC activities conducted by GE in the 1½ Mile (except for inspections of properties subject to Grants of Environmental Restrictions and Easements [EREs], for which the Massachusetts Department of Environmental Protection [MDEP] is the lead regulatory agency, as discussed below).

The Final PRSC Plan requires GE to submit annual reports summarizing all post-restoration monitoring activities performed for the 1½ Mile during the prior year and describing any corrective actions taken. This *2017 Annual Monitoring Report* has been prepared on GE's behalf by Arcadis to summarize the results of the monitoring and maintenance activities associated with the 1½ Mile that were performed, in accordance with the Final PRSC Plan, by GE in 2017. Specifically, this report describes the 2017 monitoring activities and associated response actions, where conducted, for the following components of the program:

- Tree cage maintenance and removal activities;
- Restored riverbank soil;
- Riprap and articulated concrete block (ACB);
- Select critical ancillary items, including retaining walls;
- Surface water;
- Sediment;
- Macroinvertebrates;
- ERE inspection activities; and
- Conditional Solution inspection activities.

A number of trip reports on the specific monitoring and maintenance activities conducted by GE in 2017 were previously submitted to EPA in August 2017 (1 report), November 2017 (2 reports), and January 2018 (1 report). In accordance with the Final PRSC Plan, this report summarizes the 2017 inspection/monitoring activities previously described in the trip reports, and it describes the actions (if any) taken in response to conditions noted during the inspections. Field data sheets from the applicable 2017 inspection/monitoring activities are included in Appendix A of this report.[1]

For the purpose of restoration activities and post-restoration monitoring, the 1½ Mile was divided into four sub-reaches delimited by the four bridge crossings within the 1½ Mile, as shown on Figure 1-1 and listed below:

[1] As directed by EPA's May 12, 2016 conditional approval letter of the *2015 Annual Monitoring Report*, copies of the inspection reports and forms for the ERE and Conditional Solution inspections are not included in this report.

- Phase 1 – Lyman Street Bridge to Elm Street Bridge
- Phase 2 – Elm Street Bridge to Dawes Avenue Bridge
- Phase 3 – Dawes Avenue Bridge to Pomeroy Avenue Bridge
- Phase 4 – Pomeroy Avenue Bridge to the Confluence of the East and West Branches of the River (Confluence)

Though the sub-reach names listed above reference the construction sequencing, the same nomenclature has been maintained through the monitoring program for consistency.

2 RESTORED VEGETATION MONITORING

This section outlines the restored vegetation monitoring program and 2017 monitoring activities.

2.1 Monitoring Program

GE proposed in their *2015 Annual Monitoring Report* to terminate the restored vegetation monitoring program and the associated reach-wide invasive species control program. However, in that same proposal, GE agreed to continue the latest modified version of the Tree Cage Maintenance Program and to continue with the implementation of herbivore control measures, if necessary, for one more year (i.e., through 2016). EPA approved the proposals presented in the *2015 Annual Monitoring Report* in their May 12, 2016 conditional approval letter. As presented in the *2016 Annual Monitoring Report*, GE was to discuss with EPA in early 2017 regarding the need for and scope of continuing the modified Tree Cage Maintenance Program and related herbivore control measures in 2017. In their April 7, 2017 conditional approval letter of the 2016 Annual Monitoring Report, EPA directed GE to leave in place all tree cages, except that in Phases 1 and 4 GE should remove any cages that are damaged, on the ground, and/or otherwise not protecting trees from herbivore damage.

Tree Cage Maintenance Program

The latest modified Tree Cage Maintenance Program was described in the *2016 Annual Monitoring Report*, and includes the following specific requirements:

- Phase 1: Lyman Street Bridge to Elm Street Bridge
  - South/east bank – Through 2017, maintain existing cages on Parcels I8-23-1 (multifamily residence on the corner of Elm Street); I8-23-103 (Greylock Credit Union); I8-23-4 (dentist office); and on the steep bank behind the fence/car wash at Parcel I8-23-6 (Elm Street car wash & laundromat).; 26 cages north of the stormwater drainage ditch on Parcel I8-23-6. Leave in place all cages upstream of the laundromat through at least the end of 2016.
  - North/west bank – In 2017, remove any remaining cages that are not functioning properly (too tight, damaged).
- Phase 3: Dawes Avenue Bridge to Pomeroy Avenue Bridge – Leave remaining cages in place at the following parcels at least through the end of 2017: I7-3-1, I7-2-1, and I7-2-20.
- Phase 4: Pomeroy Avenue Bridge to the Confluence – Leave remaining cages (i.e., those replaced in fall 2016 within 50 feet of the river) in place through at least the end of 2017.

An assessment of the status of the remaining cages will be made in early 2018 prior to the summer restored vegetation inspection.

Herbivore Control Measures

As directed by EPA in its April 7, 2017 conditional approval letter, GE is required to continue herbivore control measures through 2017 as necessary to ensure the natural growth of vegetation.

2.2 2017 Monitoring Activities

The modified Tree Cage Maintenance Program outlined in the *2016 Annual Monitoring Report* and summarized above was continued in 2017. Specifically, along the south/east bank, GE removed cages in Phase 1 that were not functioning properly and replaced any that were removed. Along the north/west bank of Phase 1, GE removed cages that were not functioning properly and did *not* replace those that were removed.

GE also continued herbivore control measures as necessary and at the request of EPA in 2017 to ensure the natural growth of vegetation.

GE will discuss with EPA in 2018 regarding the need for and scope of continuing a Tree Cage Maintenance Program, including herbivore control, for the 1½ Mile.

3 RIVERBANK SOIL RESTORATION MONITORING

This section outlines the restored soil restoration monitoring program and 2017 monitoring activities.

3.1 Monitoring Program

The Final PRSC Plan required that the post-restoration riverbank soil monitoring program consist of a visual inspection of the riverbanks, through walking the length of the banks, to assess general characteristics of the riverbanks and to identify potential bank erosion on an annual basis during the first five years after restoration. The Maintenance Standard for the riverbank soil restoration is "no significant erosion (e.g., ruts, gullies, washouts, or sloughing)" (Final PRSC Plan, p. 2-1). 2012 was the fifth year of the restored riverbank soil monitoring program. Based on discussions with EPA, GE proposed in the *2012 Annual Monitoring Report* to continue performance of the annual inspections for an additional three years. EPA's approved that proposal in its March 28, 2013 conditional approval letter for GE's *2012 Annual Monitoring Report*. At the end of the three-year period (i.e., 2015), GE made a proposal to terminate further long-term monitoring of the restored riverbank soil. However, at the request of EPA, GE agreed to continue monitoring the restored riverbank soil in 2017.

3.2 2017 Monitoring Activities

The riverbank soil restoration monitoring visit was conducted on July 19, 2017 by representatives of GE, with EPA oversight, and the results were presented in a trip report submitted to EPA on August 18, 2017.

During the 2017 bank inspection, flow in the River was approximately 31 cubic feet per second (cfs), as measured at U.S. Geological Survey (USGS) River Gage Station No. 01197000 on the East Branch of the

Housatonic River in Coltsville, MA. The areas that were monitored during the 2017 riverbank soil restoration monitoring inspection, which correspond to the four phases of the 1½ Mile Removal Action (described above), are illustrated on Figures 3-1 through 3-4.

During the 2017 inspection, no areas within the remediated and restored areas were noted with significant erosion, and therefore all areas met the Maintenance Standard. The completed field form documenting the 2017 restored riverbank soil monitoring event is included in Appendix A.

As in 2014 and 2015, the 2017 monitoring event included an area of minor erosion that was first observed in 2014 in an unremediated area near the top of the bank on Parcel I9-4-201, as illustrated on Figure 3-1. Since this area was not remediated as part of the 1½-Mile Reach Removal Action, it is not subject to any Maintenance Standard; but it was noted at EPA's request. During the 2017 inspection it did not appear that any additional erosion occurred in this area between the 2014 and 2017 inspections.

4 RIPRAP LAYER AND ACB MONITORING

This section outlines the riprap layer and ACB monitoring program and 2017 monitoring activities.

4.1 Monitoring Program

The Final PRSC Plan required that the post-restoration monitoring program for the riprap and ACB consist of visual inspections of all riprap located within the 1½ Mile to observe the general condition of the riprap and underlying banks, including noting any indications of sloughing, erosion, and/or movement of associated riprap. The Maintenance Standards for riprap within the river channel, riverbank, and swales are that there be "no significant movement of the riprap or reduction in riprap thickness that threatens the stability of the riverbanks or river channel or results in the erosion of underlying soils or sediment," and for riprap placed in swales, that there be "no movement of riprap that results in the exposure of the underlying geotextile fabric" (Final PRSC Plan, p. 2-2).

The monitoring program also includes visual observations of the riverbed ACB located immediately downstream of the Elm Street Bridge to assess the general condition of the ACB (and surrounding transition areas) and to monitor for any cracked or loose blocks and/or any other potential structural deficiencies that may adversely impact the long-term performance of the ACB. For ACB areas in the river channel, the Maintenance Standard is that there be "no significant damage to (i) the ACB, (ii) the shotcrete that is tying in the ACB to the base of the adjacent retaining wall on Parcel I8-10-5, and (iii) the shotcrete at the transition between the ACB and the adjacent riprap at the downstream end of the ACB" (Final PRSC Plan, p. 2-2).

2012 was the fifth year of the monitoring program for the riprap and ACB. Based on discussions with EPA, GE proposed in the *2012 Annual Monitoring Report* to continue performance of the annual inspections of the riprap and ACB for an additional three years. EPA approved that proposal in its March 28, 2013 conditional approval letter for GE's *2012 Annual Monitoring Report*. At the end of the three-year period (i.e., 2015), GE made a proposal to terminate further long-term monitoring of the riprap layer and ACB. However, at the request of EPA, GE agreed to continue monitoring the riprap and ACB in 2017.

4.2 2017 Monitoring Activities and Response Actions

The monitoring activities for the riprap installed in the 1½ Mile and the ACB areas were performed concurrently with the riverbank soil restoration monitoring on July 19, 2017, by representatives of GE with EPA oversight.

The riprap and ACB monitoring performed in 2017 consisted of visual observation of the condition of all the riprap installed in the 1½ Mile and of the ACB areas. As noted in Section 3, at the time of the inspection, flow in the River was approximately 31 cfs at the Coltsville gage. The results of the 2017 inspection were presented in GE's August 18, 2017 trip report.

4.2.1 Riprap Layer

The 2017 inspection indicated that the riprap met the Maintenance Standards set forth in the Final PRSC Plan. There were no observations of sloughing, erosion, or degradation of the riprap; there were no bare areas or other indications of material loss; and there was no other evidence of significant movement of the riprap or reductions in riprap thickness affecting the stability of the riverbanks or river channel or resulting in erosion of the underlying soils or sediment. The same field form used for the previously discussed restoration components was used to document the riprap layer monitoring for the 2017 inspection; that form is included in Appendix A.

4.2.2 ACB

During the 2017 inspection, there was no evidence of damage to the observed ACB or the associated shotcrete that transitions between the observed ACB and the base on the adjacent retaining wall on Parcel I8-10-5. The ACB at the base of the retaining wall appeared stable and without evidence of movement, joint separation, or degradation of materials. Further, at the transition between the ACB in the channel and the adjacent riverbed riprap immediately downstream of the terminus of the ACB, no areas of instability or cracking were observed, and the shotcrete present appeared to be stable and performing as intended. Thus, the ACB observed met the applicable Maintenance Standards.

As required by EPA's October 7, 2013 conditional approval letter, GE measured and photo-documented the gap between the shotcrete and ACB at the base of the retaining wall along the entire length of the wall for comparison to the baseline measurements presented in the 2012 inspection report, as well as measurements taken since then in 2014 and 2015. The 2017 measurements are provided in Table 3-1. In general, the measurements indicate that the vertical distance between the bottom of the shotcrete and the top of the underlying ACB was less than three inches for most of the length of the retaining wall, and has not changed significantly since the initial measurements collected in 2012. In addition, where measured, the horizontal space in the gap was generally a half-inch to seven inches deep before solid shotcrete was encountered. At the downstream end of the retaining wall, the vertical gap and/or horizontal space underneath the shotcrete were somewhat larger than at the other measurement locations, but still similar to observations made in previous years, as described in Table 3-1.

Similar to observations made during the 2015 inspection, it was noted during the 2017 inspection that there was no discernible change or difference (in size or character) in the areas of void space that were first observed in 2010 between the shotcrete and the ACB at the base of the retaining wall, indicating that there was no apparent material loss associated with these void spaces.

Finally, it was noted during the 2017 inspection that a willow tree was growing in the ACB on the east bank located immediately downstream of the Elm Street Bridge. While not subject to any Maintenance Standards, this tree was cut down in November 2017 to mitigate the potential for future damage to the ACB from tree roots.

The same field form used for the previously discussed restoration components was used to document the ACB monitoring for the 2017 inspection; that form is included in Appendix A. The field observations of the items requiring response action made during the 2017 monitoring inspection, along with the completed and proposed response actions, are summarized in Table 3-2.

5 SELECT CRITICAL ANCILLARY ITEM MONITORING

This section outlines the select ancillary item monitoring program and 2017 monitoring activities.

5.1 Monitoring Program

The Final PRSC Plan required GE to visually inspect the critical ancillary items to confirm the presence and general condition of each item in relation to its as-built condition and to assess the need for corrective action. The critical restoration items identified in the Final PRSC Plan are: (1) the retaining walls adjacent to Parcels I8-23-6, I8-24-1, I8-10-5, and I8-10-4, and the City Layout for High Street; (2) fencing along the retaining walls at Parcels I8-10-5 and I8-10-4, and the City Layout for High Street; (3) handrails on the Silver Lake outfall structure; (4) guardrails along High Street and Deming Street; and (5) fencing along Caledonia Street. Additionally, the above-mentioned retaining walls were required to be visually inspected and reviewed for stability and functionality. The Maintenance Standard for all the critical restoration items is "no substantial variation from as-built conditions" (Final PRSC Plan, p. 2-3).

Based on discussions with EPA, GE proposed in the *2012 Annual Monitoring Report* to continue performance of the annual inspections for certain of the critical ancillary items for an additional three years – namely, the five retaining walls specified in the Final PRSC Plan, the fencing on top of the retaining wall adjacent to the City Layout for High Street, and the fencing along Caledonia Street. In its March 28, 2013, conditional approval letter for GE's *2012 Annual Monitoring Report*, EPA required that, during those three additional annual inspections, GE also continue inspections of the fencing on top of the retaining walls on Parcels I8-10-4 and I8-10-5.

The 2015 inspections were the final year of the extended monitoring period, and in the *2015 Annual Monitoring Report* GE proposed to perform monitoring of select critical ancillary items once more in 2016 for the five retaining walls specified in the Final PRSC Plan, the fencing on top of the retaining walls at Parcels I8-10-5 and I8-10-4 and the City Layout for High Street, and the fencing along Caledonia Street. Finally, as summarized in the *2016 Annual Monitoring Report*, EPA required in their November 28, 2016 conditional approval letter for the trip report on the 2016 monitoring of select critical ancillary items, that a modified monitoring program for select critical ancillary items be performed in 2017, 2019, and 2021, and include the following items:

- The retaining walls adjacent to Parcels I8-10-5, and I8-10-4, and the City Layout for High Street.
- The fencing along the retaining walls at Parcels I8-10-5 and I8-10-4, and the City Layout for High Street.

In addition, the Final PRSC Plan also required that, at least every five years, "a registered professional structural or geotechnical engineer experienced in the design and construction of the specific features" must perform the inspection of the critical ancillary items. This engineer must review the in-river and out-of-river construction as-built drawings included in the Final Completion Report, as well as the previous monitoring reports, prior to performing the inspections. At EPA's request, the first set of such inspections by a registered professional engineer was advanced to 2011 and performed in that year. A report on those inspections was submitted to EPA on August 31, 2011, and summarized in the *2011 Annual Monitoring Report* for the 1½ Mile. In accordance with the Final PRSC Plan, the second and final inspection by a registered professional engineer was scheduled for 2016. However, in their November 28, 2016 conditional approval letter, EPA required that the 2021 inspection be performed by a professional engineer (as was done in 2016).

5.2 2017 Monitoring Activities

The monitoring activities for the select critical ancillary items installed in the 1½ Mile were performed concurrently with the riverbank soil restoration and riprap and ACB monitoring on July 19, 2017, by representatives of GE with EPA oversight. The results of this monitoring event were included in the August 18, 2017 trip report, which was conditionally approved by EPA on October 17, 2017.

The 2017 monitoring visit included inspections of the retaining walls adjacent to Parcels I8-10-5, and I8-10-4, and the City Layout for High Street (as shown on Figure 3-2), as required by EPA's November 28, 2016 conditional approval letter. As described in the August 18, 2017 trip report, the physical features of these walls and the associated top-of-bank features behind the walls was observed to be good, and there were no observations of displacement of soil, settlement, sloughing/slumping, pronounced drop in ground surface elevation, or excessively leaning fences, trees, utility poles, or fences. As such, the retaining walls met the Maintenance Standard defined in the Final PRSC Plan.

With respect to the remaining select critical ancillary items, the 2017 inspection indicated that, in general, the fencing along the retaining walls at Parcels I8-10-5 and I8-10-4 and the City Layout for High Street were in good condition, with no substantial variation from the as-built conditions, and thus met the Maintenance Standard specified in the Final PRSC Plan.

The completed field inspection forms documenting the observations of the critical ancillary items made during the July 19, 2017 inspection are included in Appendix A.

5.3 2017 Former Sink Hole Monitoring Activities

Prior to the 2017 inspection, in June 2017 a sink hole was observed in the pavement in the north corner of the parking lot behind the retaining wall on Parcel I8-10-5 (next to a fence along the boundary with I8-10-4). This sink hole was subsequently repaired in early July 2017 (see Area 1 on Figure 3-2). GE performed a separate inspection of this sink hole repair on July 6, 2017, prior to the 2017 inspection of the select critical ancillary items. This hole did not appear to be a result of wall deflection (and thus does not appear to affect achievement of the Maintenance Standard), and instead appeared to be the result of loss of material through a gap between the two wall systems possibly due to heavy water flow due to diversion from the normal parking lot drainage which was covered with debris. GE repaired the sink hole by placing additional fill in the sink hole and paving over the filled area with additional asphalt to provide positive

drainage away from the adjacent retaining wall. A full summary of the July 6, 2017 inspection and recommended response action was submitted to EPA in a letter dated December 6, 2017 and entitled *Inspection of Sink Hole Observed in Phase 2 Reach*. The recommendations detailed therein included welding new steel plates to overlap and bridge the gap between the two wall systems. EPA conditionally approved the letter and recommended response action on December 12, 2017, and the work was completed January 24, 2018.

Finally, during the 2017 inspection of select ancillary items a pile of vegetative debris and some sand bags were observed to be piled near the repaired sink hole. GE contacted the Parcel owners to request the debris be removed. The sand bags were removed in November 2017.

6 SURFACE WATER SAMPLING

This section outlines the surface water sampling program and 2017 monitoring activities.

6.1 Monitoring Program

The Housatonic River Monthly Water Column Sampling Program that was in effect until mid-2017 included collection of routine water quality samples at two locations in the 1½ Mile – the Lyman Street (Location #4) and Pomeroy Avenue Bridge (Location #6A) locations – and the analysis of those samples for polychlorinated biphenyls (PCBs) and total suspended solids (TSS). Field data such as temperature, conductivity, and pH were also collected for each event. In addition, for each event, the flow in the river was reported from data collected at the USGS flow gage in Coltsville, MA.

As noted in the 2016 Annual Report, the Pace Analytical Services (Pace) laboratory in New York that GE had regularly used for the analysis of these water samples closed in December 2016; and Pace's laboratory in Minnesota, which analyzed the surface water samples collected as part of this monthly program in January and February 2017, could only achieve reporting limits of 0.1 and, subsequently, 0.05 parts per billion (ppb). As such, at the time of submittal of the 2016 Annual Report in February 2017, GE was continuing efforts to find a laboratory that could achieve lower detection and reporting limits for PCBs, as necessary to meet the objectives of the Housatonic River Monthly Water Column Sampling Program. Samples were nevertheless collected in March and April 2017 as part of the monthly program; however, while GE searched for a new laboratory, the samples were archived at the Pace laboratory in Minnesota for potential PCB analysis. TSS analyses were performed to meet holding time requirements. In consultation with EPA, GE did not collect a sample in May 2017.

On June 6, 2017, GE submitted a letter titled Proposal to Discontinue Housatonic River Surface Water Monitoring Program. In that letter, GE proposed to discontinue the Housatonic River Monthly Water Column Sampling Program and, with respect to the 1½ Mile, in the future to only perform limited (i.e., quarterly) sampling at the Pomeroy Avenue Bridge location as part of the PRSC activities for the 1½ Mile. EPA conditionally approved that proposal on June 28, 2017. No sampling was performed in June 2017, and the quarterly sampling at the Pomeroy Avenue Bridge location was initiated in July 2017.

In July 2017 GE selected Eurofins Lancaster Laboratories Environmental (Eurofins) as the laboratory for analysis of archived and future surface water samples collected from the Housatonic River from the Lyman Street and Pomeroy Avenue Bridge locations. GE submitted an Addendum to the Field Sampling Plan /

Quality Assurance Project Plan on August 23, 2017 to present the analytical method, laboratory, and detection limits to be used for future Housatonic River surface water sampling and analysis. EPA conditionally approved that addendum on August 28, 2017.

6.2 2017 Monitoring Activities

During 2017, the surface water monitoring events that were conducted within the 1½ Mile were as follows:

- Samples were collected on January 25-26 and February 23 at both the Lyman Street and Pomeroy Avenue Bridge locations and analyzed for PCBs and TSS as part of the Housatonic River Monthly Water Column Sampling Program.
- Samples were collected on March 30 and April 27 at both the Lyman Street and Pomeroy Avenue Bridge locations and archived for potential future PCB analysis. TSS analyses were performed on the samples by Pace to meet holding time requirements. However, as subsequently approved by EPA, the April 27 Pomeroy Avenue Bridge location sample was released and analyzed by Eurofins for PCBs and the remaining portions of the other samples were disposed of and not analyzed for PCBs.
- Samples were collected on July 25 and October 25 at the Pomeroy Avenue Bridge location and submitted to Eurofins for analysis of PCBs and TSS. However, due to a laboratory error, the July sample volume for PCB analysis was erroneously discarded, and only TSS data was reported for the July sample.

The results associated with the 2017 surface water monitoring at the Lyman Street and Pomeroy Avenue locations are summarized in Table 6-1. The data in Table 6-1 has been validated in accordance with GE's 2013 Field Sampling Plan/Quality Assurance Project Plan (and August 2017 Addendum), and an associated data validation report is provided in Appendix B.

At the Lyman Street Bridge station (Location #4), PCBs ranged from not detected (ND) to 0.028 ppb. At the Pomeroy Avenue Bridge station (Location #6A), PCBs ranged from ND to 0.222 ppb. TSS results at the two stations set ranged from ND to 5.07 parts per million (ppm).

In addition, EPA collected and arranged for the analysis of split surface water samples collected at the Pomeroy Avenue Bridge station (Location #6A) during the monthly and quarterly surface water monitoring events. The analytical results for these split samples were provided by EPA and are provided in Appendix C.

7 SEDIMENT SAMPLING

This section outlines the sediment sampling monitoring program and 2017 monitoring activities.

7.1 Monitoring Program

The Final PRSC Plan required that a sediment sampling event be conducted every five years for a 15-year period, and that at the end of that 15-year period, GE would make a proposal regarding further long-term monitoring of the sediments. This sampling was required to include the collection of samples at 37 transects located at 200-foot intervals along the 1½ Mile, with samples collected from the center and right and left sides of the channel. At each location, samples were to be collected from the top 6 inches of sediment and

from the 6-inch depth to refusal (riprap), to the extent that sediments are present. The Final PRSC Plan stated that if 6 inches of sediment are not present at any location, a nearby location (within 10 feet) should be sampled or, if such a location cannot be identified, the original sampling location should be sampled to obtain a sufficient volume for analysis (if feasible). The samples were required to be analyzed for PCBs and total organic carbon (TOC).

The first sampling event of this 15-year program was conducted by EPA in 2007. The performance and results of this sediment sampling event were described in the *Post-Remediation Sediment Sampling Report: 1.5-Mile Reach Removal Action*, prepared by Weston on behalf of EPA in August 2007. The second sampling event of this program was conducted by GE in 2012 in accordance with the *2012 Sediment Sampling Plan*, which was conditionally approved by EPA on May 22, 2012. The performance and results of the second of three 5-year sediment sampling events were summarized in the *2012 Sediment Sampling Report* (2012 Sampling Report), prepared by Arcadis on behalf of GE in October 2012. The 2012 Sampling Report was conditionally approved by EPA on November 26, 2012.

On April 27, 2017, GE submitted a *2017 Sediment Sampling Plan* (Sampling Plan) to EPA proposing the sample collection activities to be performed by GE for the next sampling event (third round). That Sampling Plan was conditionally approved by EPA on July 25, 2017.

7.2 2017 Monitoring Activities

The 2017 sediment sampling event was conducted from August 8 through August 17, 2017, constituting the third and final of the three five-year sampling events required by the Final PRSC Plan. The sampling was targeted to be performed in low flow conditions, however the unusually wet weather in August 2017 resulted in daily average flow in the river ranging from 21 to 82 cfs during the eight days of sampling, with an average of 42 cfs. A report describing the performance and summarizing the results of the 2017 sampling event was submitted to EPA on November 15, 2017. EPA conditionally approved that report in a letter dated January 10, 2018.

Similar to the approach used by EPA in 2007 and 2012, GE targeted the same 37 transects for sampling in 2017, starting downstream at T-210 (near the confluence of the East and West Branches of the Housatonic River) and proceeding upstream to T-66 (at the Lyman Street Bridge), resulting in 111 total targeted sampling locations within the 1½ Mile. The targeted sample transects are shown on Figures 7-1 through 7-4.

At each of the 111 proposed collection locations, the channel bottom was probed to determine if sufficient sediment materials were present for sampling. In the event that a minimum of 6 inches of sediment was not present at any location, attempts were made to identify a suitable nearby area (within approximately 10 feet) with adequate sediment depth. If an area with a minimum of 6 inches of sediment could not be located within 10 feet of the surveyed transect, an adequate volume was collected from the area of the original sampling location, if possible, to meet analytical requirements.[2] If a sufficient volume could not be obtained, that condition was documented and no sample was collected at that location.

[2] At location T-122-L, with EPA oversight present, field representatives off-set more than 10 feet from the surveyed transect to obtain a sample.

In total, GE collected samples at 103 of the 111 targeted sample locations (samples were not collected at eight locations where a sufficient volume of sediment to meet analytical requirements could not be located or recovered). At each sample location where probing indicated that sufficient materials were present, sediment was collected by physically pushing 2-inch diameter Lexan® tubes to the interface between the fine-grained sediment and the underlying riprap. The collected samples were processed by sectioning each core into two specific layers (if enough material was collected): the upper 6-inch layer (surface interval) and the remaining fine-grained materials (i.e., from the bottom of the 6-inch layer to the bottom of the recovered core) (subsurface interval), and a bulk sample was taken from the homogenized sediments from each available depth interval. At three locations where the Lexan® tube collection method could not be used due to the lack of sufficient sediment, with approval from EPA oversight, a grab sediment sample was collected from the interstitial space between the riprap by using a gloved hand or small scoop. This method was used at the following three locations: T-122-L, T-122-R, and T-130-R.

Due to lack of depositional sediment present in certain areas at the time of sampling, only one depth interval was obtained at 68 of the sample locations. This resulted in a total of 103 samples (plus four duplicates) of the surface sediments (i.e., from the top six inches) and 35 samples (plus three duplicates) of the subsurface sediments (i.e., from the bottom of the 6-inch interval to the bottom of the recovered core), for a total of 138 samples (plus seven duplicates). Table 7-1 provides an inventory of the samples collected. Sample collection locations are illustrated on Figures 7-1 through 7-4. All samples were analyzed for PCBs and TOC. Following receipt of the analytical results, the PCB data were validated, and all the analytical data from this sampling effort were found to be usable.

Analytical results associated with the samples collected by GE are presented in Table 7-2. PCB concentrations associated with materials collected in the subsurface interval ranged from ND to 4.35 ppm. TOC concentrations associated with materials collected in the surface interval ranged from 1,100 ppm to 45,000 ppm and TOC concentrations associated with materials collected in the subsurface interval ranged from 1,100 ppm to 70,000 ppm. Analytical results associated with split samples collected by EPA are presented in Table 7-3.

For the material collected from the surface interval, the average PCB concentration was 0.15 ppm, and the average TOC concentration was 7,800 ppm.[3] For the material collected from the subsurface interval, the average PCB concentration was 0.26 ppm, and the average TOC concentration was 7,900 ppm. Overall, the average PCB concentration observed in the sediments collected in the 1½ Mile during the 2017 sampling event was 0.17 ppm, and the overall average TOC concentration was 7,800 ppm.

A summary of the comparison between the 2017, 2012, and 2007 analytical results is provided in Table 7-4. A direct comparison of the results indicates the PCB concentrations observed in the sediments of the 1½ Mile have remained relatively constant for the 10-year post-construction monitoring period. The overall average PCB concentration observed in the 1½ Mile sediment ranged between 0.1 and 0.2 ppm for each of the sampling events (0.17 ppm in 2002, 0.13 ppm in 2012, and 0.17 ppm in 2017; See Table 7-4), well below the 1.0 ppm remediation action level associated with the 1½ Mile sediments (as detailed in the FCR). A statistical comparison of the mean PCB concentration for the three sampling events using a standard t-

[3] In calculating the average PCB and TOC concentrations, ND sample results were considered to be one-half the reporting limit. Duplicate sample analytical results were averaged with the parent sample and the resulting average concentration was used in the summary calculations.

test indicates that the means of the 2007, 2012, and 2017 data sets are not statistically different from each other. Specifically, the data sets were compared to each other in pairs (2007 vs. 2012, 2007 vs. 2017, and 2012 vs. 2017), and based on the results it was concluded there is no statistical difference between the means. Figure 8-1 illustrates the mean for each of the data sets in blue, and presents in orange twice the standard error of the mean (SEM) above and below the mean.

8 AQUATIC MACROINVERTEBRATE SAMPLING

This section outlines the aquatic macroinvertebrate sampling monitoring program and 2017 monitoring activities.

8.1 Monitoring Program

The Final PRSC Plan required that an aquatic macroinvertebrate sampling event be conducted every five years for a 15-year period to document PCB concentrations in, and the composition of, the aquatic macroinvertebrate communities that are present in the 1½ Mile since the completion of remediation activities. For monitoring of the macroinvertebrate community structure, the Final PRSC Plan specified that samples should be collected from a representative riffle or run at each of three transects on the 1½ Mile (transects T-70, T-134, and T-170), with 12 samples of the macroinvertebrate community collected at each transect and submitted to a laboratory for taxonomic identification and evaluation. For the sampling of macroinvertebrate tissue, the Final PRSC Plan specified that a minimum of one 10-gram sample of total macroinvertebrate biomass should be collected at each transect and submitted for PCB analysis.

The first sampling event of this 15-year program was conducted by EPA in 2007. The performance and results of this macroinvertebrate sampling event were described in the *2007 Post-Remediation Aquatic Community Assessment: 1.5-Mile Reach Removal Action*, prepared by Weston on behalf of EPA in December 2007 (2007 EPA Report). The second sampling event of this program was conducted by GE in 2012, and was performed in a similar manner as the 2007 program and in accordance with the *2012 Macroinvertebrate Sampling Plan*, which was conditionally approved by EPA on May 22, 2012. The performance and results of this 2012 sampling event, including a comparison to the 2000 and 2007 results, were summarized in the *2012 Aquatic Macroinvertebrate Sampling Report* (2012 Sampling Report), prepared by Arcadis on behalf of GE in October 2012. The Sampling Report was conditionally approved by EPA on November 28, 2012.

On April 27, 2017, GE submitted a *2017 Aquatic Macroinvertebrate Sampling Work Plan* (Sampling Plan) to EPA proposing the sample collection activities to be performed by GE for the third post-remediation sampling event in 2017. That Sampling Plan was conditionally approved by EPA on July 17, 2017.

8.2 2017 Monitoring Activities

The 2017 sediment sampling event was conducted from July 24 through July 26, 2017, constituting the third of the three five-year sampling events required by the Final PRSC Plan. This event was conducted during low flow conditions, with mean daily flow in the river on the days of sample collection ranging from 33 to 38 cfs at the Coltsville gage. During this event, similar to the sampling conducted by EPA in 2007 and GE in 2012, GE collected macroinvertebrate samples from the three required transects – namely,

transects T-70, T-134, and T-170, shown on Figures 7-1, 7-2, and 7-3. These transects were staked by a licensed survey crew prior to sampling. A report describing the performance and summarizing the results of the 2017 sampling event was submitted to EPA on November 21, 2017. EPA conditionally approved that report in a letter dated January 10, 2018. The two components of this sampling event and the associated analyses are described below.

8.2.1 Benthic Community Sampling

To the extent practicable, a representative riffle or run was targeted for sample collection at each of the three transects, and samples were collected from 12 different locations along each of the three transects, for a total of 36 community samples. Individual sample locations at each transect were selected in the field with EPA approval based on habitat factors such as substrate, flow and water depth. Due to initial high flows during the sampling event, sampling was not always conducted downstream and proceeding upstream, and instead was initiated at T-134 as it was the shallowest transect.

At each sample location, a 1-meter square pre-fabricated frame was placed on the riverbed to define the area from which samples were collected. As noted above, macroinvertebrate community samples were primarily collected by scrubbing the substrate by hand within each 1-meter square location. This was done in front of a 9-inch by 18-inch rectangular kicknet so that the flow carried the debris and benthic organisms dislodged from the rocks into the net. When the substrate changed to a point where hand collection was no longer effective, the remaining sample was collected by placing the kicknet on the bed substrate and "kicking" the substrate upstream of the net within the 1-meter frame. Both sampling techniques were conducted for a combined total of approximately 2 minutes during each sample collection to dislodge macroinvertebrates. Once complete, large debris (e.g., leaves, sticks, rocks) were removed from the net, and the remaining contents were transferred to a plastic sample jar and preserved in at least 70 percent isopropyl alcohol.

In total, 36 macroinvertebrate community samples were collected (12 samples from each of three transects). The aquatic macroinvertebrates collected at each transect are listed in Tables 8-1A through 8-1C. Table 8-2 summarizes the field parameters collected within each sampled area. All samples were processed following standard chain-of-custody procedures and shipped to Lotic Inc. in Belfast, Maine, for taxonomic identification and enumeration in accordance with the procedures contained in the Sampling Plan.

Similar to the summary provided in the 2012 Sampling Report, Table 8-3 summarizes the key metrics determined by Lotic for the benthic community samples collected in 2000, 2007, 2012, and 2017 at all three transects. These are the same metrics reported in Table 1 of the 2007 EPA Report – i.e., total taxa richness, abundance, EPT (Ephemeroptera, Plecoptera, and Tricoptera) richness, dominant organism, and Chironomidae richness. As in the prior report, Table 8-3 presents the results of Lotic's application of its in-house model used to assess water quality based on benthic community structure; and it includes, in Note 1, a similar description to that provided in the 2007 EPA Report regarding that model. As indicated in that note, the listed classifications represent Lotic's own interpretation of the data, not recognized water quality classifications.

As noted in GE's November 21, 2017 report, a comparison of the results for overall taxa richness, abundance, and EPT richness among the four years sampled, as presented in Table 8-3, shows the following:

- At transect T-70, taxa richness in 2017 was similar to 2012, lower than 2007, and higher than 2000. Abundance in 2017 was similar to 2007 and 2012, and higher than 2000. EPT richness in 2017 was similar to 2007, and higher than 2000 and 2012. Scores remained consistent (B to A/B) indicating good to high water quality.
- At transect T-134, taxa richness in 2017 was similar to 2012, and lower than 2000 and 2007. Abundance in 2017 was similar to 2000 and 2007, and lower than 2012. EPT richness in 2017 was higher than 2000 and 2012, and lower than 2007. Scores remained consistent (B to A/B) indicating good to high water quality.
- At transect T-170, taxa richness in 2017 was similar to 2007 and 2012, and higher than 2000. Abundance in 2017 was similar to 2007 and 2012, and higher than 2000. EPT richness in 2017 was similar to 2007, and higher than 2000 and 2012. Scores remained consistent (B to A/B) indicating good to high water quality.

8.2.2 Tissue Sampling

Macroinvertebrate tissue samples were also collected at the same three transects at locations generally along the shoreline adjacent to areas where community sampling was performed. At each transect, a minimum of one 10-gram sample of total macroinvertebrate biomass was collected by hand picking. A matrix spike/matrix spike duplicate quality assurance (QA) sample was collected at transect T-134, and a duplicate sample was taken from the organisms collected at transect T-70. For each tissue sample, all specimens were identified in the field by eye to the lowest practical identification level, grouped by order taxon, and weighed before being combined into a whole-body composite sample. Table 8-4 provides an inventory of the samples collected, including the predominant taxa observed at each location.

Each macroinvertebrate tissue sample was analyzed for PCBs in accordance with the procedures in the Sampling Plan, using a congener-specific analytical method (SGS AXYS Method MLA-007 Rev 13.09), with the results reported for individual PCB congeners and total PCB congeners. Tissue samples were also analyzed for percent lipids and percent moisture. Following receipt of the analytical results, the PCB data were validated, and all the analytical data from this sampling effort were found to be usable.

A total of three samples were collected and analyzed for PCBs and percent lipids. The analytical results for individual PCB congeners (as well as percent lipids) are presented in Table 8-5, and the total PCB results (as well as percent lipid results) are summarized in Table 8-6. As shown in those tables, total PCB concentrations in 2017 (on a wet-weight basis) ranged from 0.45 ppm to 0.49 ppm, with an average PCB concentration of 0.47 ppm.[4] In addition, percent lipid concentrations ranged from 2.5% to 2.8%, with an average percent lipid of 2.7%.

For comparison, as presented in the 2007 EPA Report and also summarized in Table 8-6, the macroinvertebrate tissue samples collected from the 1½ Mile in 2007 had total PCB concentrations ranging from 0.71 ppm to 1.6 ppm, with an average PCB concentration of 1.1 ppm. For comparison, the results

[4] For data from 2000, 2007, and 2017, duplicate sample analytical results were averaged with the parent sample and the resulting average concentration was used to determine the summary statistics (i.e., minimum, maximum, and average).

from 2000 (when tissue samples for PCB analysis were collected from only one transect, T-134) showed a total PCB concentration of 336 ppm, and the results from 2012 showed total PCB concentrations ranging from 0.58 ppm to 1.4 ppm, with an average PCB concentration of 1.0 ppm. The 2017 samples have lower total PCB concentrations (on a wet-weight basis) to those from 2007 and 2012, with a decrease in concentration observed at all three transects. The total PBC concentrations on a wet-weight basis for 2007, 2012 and 2017 are presented in Figure 8-2A.

Given that PCBs tend to accumulate in an organism's fat cells, normalizing the results by the lipid content of the macroinvertebrate samples can help reduce variability in results related to differences in lipid content of macroinvertebrates collected in a particular year. The lipid-normalized PCB concentrations (mg PCB/kg lipid) in the macroinvertebrates collected from the 1½ Mile in 2017 ranged from 16 to 20 mg PCB/kg lipid, with an average of 17. For comparison, in 2007, the lipid-normalized concentrations ranged from 65 to 71 mg PCB/kg lipid, with an average of 68. In 2000, the lipid-normalized result was 18,000 mg PCB/kg lipid. The total PBC concentrations on a lipid-normalized basis for 2007, 2012 and 2017 are presented in Figure 8-2B.

In summary, the 2017 macroinvertebrate tissue sampling results show an overall reduction in PCB concentrations from 2007 by an average of 58.5% in wet-weight concentrations and an average of 74.2% in lipid-normalized concentrations.

9 INSPECTIONS OF PROPERTIES SUBJECT TO GRANTS OF ENVIRONMENTAL RESTRICTIONS AND EASEMENTS (ERES) OR TO CONDITIONAL SOLUTIONS, AND OTHER NOTIFICATIONS

In accordance with the Consent Decree (CD) for the GE-Pittsfield/Housatonic River, EREs have been executed and recorded at a number of properties in the 1½ Mile. At other properties within that reach, Conditional Solutions have been implemented in accordance with the provisions of the CD. The CD and the Final PRSC Plan require GE to conduct annual inspections of such properties that are not owned by GE or the Commonwealth of Massachusetts. The Final PRSC Plan also requires GE to make certain other notifications, as discussed in Section 5.3.

On April 25, 2016 GE submitted to EPA a *Proposal to Modify Post-Remediation Inspection Frequencies at Various Removal Action Areas* (Proposal). This Proposal was approved by EPA on April 26, 2016, and is subject to the terms of the CD. As such, starting in 2016, the ERE and Conditional Solution inspections are conducted pursuant to the Proposal, and are performed by Tetra Tech, Inc. on GE's behalf. The results of the 2016 ERE and Conditional Solution monitoring and maintenance activities associated with the 1½ Mile were presented in the January 8, 2018 *October 2017 Post-Remediation Inspection Report* (Consolidated Report) prepared on GE's behalf by Tetra Tech, Inc.

As required by EPA's May 12, 2016 conditional approval letter of the *2015 Annual Monitoring Report*, Arcadis, on behalf of GE, has summarized the ERE and Conditional Solution inspections in this *2017 Annual Monitoring Report* with reference to the January 2018 Consolidated Report. Additionally, per the

May 2016 conditional approval letter, copies of the inspection reports and forms for the ERE and Conditional Solution inspections are not included in this *2017 Annual Monitoring Report*.

9.1 Monitoring Program

A summary of the ERE and Conditional Solution inspection programs is outlined in this section.

9.1.1 ERE Inspections

For non-residential properties in the 1½ Mile that are owned by parties other than GE or the Commonwealth of Massachusetts and at which EREs have been recorded, annual inspections regarding compliance with the EREs are required in accordance with the requirements of Appendix Q to the CD as well as the Final PRSC Plan. EREs have been executed and recorded in the Berkshire Middle District Registry of Deeds for the following such properties located wholly or partly within the 1½ Mile: (a) one privately owned property – Parcel I7-21-1 (ERE recorded on April 1, 2009); (b) two properties owned by the City of Pittsfield that are located partly within the 1½ Mile and partly within the non-residential floodplain properties adjacent to the 1½ Mile – Parcels I8-4-7 and I7-1-101 (Fred Garner Park) (EREs recorded on September 16 and December 23, 2009, respectively); and (c) six additional City-owned parcels within the 1½ Mile – Parcels I8-4-8, I7-21-5, I8-10-102, and I7-20-1, -2, & -101 (EREs recorded on April 22, 2010).

Under the applicable requirements, the annual ERE inspection of these properties is to consist of two components. The first component is to consist of a review of several documents (as applicable) – namely: (i) the ERE itself, (ii) the associated survey plan, (iii) the FCR, (iv) the relevant as-built survey drawings (and any alternative, more recent plan that GE proposes to use for evaluation of surface grade changes), (v) any conditional exceptions approved under the ERE (if known), (vi) any recorded amendments to and/or releases from the ERE, and (vii) any Post-Work Notification Forms (Exhibit E or F to the ERE, depending on the ERE) available to GE. The second component is to consist of a visual inspection of the property to determine whether there is visual evidence that any of the following has occurred since the last inspection:

- Activities at or uses of the property that are potentially contrary to the restrictions stated in the ERE;
- Utility work or any building construction, modification, addition, and/or demolition;
- Soil excavations that involved more than 10 cubic yards of soil;
- Significant soil erosion; and/or
- Significant pavement construction, disturbance, and/or removal/excavation.

It should be noted that, unlike all other Post-Removal Site Control activities subject to the Final PRSC Plan, the lead regulatory agency for activities relating to these ERE inspections is MDEP, rather than EPA, as MDEP is the Grantee of the EREs.

9.1.2 Conditional Solution Inspections

For non-GE-owned properties at which Conditional Solutions have been implemented, annual inspections are required in accordance with Paragraph 36 and 38 and Appendix Q of the CD, as well as the Final PRSC Plan. Conditional Solutions have been implemented at the following properties within the 1½ Mile: Parcels I7-21-2 and I7-21-103 (riverbank portions only), which are commonly owned; Parcel I8-24-1 (riverbank portion only); Parcel I8-23-103 (riverbank portion only); Parcel I8-23-4 (riverbank portion only); a riverbank

property abutting Deming Street, Elm Street Bridge, East Branch of the Housatonic River, and Parcel I8-4-8 (referred to hereafter as property abutting Deming Street); and the riverbank property within a portion of the City Layout for High Street.[5] GE sent letters to the owners of these properties, except for the last two, on December 18, 2008, notifying them of the implementation of the Conditional Solutions at their properties. For the last two above-listed properties, whose ownership is not clear, GE sent letters to the City of Pittsfield, as the likely holder of an interest in the properties, on April 1, 2009 and September 1, 2009, notifying the City of the Conditional Solutions. Following a change in ownership in two of the properties in 2012 (Parcel I8-24-1 and Parcel I8-23-103), GE sent letters to the new owners of Parcel I8-24-1 on June 19, 2012, and to the new owner of Parcel I8-23-103 on July 18, 2012, notifying them of the Conditional Solutions for their properties.

Under the applicable requirements, the annual inspections of properties with Conditional Solutions are to consist of a document review and a visual on-site inspection. Prior to the on-site inspection activities, GE is to review the most recent property records from the Pittsfield Tax Assessor's Office, as well as the deed records at the Berkshire Middle District Registry of Deeds, where such records exist for the properties in question, to determine if there has been a change in ownership. If there has been such a change in ownership, GE is to notify the new owner of the Conditional Solution. In addition, GE is to review the FCR, including the description of the Conditional Solutions for these properties and the relevant as-built survey drawings which depict site features and topography, and any subsequent work plan(s) approved and implemented pursuant to Paragraph 35 of the CD.

The visual site inspection of each of these properties is to evaluate whether any of the following has occurred since last inspection:

- Any change in activities or uses of the property that would be potentially inconsistent with the land use for which the Conditional Solution was implemented;
- Installation of a new utility or repair or replacement of an existing utility that involved disturbance of soil; or
- Any excavations, construction, or other activities or conditions that resulted in the disturbance of 10 cubic yards of soil or greater, regardless of depth.

If any of the activities noted in the last two above bullets appears to have altered the surface grade of the property, compared to that shown in the as-built survey drawings included in the FCR (or any more recent plan that GE proposes and EPA approves), GE is required to identify the approximate location of such change on a plan and compare it to the surface grade in the above listed-drawings (or plan).

9.2 2017 Monitoring Activities

Additional details related to the 2017 Monitoring Activities are presented in the January 2018 Consolidated Report, including copies of the ERE and Conditional Solution Annual Inspection Checklists.

[5] In addition to these properties, there are a number of properties at which the riverbank portions are situated within the 1½ Mile and the non-riverbank portions are located within other Removal Action Areas (RAAs) and at which Conditional Solutions were previously implemented in connection with those other RAAs. These properties, and the Conditional Solution inspections performed for them in 2017, are discussed in Section 9.2.2 below.

9.2.1 ERE Inspections

GE conducted the annual ERE inspections of the properties listed in Section 9.1.1 on October 24, 2017. These consisted of the ninth annual ERE inspection of Parcels I7-21-1 and I8-4-7 and the eighth annual ERE inspection of Parcels I7-1-101, I8-4-8, I7-21-5, I8-10-102, I7-20-1, -2, and -101.[6]

As discussed in the Consolidated Report, the ERE inspections included, for each property, a review of the documents pertinent to the ERE and the use of the property and a visual inspection of the property to evaluate whether there was any evidence that any of the activities or conditions listed in Section 9.1.1 had occurred since the prior ERE inspection in October 2016. For each of these properties, no new ERE-related documentation had been generated since the last inspection, and hence GE reviewed the existing documentation (e.g., ERE, Plan of Restricted Area, and the FCR, including the relevant as-built survey drawings therein). Visual inspections conducted in October 2017 revealed no significant changes in the physical condition of any of the above listed properties, and no evidence of any of the other above-listed conditions since the last inspection.

9.2.2 Conditional Solution Inspections

GE conducted the eighth annual Conditional Solution inspections of the properties listed in Section 9.1.2 on October 24, 2017, in accordance with the requirements described in that section. As presented in the Consolidated Report, GE determined there had been no change in ownership of the properties with available property records (i.e., excluding the property abutting Deming Street and the City Layout for High Street, for which records are not available and thus this information could not be confirmed) since the prior Conditional Solution inspection in October 2016. Additionally, the inspections showed no visual evidence of any of the activities or conditions listed in Section 9.1.2 at these properties since that prior inspection.

In addition to these inspections, Conditional Solution inspections were conducted in October 2017 at a number of properties at which the riverbank portions are situated within the 1½ Mile and the non-riverbank portions are located within other Removal Action Areas (RAAs), and at which Conditional Solutions were previously implemented in connection with those other RAAs. Specifically, this is the case for Parcels I9-4-14 and I9-4-19 (which are commonly owned), I9-4-201, I9-4-203, and I9-4-25/-202 at the Lyman Street Area; Parcel I8-23-6 at Former Oxbow Areas A and C; and Parcel I7-1-5 at the floodplain non-residential properties adjacent to 1½ Mile. At these properties, the riverbanks were inspected in October 2017 in conjunction with the non-riverbank portions. The results of these inspections were also provided in the Consolidated Report.

As documented in the forms and noted above, the property record reviews indicated that there had been no change in the ownership of any of the other Conditional Solution properties since the last property records review in 2016. The on-site inspection of Parcel I7-1-5 showed visual evidence that the electrical substation located on that Parcel had been razed and the area roughly graded, and that these activities resulted in the potential disturbance of 10 cubic yards of soil or more since the last inspection in October 2016; however, this disturbance did not appear to have appreciably altered the surface grade of the property. The on-site inspection showed no visual evidence of any of the other activities listed in Section

[6] The ERE inspections of Parcels I8-4-7 and I7-1-101 were conducted jointly for both the riverbank portions within the 1½ Mile and the non-riverbank portions within the non-residential floodplain properties adjacent to the 1½ Mile.

9.1.2 at Parcel I7-1-5 since the prior inspection in October 2016. The 2017 inspections showed no visual evidence of any of the activities or conditions listed in Section 9.1.2 at the Parcels I9-4-14 and I9-4-19 (which are commonly owned), I9-4-201, I9-4-203, I9-4-25/-202, or I8-23-6 since the prior inspection in October 2016.

9.3 Other Notifications

In addition to the above-described requirements, the Final PRSC Plan contains certain other notification requirements. First, it requires GE to perform an annual search regarding the ownership of the properties on which the retaining walls discussed in Section 5 were built – namely, Parcels I8-10-4, I8-10-5, I8-23-6, I8-24-1, and the City Layout for High Street. It provides that if there has been a change in ownership of any of these properties, GE must send to the new owner a copy of the letter that EPA previously sent to the owner of the property describing the retaining wall on the property and advising the owner not to interfere with or modify that wall.

As noted above, the Conditional Solution inspections conducted in October 2017 for Parcel I8-23-6 in the Former Oxbow Areas A and C RAA and Parcels I8-24-1 and the City Layout for High Street in the 1½ Mile indicate there had been no change in ownership of these properties since the prior record review in October 2016. Additionally, based on separate review of the property records, GE has determined that there has been no change in ownership of any of the other properties since the prior record review in late 2016.

The Final PRSC Plan also requires GE to send an annual letter to the Pittsfield Conservation Commission (PCC), reminding the PCC that EPA has provided it with a comprehensive Registry of properties that are located within the 100-year floodplain adjacent to the East Branch of the Housatonic River and are subject to the CD, recommending that if a Notice of Intent is submitted to the PCC for a property listed in that Registry, the PCC should contact EPA and MDEP, and requesting that the PCC maintain that Registry. EPA last sent an updated Registry of such properties to the PCC on August 3, 2017; and GE sent the required annual reminder letter to the PCC on December 13, 2017.

10 FUTURE ACTIVITIES

Based on discussions with EPA, GE has developed a scope of proposed monitoring and maintenance activities for the 1½ Mile going forward. A summary of the proposed future monitoring events for the various monitoring programs is provided in Table 10-1 and further described below. GE will coordinate scheduling of the monitoring visits with EPA to avoid potential high-water events in the 1½ Mile (where relevant) or other scheduling conflicts. Once the scheduling has been coordinated with EPA, GE will provide the MDEP and the Trustees' representative with sufficient notice of the date of upcoming inspections.

10.1 Restored Vegetation Monitoring

As discussed above, GE will discuss with EPA in early 2018 regarding the need for and scope of continuing the modified Tree Cage Maintenance Program and related herbivore control measures (described in Section 2.1) in 2018.

10.2 Riverbank Soil Restoration Monitoring

As required by EPA's October 17, 2017 conditional approval letter, GE will perform an additional inspection of the restored riverbank soil in 2022 and after any 10-year flow event between now and 2022.[7] The inspection will be performed in late spring or summer during low flow conditions. Following the completion of that event, GE will submit a proposal to EPA regarding the need for and scope of further long-term monitoring of the restored riverbank soil in the 1½ Mile.

10.3 Riprap Layer and ACB Monitoring

As required by EPA's October 17, 2017 conditional approval letter, GE will perform an additional inspection of the riprap and ACB in 2022 and after any 10-year flow event between now and 2022. The inspection will be performed in late spring or summer during low flow conditions. Following the completion of that event, GE will submit a proposal to EPA regarding the need for and scope of further long-term monitoring of the riprap and ACB in the 1½ Mile

10.4 Select Critical Ancillary Items Monitoring

As required by EPA's November 28, 2016 conditional approval letter, GE will next perform the modified monitoring program for the select ancillary items in 2019. The modified program includes the following items:

- The retaining walls adjacent to Parcels I8-10-5, and I8-10-4, and the City Layout for High Street.
- The fencing along the retaining walls at Parcels I8-10-5 and I8-10-4, and the City Layout for High Street.

GE will perform an additional inspection of these items in 2021. The inspection will be performed in late spring or summer during low flow conditions. Additionally, in 2021 a professional engineer will perform the inspection (as was done in 2016). Following that inspection and the engineer's report on it, GE will make a proposal regarding the continuation of this inspection program for the retaining walls and the other select critical ancillary items.

10.5 Surface Water Sampling

In accordance with EPA's June 28, 2017 conditional approval letter, surface water sampling associated with the 1½ Mile will continue to be performed quarterly at the Pomeroy Avenue Bridge location as part of PRSC activities for the 1½ Mile. This sampling will continue until GE proposes and EPA approves additional modifications to this schedule.

[7] A 10-year flow event is defined as an instantaneous peak flow of 3,500 cfs or greater measured at the USGS Coltsville gauging station.

10.6 Sediment Sampling

Based on the consistency in the PCB concentrations measured over the 10-year sampling period, sediment PCB concentrations do not appear to be changing, and GE proposed in their November 15, 2017 report that no additional long-term monitoring of the sediments in the 1½ Mile is necessary or appropriate. However, in their January 10, 2018 conditional approval letter, EPA did not concur with GE's proposal to discontinue the sediment sampling program, and instead required an additional sampling event for PCBs in 2022.[8]

As such, an additional sediment sampling event will be performed in 2022, likely in late June or early July. Prior to that event, GE will submit to EPA for approval a sampling plan for the collection and analysis of these samples. Following the completion of that event, GE will submit a proposal to EPA regarding the need for and scope of further long-term monitoring of the sediments in the 1½ Mile.

10.7 Macroinvertebrate Sampling

Given the observed decrease in the PCB concentrations measured in macroinvertebrate tissue over the 10-year post-construction sampling period, and the presence of a benthic macroinvertebrate community that indicates good to high water quality, GE proposed in their November 21, 2017 report that no additional long-term monitoring of the macroinvertebrates in the 1½ Mile is necessary or appropriate. In their January 10, 2018 conditional approval letter, EPA concurred with GE's recommendation that no further long-term monitoring of the macroinvertebrates is necessary at this time.

10.8 ERE and Conditional Solution Inspections

GE will continue to perform inspections of the non-GE-owned and non-State-owned properties subject to EREs and the properties subject to Conditional Solutions within the 1½ Mile on an annual basis in the late fall (typically October), with the next inspections anticipated for October 2018. For properties where the ERE or Conditional Solution applies only to the riverbank portion of the property, the inspections will be conducted only of that portion. For properties where the ERE or Conditional Solution applies to both the riverbank and non-riverbank portions, the inspections of the riverbanks within the 1½ Mile will be conducted in conjunction with the ERE or Conditional Solution inspections of the non-riverbank portions as required under Post-Removal Site Control Plans for other RAAs under the CD.

10.9 Future Reporting

In accordance with the Final PRSC Plan, GE will continue to include the results from the monitoring activities conducted during a given year in an annual report to be submitted to EPA. To allow for inclusion of the validated water column data, GE will submit the annual report to EPA by February 15 of the year following the year in which the events were performed. In addition, interim reports on the monitoring events described above will be submitted after completion of the inspection(s) in question.

[8] In their January 10, 2018 letter, EPA noted that GE may, at its discretion, discontinue sampling for TOC.

TABLES

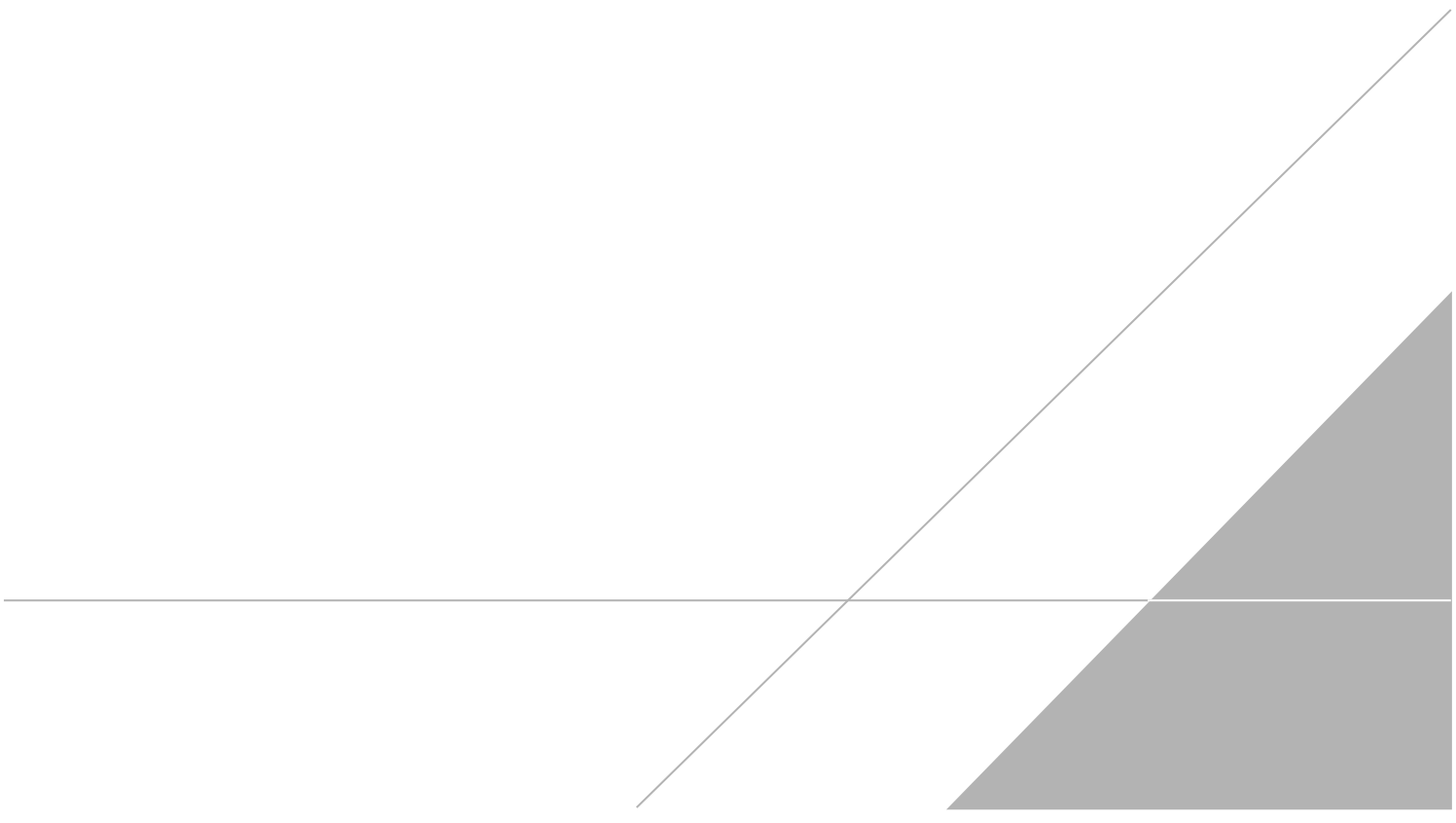

Table 3-1
2017 Summary of Measurements of the Gap Between the Shotcrete and ACB Adjacent to I8-10-5

2017 Annual Monitoring Report
1½-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Measurement Location[1]	2012 Measurement[2] (inches)	2014 Measurement[2] (inches)	2015 Measurement[2] (inches)	2017 Measurement[2] (inches)	2015 Comments[3]
1	0	0	0	0	No gap observed.
2	NA	0	0	0	No gap observed.
3	0	0	0	0.5	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 1" deep (horizontally), at which point solid shotcrete was encountered.
4	NA	0	0	1	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 0.5" deep (horizontally), at which point solid shotcrete was encountered.
5	0	0	0	1	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 0.5" deep (horizontally), at which point solid shotcrete was encountered.
6	NA	0	0	2	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 0.5" deep (horizontally), at which point solid shotcrete was encountered.
7	1.5	2	1.5	1.5	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 2.5" deep (horizontally), at which point solid shotcrete was encountered.
8	2.25	3	1.5	4.0	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 5.5" deep (horizontally), at which point solid shotcrete was encountered.
9	2	3	2.5	2.5	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 7" deep (horizontally), at which point solid shotcrete was encountered.
10	2	3	0	3	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 2.5" deep (horizontally), at which point solid shotcrete was encountered.
11	3	4	2.5	5.0	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 5-8.5" deep (horizontally), at which point solid shotcrete was encountered.
12	3	5	4.5	4.5	The space under the overhang in the vicinity of the metal soil anchor was observed to be as much as approximately 7" deep (horizontally), at which point solid shotcrete was encountered.

Notes:

1. Measurement Locations are referenced to the metal soil anchors located along the base of the retaining wall adjacent to I9-10-5, and are oriented from upstream to downstream (i.e., Measurement Location 3 is the third metal soil anchor counted from the upstream end of the retaining wall).

2. Measurement distance represents the vertical distance between the bottom of the small overhang of shotcrete and the top of the underlying ACB.

3. ABC area was generally observed to have quite a bit of sediment deposit.

Table 3-2
2017 Summary of Items Requiring Response

2017 Annual Monitoring Report
1½-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Areas/Items Not Meeting Maintenance Standards	Description	Completed Response Action
ACB downstream of Elm St. Bridge and adjacent to retaining wall on Parcel I8-10-5	Tree(s) growing in ACB	Cut trees in November 2017.

Table 6-1
Surface Water Monitoring Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Sample ID	Sample Location	Date Collected	Analytical Parameters									Field Measurements					Flow (cfs)[1]
			Aroclor-1016 (ppb)	Aroclor-1221 (ppb)	Aroclor-1232 (ppb)	Aroclor-1242 (ppb)	Aroclor-1248 (ppb)	Aroclor-1254 (ppb)	Aroclor-1260 (ppb)	Total PCBs (ppb)	Total Suspended Solids (ppm)	Conductivity (mS/cm)	pH (Standard Units)	Sample Depth (m)	Turbidity (ntu)	Water Temperature (C)	
LOCATION-4	Lyman Street Bridge	01/26/17	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(4)	0.366	8.18	0.25	5	2.6	104
		02/23/17	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	4.4	0.368	8.05	0.28	13	5.9	131
		03/30/17	NA	NA	NA	NA	NA	NA	NA	NA	4	0.183	8.19	0.43	5	5.2	246
		04/27/17	NA	NA	NA	NA	NA	NA	NA	NA	ND(4)	0.256	7.86	0.24	2	14.1	99.8
LOCATION-6A	Pomeroy Avenue	01/25/17	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.17)	0.052	0.052	ND(4)	0.445	8.23	0.35	3	2.0	105
		02/23/17	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.021 J	0.021 J	4.4	0.382	7.95	0.37	16	5.6	131
		03/30/17	NA	NA	NA	NA	NA	NA	NA	NA	3.8	0.206	7.98	0.60	5	5.3	246
		04/27/17	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(4)	0.262	7.76	0.37	3	14.4	99.8
		07/25/17	NA	NA	NA	NA	NA	NA	NA	NA	3.68	0.408	7.62	0.20	6	17.1	37.5
		10/25/17	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.053)	ND(0.0094)	ND(0.053)	5.07	0.240	6.72	0.30	4	15.2	86.9

Notes:

1. Flow indicated in cubic feet per second (cfs) as recorded upstream at the U.S. Geological Survey (USGS) River Gage Station No. 01197000 on the East Branch of the Housatonic River in Coltsville, MA.
2. Sampling methods involved the collection of composite grab samples at each location, representative of three stations (25, 50, and 75 percent of the total river width at each location) at 50 percent of the total river depth at each station. Reported sample depth is the average of the three depths at the composite sample locations.
3. Samples were collected by Arcadis.
4. ND - Analyte was not detected. The number in parentheses is the associated reporting limit or the detected concentration prior to validation (see Appendix B).
5. J - Indicates an estimated value. R - Indicates rejected data.
6. NA - Analyte was not analyzed / Parameter was not recorded.

Table 7-1
Sediment Sample Inventory

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect	Location ID[1]	Sample Depth (inches)
T-210	T-210-L	0-6
		6-10.5
	T-210-C	0-6
		6-8
	T-210-R	0-6*
T-206	T-206-L	0-5.5
	T-206-C	0-6
		6-19 [DUP]
	T-206-R	0-6
		6-14
T-202	T-202-L	0-5
	T-202-C	0-6*
	T-202-R	0-5
T-198	T-198-L	0-6
		6-13
	T-198-C	0-6
		6-9.5
	T-198-R	0-6
		6-17.5
T-194	T-194-L	0-6
		6-9.5
	T-194-C	0-6
		6-11
	T-194-R	0-6
		6-7.5
T-190	T-190-L	0-6
		6-8.5
	T-190-C	0-6 [DUP]
		6-15
	T-190-R	0-6
		6-8
T-186	T-186-L	0-6*
		6-9.5
	T-186-C	0-6
		6-10
	T-186-R	0-4.5
T-182	T-182-L	0-6
		6-8
	T-182-C	0-3.5
	T-182-R	0-3*
T-178	T-178-L	0-4
	T-178-C	0-3
	T-178-R	0-4
T-174	T-174-L	0-6
		6-17
	T-174-C	0-6
		6-9
	T-174-R	0-6
		6-8

Table 7-1
Sediment Sample Sample Inventory

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect	Location ID[1]	Sample Depth (inches)
T-170	T-170-L	0-4
	T-170-C	0-6
		6-8
	T-170-R	0-5*
T-166	T-166-L	0-4
	T-166-C	0-6
		6-8
	T-166-R	0-4
T-162	T-162-L	0-4
	T-162-C	0-6
		6-11
	T-162-R	0-6
		6-9
T-158	T-158-L	0-6 [DUP]
		6-10
	T-158-C	0-3
	T-158-R	0-3
T-154	T-154-L	0-5
	T-154-C	0-6*
	T-154-R	0-2
T-150	T-150-L	0-3
	T-150-C	0-5
	T-150-R	0-2
T-146	T-146-L	0-4
	T-146-C	0-3
	T-146-R	0-3
T-142	T-142-L	0-1
	T-142-C	0-3
	T-142-R	0-4
T-138	T-138-L	0-6
	T-138-C	0-1
	T-138-R	0-5*
T-134	T-134-L	0-4
	T-134-C	0-1*
	T-134-R	0-1
T-130	T-130-L	0-4*
	T-130-C	0-1
	T-130-R	0-1
T-126	T-126-L	0-1
	T-126-C	0-3
	T-126-R	0-5
T-122	T-122-L	0-1
	T-122-C	0-2
	T-122-R	0-1
T-118	1-118-L	No Sample
	T-118-C	0-5*
	T-118-R	No Sample
T-114	T-114-L	0-2
	T-114-C	0-3
	T-114-R	0-3
T-110	No Sample	No Sample

Table 7-1
Sediment Sample Sample Inventory

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect	Location ID[1]	Sample Depth (inches)
T-106	T-106-L	No Sample
	T-106-C	No Sample
	T-106-R	0-6 [DUP]
		6-7
T-102	T-102-L	0-2
	T-102-C	0-6*
		6-10
	T-102-R	0-4
T-98	T-98-L	0-6 [DUP]
	T-98-C	0-5
	T-98-R	0-3
T-94	T-94-L	0-6
		6-24* [DUP]
	T-94-C	0-6
		6-7
	T-94-R	0-6
T-90	T-90-L	0-3
	T-90-C	0-6
		6-7
	T-90-R	0-4
T-86	T-86-L	No Sample
	T-86-C	0-6
		6-12
	T-86-R	0-5*
T-82	T-82-L	0-3
	T-82-C	0-6
		6-11
	T-82-R	0-6
		6-10
T-78	T-78-L	0-6*
		6-11 [DUP]
	T-78-C	0-5
	T-78-R	0-3
T-74	T-74-L	0-6
		6-7
	T-74-C	0-6*
	T-74-R	0-6
		6-8
T-70	T-70-L	0-6
	T-70-C	0-3
	T-70-R	0-1
T-66	T-66-L	0-5
	T-66-C	0-5
	T-66-R	0-5

Notes:

1. "L", "C", and "R" correspond to the Left, Center, and Right samples for each transect. Left is the left side of the channel looking in the upstream (north) direction.

2. For those Samples for which [DUP] is noted, a duplicate sample was collected.

* EPA collected a split sample of 15 of the samples collected by Arcadis on behalf of GE.

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter / Sample ID:	T 66-C	T 66-L	T 66-R	T 70-C	T 70-L	T 70-R	T 74-C	T 74-L	T 74-L	T 74-R	T 74-R
Sample Depth(Inches):	0-5	0-5	0-5	0-3	0-6	0-1	0-6	0-6	6-7	0-6	6-8
Date Collected:	08/17/17	08/17/17	08/17/17	08/17/17	08/17/17	08/17/17	08/17/17	08/17/17	08/17/17	08/17/17	08/17/17
PCBs											
Aroclor-1248	ND(0.042)	ND(0.042)	ND(0.042)	ND(0.041)	ND(0.045)	ND(0.037)	ND(0.039)	ND(0.043)	ND(0.049)	ND(0.036)	ND(0.038)
Aroclor-1254	ND(0.042)	ND(0.042)	ND(0.042)	ND(0.041)	ND(0.045)	0.024 J	ND(0.039)	0.065	0.15	0.024 J	ND(0.038)
Aroclor-1260	0.061	0.19	0.086	0.27	0.55	0.030 J	ND(0.039)	0.069	0.11	ND(0.036)	ND(0.038)
Aroclor-1262	ND(0.042)	ND(0.042)	ND(0.042)	ND(0.041)	ND(0.045)	ND(0.037)	ND(0.039)	ND(0.043)	ND(0.049)	ND(0.036)	ND(0.038)
Total PCBs	**0.061**	**0.19**	**0.086**	**0.27**	**0.55**	**0.054 J**	**ND(0.039)**	**0.134**	**0.26**	**0.024 J**	**ND(0.038)**
Total Organic Carbon	2100	45000	4200	5500	14000	1900	3300	5200	14000	4900	2600

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 78-C 0-5 08/17/17	T 78-L 0-6 08/17/17	T 78-L 6-11 08/17/17	T 78-R 0-3 08/17/17	T 82-C 0-6 08/17/17	T 82-C 6-11 08/17/17	T 82-L 0-3 08/17/17	T 82-R 0-6 08/17/17	T 82-R 6-10 08/17/17	T 86-C 0-6 08/16/17	T 86-C 6-12 08/16/17
PCBs												
Aroclor-1248		ND(0.043)	ND(0.043)	ND(0.044) [ND(0.047)]	ND(0.039)	ND(0.039)	ND(0.044)	ND(0.039)	ND(0.037)	ND(0.040)	ND(0.038)	ND(0.037)
Aroclor-1254		0.041 J	0.095	0.11 [0.11]	0.037 J	0.034 J	0.40 J	0.11	ND(0.037)	0.11	0.040	0.036 J
Aroclor-1260		0.032 J	0.20	0.085 [0.086]	0.063 J	0.028 J	0.32 J	0.072	ND(0.037)	0.10	0.031 J	0.086
Aroclor-1262		ND(0.043)	ND(0.043)	ND(0.044) [ND(0.047)]	ND(0.039)	ND(0.039)	ND(0.044)	ND(0.039)	0.35	ND(0.040)	ND(0.038)	ND(0.037)
Total PCBs		**0.073 J**	**0.295**	**0.195 [0.196]**	**0.10 J**	**0.062 J**	**0.72 J**	**0.182**	**0.35**	**0.21**	**0.071**	**0.122**
Total Organic Carbon		10000	8300	10000 [7700 J]	14000	1600 J	14000	3700	1900	5200	19000	1600

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter / Sample ID: / Sample Depth(Inches): / Date Collected:	T 86-R 0-5 08/16/17	T 90-C 0-6 08/16/17	T 90-C 6-7 08/16/17	T 90-L 0-3 08/16/17	T 90-R 0-4 08/16/17	T 94-C 0-6 08/16/17	T 94-C 6-7 08/16/17	T 94-L 0-6 08/16/17	T 94-L 6-24 08/16/17	T 94-R 0-6 08/16/17	T 98-C 0-5 08/16/17
PCBs											
Aroclor-1248	0.063	0.050	0.089	ND(0.038)	ND(0.041)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.040) [ND(0.036)]	0.058 J	ND(0.038)
Aroclor-1254	0.095 J	0.043	0.089	0.025 J	0.025 J	0.044	0.039 J	0.065	0.24 [0.021 J]	0.047 J	ND(0.038)
Aroclor-1260	0.060	0.032 J	0.11	0.016 J	0.018 J	0.033 J	0.064	0.035 J	0.79 [0.069]	0.092	0.17
Aroclor-1262	ND(0.042)	ND(0.041)	ND(0.037)	ND(0.038)	ND(0.041)	ND(0.039)	ND(0.041)	ND(0.040)	ND(0.040) [ND(0.036)]	ND(0.040)	ND(0.038)
Total PCBs	**0.218 J**	**0.125**	**0.288**	**0.041 J**	**0.043 J**	**0.077**	**0.103**	**0.10 J**	**1.03 [0.090]**	**0.197 J**	**0.17**
Total Organic Carbon	4500	1500	3800	6600	2600	3200	2900	3300 J	2500 [6700]	2700	4900

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 98-L 0-6 08/16/17	T 98-R 0-3 08/16/17	T 102 C 0-6 08/16/17	T 102 C 6-10 08/16/17	T 102 L 0-2 08/16/17	T 102 R 0-4 08/16/17	T 106 R 0-6 08/16/17	T 106 R 6-7 08/16/17	T 114 C 0-3 08/15/17	T 114 L 0-2 08/15/17
PCBs											
Aroclor-1248		ND(0.046) [ND(0.044)]	ND(0.049)	ND(0.040)	ND(0.043)	ND(0.044)	ND(0.034)	ND(0.035) [ND(0.037)]	ND(0.036)	ND(0.041)	ND(0.040)
Aroclor-1254		0.066 [0.082]	0.48	0.12	0.053 J	0.071	0.031 J	0.038 [0.029 J]	0.032 J	0.045	0.15 J
Aroclor-1260		ND(0.046) [0.22]	0.081	0.072	ND(0.043)	ND(0.044)	0.025 J	0.028 J [0.055]	0.018 J	0.038 J	0.070
Aroclor-1262		ND(0.046) [ND(0.044)]	ND(0.049)	ND(0.040)	ND(0.043)	ND(0.044)	ND(0.034)	ND(0.035) [ND(0.037)]	ND(0.036)	ND(0.041)	ND(0.040)
Total PCBs		**0.066 [0.302]**	**0.561**	**0.192**	**0.053 J**	**0.071**	**0.056 J**	**0.066 [0.084]**	**0.050 J**	**0.083**	**0.22 J**
Total Organic Carbon		8400 [11000]	21000	10000	1500	2400	1300	1400 [2000]	1300	8100 J	4100

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter / Sample ID:	T 114 R	T 118 C	T 122 C	T 122 L	T 122 R	T 126 C	T 126 L	T 126 R	T 130 C	T 130 L	T 130 R
Sample Depth(Inches):	0-3	0-5	0-2	0-1	0-1	0-3	0-1	0-5	0-1	0-4	0-1
Date Collected:	08/15/17	08/15/17	08/17/17	08/17/17	08/17/17	08/15/17	08/15/17	08/15/17	08/17/17	08/15/17	08/17/17
PCBs											
Aroclor-1248	ND(0.042)	ND(0.038)	ND(0.040)	ND(0.035)	ND(0.046)	ND(0.040)	ND(0.046)	ND(0.042)	ND(0.038)	ND(0.039)	ND(0.045)
Aroclor-1254	0.093 J	0.12	0.042 J	0.027 J	0.18 J	0.040	0.37	0.055	ND(0.038)	0.088	0.045
Aroclor-1260	ND(0.042)	ND(0.038)	0.038 J	ND(0.035)	0.10	ND(0.040)	ND(0.046)	ND(0.042)	ND(0.038)	ND(0.039)	ND(0.045)
Aroclor-1262	ND(0.042)	ND(0.038)	ND(0.040)	ND(0.035)	ND(0.046)	ND(0.040)	ND(0.046)	ND(0.042)	ND(0.038)	ND(0.039)	ND(0.045)
Total PCBs	**0.093 J**	**0.12**	**0.080 J**	**0.027 J**	**0.28 J**	**0.040**	**0.37**	**0.055**	**ND(0.038)**	**0.088**	**0.045**
Total Organic Carbon	22000	1100	3700	5100	20000	2500	7600	17000	5600	1900	7800

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 134 C 0-1 08/17/17	T 134 L 0-4 08/15/17	T 134 R 0-1 08/17/17	T 138 C 0-1 08/17/17	T 138 L 0-6 08/15/17	T 138 R 0-5 08/17/17	T 142 C 0-3 08/15/17	T 142 L 0-1 08/15/17	T 142 R 0-4 08/15/17	T 146 C 0-3 08/14/17	T 146 L 0-4 08/14/17
PCBs												
Aroclor-1248		ND(0.039)	ND(0.042)	ND(0.042)	ND(0.039)	ND(0.037)	ND(0.041)	ND(0.043)	ND(0.053)	ND(0.038)	ND(0.041)	ND(0.040)
Aroclor-1254		0.042	0.23	0.085	ND(0.039)	0.059	0.056 J	0.091 J	0.078	0.066	0.14	0.036 J
Aroclor-1260		0.027 J	ND(0.042)	ND(0.042)	ND(0.039)	0.044	ND(0.041)	0.034 J	0.050 J	0.050	ND(0.041)	0.036 J
Aroclor-1262		ND(0.039)	ND(0.042)	ND(0.042)	ND(0.039)	ND(0.037)	ND(0.041)	ND(0.043)	ND(0.053)	ND(0.038)	ND(0.041)	ND(0.040)
Total PCBs		**0.069**	**0.23**	**0.085**	**ND(0.039)**	**0.103**	**0.056 J**	**0.125 J**	**0.128**	**0.116**	**0.14**	**0.072 J**
Total Organic Carbon		4000	13000	2500	1900	9400	20000	4100	14000	3000	3800	12000 J

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 146 R 0-3 08/14/17	T 150 C 0-5 08/14/17	T 150 L 0-3 08/14/17	T 150 R 0-2 08/14/17	T 154 C 0-6 08/14/17	T 154 L 0-5 08/14/17	T 154 R 0-2 08/14/17	T 158 C 0-3 08/14/17	T 158 L 0-6 08/14/17	T 158 L 6-10 08/14/17	T 158 R 0-3 08/14/17
PCBs												
Aroclor-1248		ND(0.040)	ND(0.039)	ND(0.050)	ND(0.047)	ND(0.039)	ND(0.043)	ND(0.042)	ND(0.037)	ND(0.042) [ND(0.042)]	ND(0.044)	ND(0.036)
Aroclor-1254		0.094 J	0.11 J	0.13	0.20	0.034 J	0.069	0.13	ND(0.037)	0.16 [0.088]	0.12 J	0.033 J
Aroclor-1260		0.059 J	ND(0.039)	0.087 J	0.087 J	0.028 J	ND(0.043)	0.044 J	ND(0.037)	0.087 [0.045]	0.15 J	0.030 J
Aroclor-1262		ND(0.040)	ND(0.039)	ND(0.050)	ND(0.047)	ND(0.039)	ND(0.043)	ND(0.042)	ND(0.037)	ND(0.042) [ND(0.042)]	ND(0.044)	ND(0.036)
Total PCBs		**0.153 J**	**0.11 J**	**0.217 J**	**0.287 J**	**0.062 J**	**0.069**	**0.174 J**	**ND(0.037)**	**0.247 [0.133]**	**0.27 J**	**0.063 J**
Total Organic Carbon		3200	1900	19000	8600	1500	7200	4200	5200	10000 [9400]	15000	39000

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 162 C 0-6 08/11/17	T 162 C 6-11 08/11/17	T 162 L 0-4 08/11/17	T 162 R 0-6 08/11/17	T 162 R 6-9 08/11/17	T 166 C 0-6 08/11/17	T 166 C 6-8 08/11/17	T 166 L 0-4 08/11/17	T 166 R 0-4 08/11/17	T 170 C 0-6 08/11/17	T 170 C 6-8 08/11/17
PCBs												
Aroclor-1248		ND(0.036)	ND(0.038)	ND(0.036)	ND(0.040)	ND(0.041)	ND(0.035)	ND(0.039)	ND(0.036)	ND(0.041)	ND(0.039)	ND(0.037)
Aroclor-1254		0.037	0.028 J	0.027 J	0.095 J	0.049 J	0.054 J	0.031 J	0.028 J	0.033 J	0.050 J	0.064
Aroclor-1260		0.021 J	0.032 J	ND(0.036)	0.065 J	0.026 J	0.082	0.017 J	0.027 J	0.032 J	0.024 J	0.030 J
Aroclor-1262		ND(0.036)	ND(0.038)	ND(0.036)	ND(0.040)	ND(0.041)	ND(0.035)	ND(0.039)	ND(0.036)	ND(0.041)	ND(0.039)	ND(0.037)
Total PCBs		**0.058**	**0.060 J**	**0.027 J**	**0.16 J**	**0.075 J**	**0.136 J**	**0.048 J**	**0.055 J**	**0.065 J**	**0.074 J**	**0.094 J**
Total Organic Carbon		7800	1200	8400	18000	70000	2000	6000	1400	1500	12000	3300

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Sample ID: / Sample Depth(Inches): / Parameter / Date Collected:	T 170 L 0-4 08/11/17	T 170 R 0-5 08/11/17	T 174 C 0-6 08/10/17	T 174 C 6-9 08/10/17	T 174 L 0-6 08/10/17	T 174 L 6-17 08/10/17	T 174 R 0-6 08/10/17	T 174 R 6-8 08/10/17	T 178 C 0-3 08/10/17	T 178 L 0-4 08/10/17	T 178 R 0-4 08/10/17
PCBs											
Aroclor-1248	ND(0.037)	ND(0.053)	ND(0.034)	ND(0.034)	ND(0.042)	ND(0.039)	ND(0.034)	ND(0.035)	ND(0.040)	0.23	ND(0.039)
Aroclor-1254	0.11	0.19	0.035	ND(0.034)	0.13	0.039 J	ND(0.034)	0.019 J	0.043	0.14	0.049
Aroclor-1260	0.077	0.14 J	0.033 J	0.016 J	0.039 J	ND(0.039)	2.5	ND(0.035)	0.017 J	0.049	ND(0.039)
Aroclor-1262	ND(0.037)	ND(0.053)	ND(0.034)	ND(0.034)	ND(0.042)	ND(0.039)	ND(0.034)	ND(0.035)	ND(0.040)	ND(0.040)	ND(0.039)
Total PCBs	**0.187**	**0.33 J**	**0.068**	**0.016 J**	**0.169**	**0.039 J**	**2.5**	**0.019 J**	**0.060**	**0.419**	**0.049**
Total Organic Carbon	6700	21000	3600	1100	14000	8000	1200 J	1500	2700	3100	3500

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 182 C 0-3.5 08/10/17	T 182 L 0-6 08/10/17	T 182 L 6-8 08/10/17	T 182 R 0-3 08/10/17	T 186 C 0-6 08/10/17	T 186 C 6-10 08/10/17	T 186 L 0-6 08/10/17	T 186 L 6-9.5 08/10/17	T 186 R 0-4.5 08/10/17	T 190 C 0-6 08/10/17	T 190 C 6-15 08/10/17
PCBs												
Aroclor-1248		ND(0.038)	ND(0.038)	ND(0.038)	ND(0.046)	ND(0.038)	ND(0.035)	ND(0.040)	ND(0.038)	ND(0.038)	ND(0.039) [ND(0.039)]	ND(0.035)
Aroclor-1254		0.032 J	0.035 J	ND(0.038)	0.10	0.037 J	0.040	0.054 J	ND(0.038)	0.058 J	ND(0.039) [0.056]	ND(0.035)
Aroclor-1260		0.031 J	0.035 J	0.048	0.066	ND(0.038)	ND(0.035)	0.024 J	0.033 J	ND(0.038)	0.16 [ND(0.039)]	0.047
Aroclor-1262		ND(0.038)	ND(0.038)	ND(0.038)	ND(0.046)	ND(0.038)	ND(0.035)	ND(0.040)	ND(0.038)	ND(0.038)	ND(0.039) [ND(0.039)]	ND(0.035)
Total PCBs		**0.063 J**	**0.070 J**	**0.048**	**0.166**	**0.037 J**	**0.040**	**0.078 J**	**0.033 J**	**0.058 J**	**0.16 [0.056]**	**0.047**
Total Organic Carbon		2400	1800	1400	25000	2200	1200	4600	7900	7500 J	16000 [23000]	11000 J

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Sample ID: / Sample Depth(Inches): / Parameter / Date Collected:	T 190 L 0-6 08/10/17	T 190 L 6-8.5 08/10/17	T 190 R 0-6 08/10/17	T 190 R 6-8 08/10/17	T 194 C 0-6 08/08/17	T 194 C 6-11 08/08/17	T 194 L 0-6 08/08/17	T 194 L 6-9.5 08/08/17	T 194 R 0-6 08/08/17	T 194 R 6-7.5 08/08/17	T 198 C 0-6 08/08/17
PCBs											
Aroclor-1248	ND(0.041)	ND(0.039)	ND(0.036)	ND(0.036)	ND(0.040)	ND(0.037)	ND(0.038)	ND(0.038)	ND(0.042)	ND(0.040)	ND(0.039)
Aroclor-1254	0.047 J	0.023 J	0.023 J	ND(0.036)	0.045	0.026 J	0.059	0.046	0.048	0.047	0.047
Aroclor-1260	0.044 J	0.023 J	ND(0.036)	0.023 J	0.062	0.027 J	0.026 J	0.039	0.050	0.057	0.025 J
Aroclor-1262	ND(0.041)	ND(0.039)	ND(0.036)	ND(0.036)	ND(0.040)	ND(0.037)	ND(0.038)	ND(0.038)	ND(0.042)	ND(0.040)	ND(0.039)
Total PCBs	**0.091 J**	**0.046 J**	**0.023 J**	**0.023 J**	**0.107**	**0.053 J**	**0.085**	**0.085**	**0.098**	**0.104**	**0.072**
Total Organic Carbon	2800	1600	1900	1400	7200	14000	1800 J	7100	3700	5100	5000

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 198 C 6-9.5 08/08/17	T 198 L 0-6 08/08/17	T 198 L 6-13 08/08/17	T 198 R 0-6 08/08/17	T 198 R 6-17.5 08/08/17	T 202 C 0-6 08/08/17	T 202 L 0-5 08/08/17	T 202 R 0-5 08/08/17	T 206 C 0-6 08/08/17	T 206 C 6-19 08/08/17	T 206 L 0-5.5 08/08/17
PCBs												
Aroclor-1248		ND(0.039)	ND(0.041)	ND(0.038)	ND(0.039)	2.1	ND(0.038)	ND(0.035)	ND(0.041)	ND(0.035) [ND(0.037)]	ND(0.039)	ND(0.034)
Aroclor-1254		ND(0.039)	0.041 J	ND(0.038)	0.037 J	0.65 J	0.053	0.042	ND(0.041)	0.067 J [0.075 J]	0.032 J	0.047
Aroclor-1260		0.13	0.031 J	0.043	0.019 J	1.6	0.050	ND(0.035)	0.074	0.038 J [ND(0.037)]	0.062	0.034 J
Aroclor-1262		ND(0.039)	ND(0.041)	ND(0.038)	ND(0.039)	ND(0.046)	ND(0.038)	ND(0.035)	ND(0.041)	ND(0.035) [ND(0.037)]	ND(0.039)	ND(0.034)
Total PCBs		**0.13**	**0.072 J**	**0.043**	**0.056 J**	**4.35 J**	**0.103**	**0.042**	**0.074**	**0.105 J [0.075 J]**	**0.094 J**	**0.081 J**
Total Organic Carbon		11000	2300	1500	1800	18000	19000	1500	18000	30000 [43000]	2600 J	2100

Table 7-2
Sediment Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: / Sample Depth(Inches): / Date Collected:	T 206 R 0-6 08/08/17	T 206 R 6-14 08/08/17	T 210 C 0-6 08/08/17	T 210 C 6-8 08/08/17	T 210 L 0-6 08/08/17	T 210 L 6-10.5 08/08/17	T 210 R 0-6 08/08/17
PCBs								
Aroclor-1248		ND(0.040)	ND(0.041)	ND(0.037)	ND(0.039)	ND(0.032)	ND(0.035)	ND(0.042)
Aroclor-1254		0.027 J	0.071 J	ND(0.037)	ND(0.039)	0.025 J	0.031 J	0.028 J
Aroclor-1260		ND(0.040)	0.066 J	0.26	0.51	ND(0.032)	ND(0.035)	0.033 J
Aroclor-1262		ND(0.040)	ND(0.041)	ND(0.037)	ND(0.039)	ND(0.032)	ND(0.035)	ND(0.042)
Total PCBs		**0.027 J**	**0.137 J**	**0.26**	**0.51**	**0.025 J**	**0.031 J**	**0.061 J**
Total Organic Carbon		2300	7800	9000	13000	2200	6000	3000

Notes:

1. Samples were collected by Arcadis and submitted to SGS Accutest Environmental Services, Inc. for analysis of PCBs and total organic carbon (TOC).
2. Samples have been validated as per Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, Arcadis (revised on July 2,2013 and approved by EPA on July 23, 2013) and the Addendum to the FSP/QAPP General Electric Company, Pittsfield, Massachusetts, Arcadis (August 23, 2017 and approved by EPA on August 28, 2017).
3. ND - Analyte was not detected. The number in parentheses is the associated reporting limit.
4. Only those constituents detected in one or more samples are summarized. No detections were observed in any sample for Aroclor-1016, 1221, 1232, 2142, or 1268.
5. Field duplicate sample results are presented in brackets.

Data Qualifiers:

J - Indicates an estimated value.

Table 7-3
EPA Split Samples and Associated GE Sediment Sample PCB Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Location ID	T 210 R		T 202 C		T 186 L		T 182 R	
Date Collected	8/8/17		8/8/17		8/10/17		8/10/17	
Sample ID	GE Sample T-210-R (0-6)	EPA Sample H2-SE001702-0-0000	GE Sample T-202-C (0-6)	EPA Sample H2-SE001703-0-0000	GE Sample T-186-L (0-6)	EPA Sample H2-SE001704-0-0000	GE Sample T-182-R (0-3)	EPA Sample H2-SE001705-0-0000
Aroclor 1016, 1221, 1232, 1242, 1248, 1262, & 1268	ND(0.042)	ND(0.023) J	ND(0.038)	ND(0.019) J	ND(0.038)	ND(0.019) J	ND(0.046)	ND(0.025) J
Aroclor 1254	0.028 J	0.021 J	0.053	0.046 J	ND(0.038)	0.065 J	0.10	0.20 J
Aroclor 1260	0.033 J	0.024 J	0.050	0.030 J	0.033 J	0.019 J	0.066	0.20 J
Total PCBs	0.061 J	0.045 J	0.103	0.076 J	0.033 J	0.084 J	0.166	0.40 J

Location ID	T 170 R		T 154 C		T 138 R		T 134 C	
Date Collected	8/11/17		8/14/17		8/17/17		8/17/17	
Sample ID	GE Sample T-170-R (0-5)	EPA Sample H2-SE001706-0-0000	GE Sample T-154-C (0-6)	EPA Sample H2-SE001707-0-0000	GE Sample T-138-R (0-5)	EPA Sample H2-SE001716-0-0000	GE Sample T-134-C (0-1)	EPA Sample H2-SE001715-0-0000
Aroclor 1016, 1221, 1232, 1242, 1248, 1262, & 1268	ND(0.053)	ND(0.027) J[1,2]	ND(0.039)	ND(0.020) J[1]	ND(0.041)	ND(0.022) J[1]	ND(0.039)	ND(0.019) J[1]
Aroclor 1254	0.19	0.14 J[2]	0.034 J	0.025	0.056 J	0.043	0.042	0.046
Aroclor 1260	0.14 J	0.087 J[1,2]	0.028 J	0.014 J[1]	ND(0.041)	0.023 J[1]	0.027 J	0.026 J[1]
Total PCBs	0.33 J	0.23 J[1,2]	0.062 J	0.039 J[1]	0.056 J	0.066 J[1]	0.069	0.072 J[1]

Table 7-3
EPA Split Samples and Associated GE Sediment Sample PCB Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Location ID	T 130 L		T 118 C		T 102 C	
Date Collected	8/15/17		8/15/17		8/16/17	
Sample ID	GE Sample T-130-L (0-4)	EPA Sample H2-SE001708-0-0000	GE Sample T-118-C (0-5)	EPA Sample H2-SE001709-0-0000	GE Sample T-102-C (0-6)	EPA Sample H2-SE001710-0-0000
Aroclor 1016, 1221, 1232, 1242, 1248, 1262, & 1268	ND(0.039)	ND(0.020) J[1,2]	ND(0.038)	ND(0.018) J[1]	ND(0.040)	ND(0.020) J[1]
Aroclor 1254	0.088	0.049 J[2]	0.12	0.017 J	0.12	0.069
Aroclor 1260	ND(0.039)	0.039 J[1,2]	ND(0.038)	0.029 J[1]	0.072	0.017 J[1]
Total PCBs	0.088	0.088 J[1,2]	0.12	0.048 J[1]	0.192	0.086 J[1]

Location ID	T 94-L		T 86-R		T 78-L		T 74-C	
Date Collected	8/16/17		8/16/17		8/17/17		8/17/17	
Sample ID	GE Sample T-94-L (6-24)	EPA Sample H2-SE001711-0-0005 [H2-SE001711-1-0005]	GE Sample T-86-R (0-5)	EPA Sample H2-SE001712-0-0000	GE Sample T-78-L (0-6)	EPA Sample H2-SE001713-0-0000	GE Sample T-74-C (0-6)	EPA Sample H2-SE001714-0-0000
Aroclor 1016, 1221, 1232, 1242, 1262, & 1268	ND(0.040) [ND(0.036)]	ND(0.020) J[1] [ND(0.021) J[1,2]]	ND(0.042)	ND(0.022) J[1]	ND(0.044) [ND(0.047)]	ND(0.026) J[1,2]	ND(0.039)	ND(0.020) J[1]
Aroclor 1248	ND(0.040) [ND(0.036)]	ND(0.020) [ND(0.021) J[2]]	0.063	ND(0.022)	ND(0.044) [ND(0.047)]	ND(0.026) J[2]	ND(0.039)	ND(0.020)
Aroclor 1254	0.24 [0.021 J]	0.034 [0.017 J]	0.095 J	0.050	0.11 [0.11]	0.066 J[2]	ND(0.039)	0.028
Aroclor 1260	0.79 [0.069]	0.063 J[1] [0.014] J[1,2]	0.060	0.034 J[1]	0.085 [0.086]	0.058 J[1,2]	ND(0.039)	0.061 J[1]
Total PCBs	1.03 [0.090]	0.097 J[1] [0.031] J[1,2]	0.218 J	0.084 J[1]	0.195 [0.196]	0.120 J[1,2]	ND(0.039)	0.092 J[1]

Notes:

1. ND(0.18) - Analyte was not detected. The value in parentheses is the associated reporting limit.
2. Field duplicate sample results are presented in brackets.
3. Only GE samples were analyzed for Aroclor 1262 and 1268.

Data Qualifiers:
J - Indicates that the associated numerical value is an estimated concentration. For EPA samples, PCB values are estimated due to extraction past holding times.
J1 - Indicates that the associated numerical value for Aroclor 1016, Aroclor 1260, and Total PCBs is an estimated concentration due to LCS and/or spike recoveries below QC limits and potential low bias.
J2 - Indicates that the associated numerical value is an estimated concentration due to the surrogate recoveries below QC limits and potential low bias.

Table 7-4
Comparison of 2007, 2012, and 2017 Sediment Sample PCB Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

	Sampling Event		
	2007	2012[4]	2017
Surface Interval Samples			
Number of Samples	97	107	103
Maximum Concentration	1.9	0.55	2.5
Average Concentration	0.17	0.094	0.15
Subsurface Interval Samples			
Number of Samples	0	34	35
Maximum Concentration	NA	1.8	4.4
Average Concentration	NA	0.24	0.26
All Samples			
Number of Samples	97	141	138
Maximum Concentration	1.9	1.8	4.4
Average Concentration	0.17	0.13	0.17

Notes:

1. The surface interval is representative of materials collected from the top six inches of the recovered core.

2. The subsurface interval, where present, is representative of materials collected from the bottom of the 6-inch interval to the bottom of the recovered core.

3. Duplicate samples were averaged prior to calculating average and maximum concentrations for 2012 and 2017 data. ND results were valued at half the reporting limit.

4. A maximum result of 2.1 ppm was reported in the 2012 Sampling Report for the subsurface interval (and all samples). As noted in EPA's November 26, 2012 conditional approval letter of that report, the 2.1 ppm result was associated with a sample that was collected with another sample as a duplicate pair (at subsurface location T-198-R (6-15)). The results for the two samples were 2.1 ppm and 1.5 ppm, resulting in an maximum of 1.8 ppm.

Table 8-1A
T-70 Benthic Community Characterization

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect T-70			Sample Location Along Transect											
Group/Order	Family	Genus/species	1	2	3	4	5	6	7	8	9	10	11	12	Total
Ephemeroptera	Baetidae	Acentrella turbida	1	1			1	2	1	2			1		**9**
Ephemeroptera	Baetidae	Baetis flavistriga	22	24	25	25	31	19	28	25	27	26	24	22	**298**
Ephemeroptera	Baetidae	Baetis intercalaris	8	7	4	4	7	10	8	1	2	5	8	11	**75**
Ephemeroptera	Baetidae	Baetis tricaudatus	1	1	2	4	2	1	2	2	2	5	4	1	**27**
Ephemeroptera	Baetidae	Baetis brunneicolor	1	1					1		2	2		5	**12**
Ephemeroptera	Baetidae	Centroptilum sp.	1		2	3	1					2			**9**
Ephemeroptera	Baetidae	Plauditus sp.	5	11	8	7	4	14	1	8	6	2	10	8	**84**
Ephemeroptera	Heptageniidae	Heptagenia sp.	2				2	2	1	1			2	2	**12**
Ephemeroptera	Heptageniidae	Leucrocuta sp.		2	2				2	2		4	1		**13**
Ephemeroptera	Heptageniidae	Maccaffertium vicarium	12	14	10	11	10	15	12	8	10	9	11	8	**130**
Ephemeroptera	Heptageniidae	Maccaffertium modestum	8	14	12	10	8	5	9	8	9	10	7	12	**112**
Ephemeroptera	Heptageniidae	Stenacron sp.	6	1	7	5	8	3	5	8	4	7	7	9	**70**
Ephemeroptera	Leptohyphidae	Tricorythodes sp.	1	2	1	4	1	12	1	5	4	7	4	10	**52**
Plecoptera	Leuctridae	Leuctra sp.	1			1							1		**3**
Plecoptera	Perlidae	Acroneuria lycorias		2	1	4			2	5			1	2	**17**
Plecoptera	Perlidae	Perlesta placida	1	1	2	1	1	2	4	3			2	1	**18**
Trichoptera	Hydropsychidae	Hydropsyche bettini		2	1				2		2	2			**9**
Trichoptera	Hydropsychidae	Hydropsyche bronta	15	24	21	22	23	28	25	28	29	34	35	28	**312**
Trichoptera	Hydropsychidae	Hydropsyche morosa	25	24	28	23	22	29	24	27	30	30	28	18	**308**
Trichoptera	Hydropsychidae	Cheumatopsyche	5	1	4	1	2	7	1	2	4	12	1	9	**49**
Trichoptera	Psychomyiidae	Psychomyia sp.	2	2		6									**10**
Coleoptera	Elmidae	Optioservus sp.	2												**2**
Coleoptera	Elmidae	Stenelmis sp.	15	14	15	12	17	18	20	14	19	22	23	24	**213**
Coleoptera	Haliplidae	Peltodytes sp.										1			**1**
Coleoptera	Psephenidae	Psephenus sp.	2	4	2	1	4	2	1	3	8	8	2	1	**38**
Neuroptera	Corydalidae	Nigronia sp.							2						**2**
Odonata	Gomphidae	Stylogomphus sp.									1				**1**
Gastropoda	Ancylidae	Ferrissia sp.	2	4	2	1	5	4	2	2	4	1		5	**32**
Bivalvia	Sphaeriidae	Sphaerium	1	1	4	7	1	2	6	2	4	3	1	2	**34**
Crustacea	Cambaridae	Orconectes	1	1	2	1	1	2	1	3	1	2	1	1	**17**
Diptera	Tipulidae	Antocha sp.	15	21	14	16	27	15	11	22	28	31	34	35	**269**
Diptera	Chironomidae	Chironomus sp.	2	4	7	8	7	8	4	7	8	10	8	8	**81**
Diptera	Chironomidae	Cryptochironomus sp.		5	1	1	2	2	1						**12**
Diptera	Chironomidae	Paratendipes sp.	12	14	5	1	1	4	7	3	12	4	8	9	**80**
Diptera	Chironomidae	Polypedilum illinoense grp.		4							3	2	2		**11**
Diptera	Chironomidae	Polypedilum laetum sp.	7		2	1			5	1	1		2	4	**23**
Diptera	Chironomidae	Polypedilum scalaenum grp.	2	4	5	1		2	1	12	4	7	1	3	**42**
Diptera	Chironomidae	Thienemannimyia grp.	22	14	16	20	18	17	14	13	14	11	10	9	**178**
Diptera	Chironomidae	Tribelos sp.	7	1	2	4						1			**15**
Diptera	Chironomidae	Pagastia sp.	1	4	2	7	4	1		1	4	2	1	2	**29**
Diptera	Chironomidae	Cricotopus sp.	2	1	4	6	4	7	1	3	4	5	4	2	**43**
Diptera	Chironomidae	Paratanytarsus sp.		1	1	4	2	1		4		2	1		**16**
Diptera	Chironomidae	Microtendipes pedellus grp.	12	11	21	15	13	14	13	14	15	11	17	15	**171**
Diptera	Chironomidae	Dicrotendipes sp.	3	1	5	8	10	1	5	9	4	1		1	**48**
Diptera	Chironomidae	Tanytarsus sp.	2	4	2		7	1	5	2		8	1	1	**33**
Diptera	Chironomidae	Brillia sp.			5								4		**9**
Diptera	Chironomidae	Potthastia gaedii grp.							7		1		1		**9**
Diptera	Chironomidae	Stenochironomus sp.	1											1	**2**
Diptera	Chironomidae	Odontomesa sp.		1											**1**
Diptera	Chironomidae	Orthocladius annectens	2	1	4	5	1	2	1	8	1	4			**29**
Diptera	Chironomidae	Nanocladius sp.		8				1							**9**
Diptera	Chironomidae	Nilotanypus fimbriatus											4		**4**
Diptera	Chironomidae	Phaenopsectra sp.	2									4			**6**
Oligochaeta	Naididae		1	4	2			4							**11**
Oligochaeta	Naididae	Limnodrilus sp.	5	11	14	2	8	7	10	9	5	4	7	6	**88**
Oligochaeta	Naididae	Limnodrilus hoffmeisteri	12	14	22	18	4	16	4	18	17	9	12	9	**155**
Oligochaeta	Naididae	Stylaria		1	4			2	3	4		1			**15**
Oligochaeta	Naididae	Nais sp.	11	14		15	4	7			12	7	5	8	**83**
Acarina	Sperchoniidae	Sperchon sp.	1								2				**3**
		Abundance	**262**	**301**	**293**	**285**	**263**	**289**	**253**	**289**	**303**	**318**	**296**	**292**	**3,444**
		Richness	**44**	**45**	**41**	**38**	**35**	**38**	**40**	**37**	**36**	**40**	**39**	**35**	

Table 8-1B
T-134 Benthic Community Characterization

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect T 134			Sample Location Along Transect											
Group/Order	**Family**	**Genus/species**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**Total**
Ephemeroptera	Baetidae	Acentrella turbida			2		7	4		5		6	8	8	**40**
Ephemeroptera	Baetidae	Baetis flavistriga	18	24	15	22	24	14	19	28	22	22	27	21	**256**
Ephemeroptera	Baetidae	Baetis intercalaris		1		4				1	4	7	1		**18**
Ephemeroptera	Baetidae	Baetis tricaudatus	1		2	1	1								**5**
Ephemeroptera	Baetidae	Baetis brunneicolor				1	1			1	1			1	**5**
Ephemeroptera	Baetidae	Plauditus sp.	8	7	2	5		2	12	18	2	8	8	10	**82**
Ephemeroptera	Ephemeridae	Hexagenia sp.											1		**1**
Ephemeroptera	Heptageniidae	Maccaffertium vicarium	2	5	5		2	5	4	10	8		2	2	**45**
Ephemeroptera	Heptageniidae	Maccaffertium modestum	15	22	17	18	11	19	15	12	11	14	8	2	**164**
Ephemeroptera	Heptageniidae	Stenacron sp.	15	20	18	17	14	13	12	20	15	16	14	19	**193**
Ephemeroptera	Isonychiidae	Isonychia sp.	5	3	4	8	12	7	8	9	5	3	3	7	**74**
Ephemeroptera	Leptohyphidae	Tricorythodes sp.	5	2	7	5	3	4	6	5	5	3	5	2	**52**
Plecoptera	Leuctridae	Leuctra sp.	1		1		2				1	1	1		**7**
Plecoptera	Perlidae	Perlesta placida	1	1	2	4	1	1	4	2	5	1	2	2	**26**
Trichoptera	Hydropsychidae	Hydropsyche sparna	7	8	10	8	8	3	4	7	8	10	10	7	**90**
Trichoptera	Hydropsychidae	Hydropsyche bettini						1				1			**2**
Trichoptera	Hydropsychidae	Hydropsyche bronta	55	48	40	37	45	47	21	28	39	44	50	40	**494**
Trichoptera	Hydropsychidae	Hydropsyche morosa	22	23	18	17	22	25	28	22	24	21	28	14	**264**
Trichoptera	Hydropsychidae	Cheumatopsyche	4	5	1	1	7	11	7	8	5	6	5	12	**72**
Trichoptera	Philopotamidae	Chimarra obscura				4	5		2				1	4	**16**
Trichoptera	Psychomyiidae	Psychomyia sp.	2	3	4	7	7	4		1	1	1	2	4	**36**
Trichoptera	Rhyacophilidae	Rhyacophila sp.												1	**1**
Coleoptera	Elmidae	Dubiraphia sp.								1					**1**
Coleoptera	Elmidae	Promoresia sp.					1						1		**2**
Coleoptera	Elmidae	Stenelmis sp.	15	8	7	14	14	16	20	14	12	8	8	10	**146**
Coleoptera	Psephenidae	Psephenus sp.	5	5	7	10	4	4	4	11	4	3	7	8	**72**
Neuroptera	Sialidae	Sialis sp.					1								**1**
Odonata	Coenagrionidae	Argia sp.				1						1			**2**
Odonata	Gomphidae	Boyeria grafiana								1					**1**
Gastropoda	Ancylidae	Ferrissia sp.	1	1		2			7	1		2		3	**17**
Bivalvia	Corbiculidae	Corbicula sp.	1	1				1	2	1	1		1		**8**
Bivalvia	Sphaeriidae	Sphaerium sp.	2	1	4	1		2	1	1	2	1		2	**17**
Crustacea	Cambaridae	Orconectes sp.	1	2	12	4	3	2	6	8	10	2	4	7	**61**
Diptera	Tipulidae	Antocha sp.	18		12	11	20	19	12	25	27	14	30	21	**209**
Diptera	Chironomidae	Chironomus sp.	9	11	17	14	16	20	18	10	15	16	18	17	**181**
Diptera	Chironomidae	Cryptochironomus sp.		2	2	2	5	1		1		1	3	2	**19**
Diptera	Chironomidae	Paratendipes sp.		1	1	1	1	1	1	2	2	1		1	**12**
Diptera	Chironomidae	Rheotanytarsus sp.	5	7	10	5	6	8	4			5		2	**52**
Diptera	Chironomidae	Polypedilum illinoense grp.	9		7	2	7	8	5	4	1	2	2	6	**53**
Diptera	Chironomidae	Polypedilum flavum	5	4		1	2	5	4	8	2	3	1	1	**36**
Diptera	Chironomidae	Thienemannimyia grp.	12	11	27	18	15	9	11	4	8	15	10	8	**148**
Diptera	Chironomidae	Pagastia sp.	3	5	5	8	5	4	1	5	5	2	6	7	**56**
Diptera	Chironomidae	Procladius sp.	1		2							1			**4**
Diptera	Chironomidae	Eukiefferiella devonica group	3	5	5	7	1	5	1			5	1	3	**36**
Diptera	Chironomidae	Cricotopus trifascia		2			1	1	2	2	1	1	3	1	**14**
Diptera	Chironomidae	Cardiocladius sp.	2	4		1	5	2	1	3			3	1	**22**
Diptera	Chironomidae	Paratanytarsus sp.		1	5	4			11	2		4	4	3	**34**
Diptera	Chironomidae	Microtendipes pedellus grp.	20	18	19	12	17	26	25	18	21	27	24	22	**249**
Diptera	Chironomidae	Dicrotendipes sp.	3				5	1	1			2		6	**18**
Diptera	Chironomidae	Tanytarsus sp.		4	4		4	1		7	4	5	2	1	**32**
Diptera	Chironomidae	Brillia sp.	1	1			3	3	2	2					**12**
Diptera	Chironomidae	Potthastia gaedii grp.	1							1		1			**3**
Diptera	Chironomidae	Stenochironomus sp.									1	1	1	1	**4**
Diptera	Chironomidae	Orthocladius annectens		2	3	4		2	5	2	3	2			**23**
Diptera	Chironomidae	Nanocladius sp.	1										1		**2**
Diptera	Chironomidae	Phaenopsectra sp.	4					2	1	1	1	2	2	1	**14**
Diptera	Chironomidae	Orthocladius sp.	3	3	2	8	7	2	2	4	5	5	1		**42**
Diptera	Chironomidae	Tvetenia vitracies	12	11	8	5	1	17	4	2	1	6	9	10	**86**
Oligochaeta	Naididae	Limnodrilus sp.	8	7	5	5	1	1	1	1	1				**30**
Oligochaeta	Naididae	Limnodrilus cervix						1					3		**4**
Oligochaeta	Naididae	Limnodrilus hoffmeisteri	22	19	25	27	40	15	12	13	9	18	22	14	**236**
Oligochaeta	Naididae	Stylaria sp.							2				4		**6**
Oligochaeta	Naididae	Nais sp.	2		3				1	1	1	1		4	**13**
Acarina	Lebertiidae	Lebertia sp.			1			1	1						**3**
Acarina	Pionidae	Piona sp.							1			1			**2**
Acarina	Hygrobatidae	Hygrobates sp.					1			1				2	**4**
		Abundance	**330**	**308**	**341**	**326**	**358**	**340**	**311**	**334**	**293**	**322**	**347**	**320**	**3,930**
		Richness	**42**	**39**	**40**	**40**	**43**	**44**	**44**	**47**	**39**	**47**	**44**	**44**	

Table 8-1C
T-170 Benthic Community Characterization

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect T 170			Sample Location Along Transect											
Group/Order	Family	Genus/species	1	2	3	4	5	6	7	8	9	10	11	12	Total
Ephemeroptera	Baetidae	Baetis flavistriga	6	8	5	10	7	9	9	5	7	8	4	3	**81**
Ephemeroptera	Baetidae	Baetis intercalaris	1	1	1				1		3	3	4	5	**19**
Ephemeroptera	Baetidae	Baetis tricaudatus	8	7	8	9	10	12	4	9	5	8	14	1	**95**
Ephemeroptera	Baetidae	Baetis brunneicolor		3		3		2	2		5		1		**16**
Ephemeroptera	Baetidae	Acentrella turbida	1						1						**2**
Ephemeroptera	Baetidae	Plauditus sp.			14	7	8		2		2	4	7	1	**45**
Ephemeroptera	Caenidae	Caenis sp.			4	5	8		1	8		9		1	**36**
Ephemeroptera	Heptageniidae	Epeorus sp.							3						**3**
Ephemeroptera	Heptageniidae	Maccaffertium vicarium	1	1	4	2	1	1	4	2		2	1	1	**20**
Ephemeroptera	Heptageniidae	Maccaffertium modestum	15	18	23	21	27	24	22	25	26	15	17	20	**253**
Ephemeroptera	Heptageniidae	Stenacron sp.	14	10	9	1	7	17	15	12	11	1		11	**108**
Ephemeroptera	Heptageniidae	Heptagenia sp.		1											**1**
Ephemeroptera	Leptohyphidae	Tricorythodes sp.	5	5	7	2	1		4	1	5	9	11	4	**54**
Plecoptera	Perlidae	Acroneuria lycorias			1		1		5					1	**8**
Plecoptera	Perlidae	Perlesta sp.	1	2	4		5	2			1	2	4	2	**23**
Trichoptera	Hydropsychidae	Hydropsyche bettini	1	2	4		10				1			2	**20**
Trichoptera	Hydropsychidae	Hydropsyche bronta	22	17	41	12	13	21	31	41	50	22	18	58	**346**
Trichoptera	Hydropsychidae	Hydropsyche morosa	12	22	14	17	24	20	49	51	14	17	28	22	**290**
Trichoptera	Hydropsychidae	Cheumatopsyche	2	1	1	4	2	7	5	10	14	2	2	5	**55**
Trichoptera	Lepidostomatidae	Lepidostoma sp.	1				1				2	2			**6**
Trichoptera	Psychomyiidae	Psychomyia sp.	1	1	11	14	1	7	8	12	10	2	4	7	**78**
Coleoptera	Elmidae	Dubiraphia sp.	1					2			1			1	**5**
Coleoptera	Elmidae	Optioservus sp.	1	4	1	1	6	2		2	1				**18**
Coleoptera	Elmidae	Stenelmis sp.	15	18	22	24	27	30	26	25	22	18	24	24	**275**
Coleoptera	Psephenidae	Ectopria sp.	1	2	2	2	1		5	3	4		2	1	**23**
Coleoptera	Psephenidae	Psephenus sp.	4	5	6	5	7	10	9	12	18	20	4	3	**103**
Odonata	Gomphidae	Gomphus sp.											1		**1**
Gastropoda	Ancylidae	Ferrissia sp.	5	1	8	7	9	10	8	7	6	5	8	1	**75**
Bivalvia	Sphaeriidae	Sphaerium sp.	1	2	4	2		5	1	5	4	6	2	1	**33**
Crustacea	Cambaridae	Orconectes sp.	1		8	1	5	9		2	1		3		**30**
Diptera	Tipulidae	Antocha sp.	51	70	62	28	39	44	45	57	50	48	62	55	**611**
Diptera	Chironomidae	Chironomus sp.						1		5		3	3		**12**
Diptera	Chironomidae	Cryptochironomus sp.		1	4	2	2	1						2	**12**
Diptera	Chironomidae	Paratendipes sp.		2	2	3				1	2				**10**
Diptera	Chironomidae	Polypedilum illinoense grp.	1				4	7							**12**
Diptera	Chironomidae	Polypedilum laetum sp.			2							3			**5**
Diptera	Chironomidae	Polypedilum flavum	12	10	9	4	9	12	15	1	1	8	10	7	**98**
Diptera	Chironomidae	Polypedilum scalaenum grp.	2	1	4	8	4	2	7	6	5	3	1	4	**47**
Diptera	Chironomidae	Thienemannimyia grp.	12	22	35	30	17	27	20	22	15	21	19	24	**264**
Diptera	Chironomidae	Tribelos sp.		2	4	1		8		12	9		10	6	**52**
Diptera	Chironomidae	Pagastia sp.	2	2			4		2	1	4		2		**17**
Diptera	Chironomidae	Procladius sp.	2	1	7	4			3	4	5	2			**28**
Diptera	Chironomidae	Eukiefferiella devonica group	12	11	8	18	19	11	7	4	6	1	7	8	**112**
Diptera	Chironomidae	Eukiefferiella sp.	2	4		5	14	7	9	10	10	7		6	**74**
Diptera	Chironomidae	Cricotopus trifascia	1	1	1	4	1	6	4	1			2	4	**25**
Diptera	Chironomidae	Cardiocladius sp.	1		1	1		1	4	1	4	5	2	1	**21**
Diptera	Chironomidae	Paratanytarsus sp.		1	1	4	2	1	4	7	4	2	7	2	**35**
Diptera	Chironomidae	Microtendipes pedellus grp.	24	25	22	23	21	19	18	14	18	16	15	15	**230**
Diptera	Chironomidae	Dicrotendipes sp.	1	1	7	8	11	1	5	5	5	4	1		**49**
Diptera	Chironomidae	Tanytarsus sp.		1	1	2	1		1	1		4	2	2	**15**
Diptera	Chironomidae	Brillia sp.	1	1							2	2	3		**9**
Diptera	Chironomidae	Potthastia gaedii grp.	1	1	1	2	1		1		1			1	**9**
Diptera	Chironomidae	Orthocladius annectens		2	1		1	5	2	2	5		2	2	**22**
Diptera	Chironomidae	Nanocladius sp.			2	2	2		1	1		4	4		**16**
Diptera	Chironomidae	Phaenopsectra sp.	2	2		1	1		2	4		5	5	5	**27**
Diptera	Chironomidae	Orthocladius sp.	9	10	1	14	10	12	14	19	5	11	17	9	**131**
Diptera	Chironomidae	Tvetenia vitracies	12	18	14	7	15	8	9	6	7	11	10	5	**122**
Diptera	Chironomidae	Zavrelimyia sp.		2	2		4				1	5			**14**
Oligochaeta	Naididae	Limnodrilus sp.	11	17	14	4	7	9	10	8	21	25	17	18	**161**
Oligochaeta	Naididae	Limnodrilus hoffmeisteri	22	14	18	24	27	16	13	14	20	15	18	17	**218**
Oligochaeta	Naididae	Stylaria lacustris		2	2		1	1	4	2	3	2	5	3	**25**
Oligochaeta	Naididae	Nais sp.	6	9	10	11	14	10	8	17	14	5	2	4	**110**
Oligochaeta	Enchytraeidae					1	1								**2**
Acarina	Lebertiidae	Lebertia sp.			1			1					1		**3**
		Abundance	**307**	**364**	**438**	**360**	**413**	**400**	**423**	**457**	**430**	**367**	**386**	**375**	**4,720**
		Richness	**44**	**48**	**50**	**45**	**48**	**41**	**46**	**44**	**47**	**43**	**45**	**44**	

Table 8-2
Field Parameters Collected During 2017 Benthic Community Sampling Activities

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect	T-070		T-134		T-170	
Replicate Stations	Water Depth (ft)	Water Velocity (ft/s)[1]	Water Depth (ft)	Water Velocity (ft/s)[1]	Water Depth (ft)	Water Velocity (ft/s)[1]
1	1.39	1.03	0.9	1.12	1.10	1.34
2	1.6	1.97	1.15	1.35	1.05	1.33
3	1.1	1.25	0.4	1.4	0.80	2.18
4	1.42	2.18	0.5	2	1.02	1.33
5	1.2	1.48	1	0.29	1	2.39
6	1.31	0.97	0.4	1.16	1.1	1.46
7	1	0.87	0.5	1.44	0.9	1.25
8	0.8	1.07	1.2	0.54	1.05	1.52
9	1.15	1.32	0.55	0.56	1.30	0.89
10	0.8	2.09	0.6	0.6	1.11	1.15
11	1.2	1.42	0.9	1.3	1	0.93
12	1.05	2.67	0.55	0.58	1.28	0.85
Collection Date and Time	7/25/17 1:33 PM		7/26/17 11:34 AM		7/26/12 8:16 AM	
Temperature (°C)	15.81		16.92		15	
pH	7.55		8.05		7.81	
Conductivity (mS/cm)	0.427		0.462		0.459	
Dissolved Oxygen (mg/L)	8.52		8.85		8.74	
Turbidity (NTU)	0.0		0.0		0.0	

Notes:
1. Water velocity measurements taken approximately 6 inches from substrate.
2. Water quality parameter measurements taken with Horiba U-52 probe and U-5000 data recorder.
3. ft = feet; ft/s = feet per second; °C = degrees Celsius; mg/L = milligrams per liter; mS/cm = milliSiemens per centimeter; NTU = Nephelometric Turbidity Units.

Table 8-3
Comparison of Taxa Measures Between 2000, 2007, 2012 and 2017 Samples

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Transect (Year of Sampling)	Taxa Richness	Abundance	EPT Richness	Dominant Organism	Chironomidae Richness
T-70	18	978	2	Limnodrilus sp. 91.7%	11
(2000)	NA		NA	NA	A/B
T-70	82	3,869	20	Limnodrilus sp. 19.5%	30
(2007)	B		A/B	B/C	C
T-70	56	2,992	17	Antocha sp. 7.8%	24
(2012)	B		A/B	B	B
T-70	57	3,444	21	Hydropsyche bronta 9.1%	22
(2017)	B		A/B	B	B
T-134	75	3,300	17	Hydropsyche sp. 9.3%	30
(2000)	B		A/B	A/B	C
T-134	78	3,584	25	Microtendipes pedellus grp. 23.5%	29
(2007)	B		A/B	B	B
T-134	60	5,415	17	Antocha sp. 27.1%	26
(2012)	B		A/B	B	B
T-134	66	3,930	22	Hydropsyche bronta 12.6%	24
(2017)	B		A/B	B	B
T-170	31	401	6	Limnodrilus sp. 41.6%	13
(2000)	B		NA	NA	A/B
T-170	63	5,419	19	Hydropsyche sp. 21.2%	28
(2007)	B		A/B	B	B
T-170	61	4,402	16	Antocha sp. 25.1%	29
(2012)	B		A/B	B	B
T-170	64	4,720	21	Antocha sp. 12.9%	26
(2017)	B		A/B	B	B

Notes:

1. Given the lack of a reference site, it is difficult to use many of the metrics in the EPA Rapid Bioassessment Protocol manual, which uses comparisons with the reference condition to make evaluations of benthic communities. However, Lotic Inc. has been using an in-house model based on 17 years of benthic community data and designed to correspond with Maine Department of Environmental Protections (MEDEP) linear discriminant model. The Lotic model assigns the following classifications based on benthic community structure:

   Class A. High quality water; aquatic life as naturally occurs.

   Class B. Good quality; no detrimental changes to the biological community.

   Class C. Lowest quality, some changes to aquatic life; maintains the structure and function of the resident biological community.

   Non-attainment (NA). Does not attain Class A, B or C standards.

   These classifications are not recognized water quality classifications, but represent Lotic's own interpretation of the data. Capital letters in the table indicate the estimated water quality classification based on the Lotic Inc. model.

2. The EPT Index is a tool used evaluate aquatic health, and is an indicator related to observations of mayflies (E), stoneflies (P), and caddisflies (T).

Table 8-4
Tissue Sample Inventory

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Sampling Transect	Approximate Sample Mass (grams)		
Aquatic Macroinvertebrate	T-070	T-134	T-170
Mayfly	24.1	40.9	17.8
Stonefly	0.0	0.9	0.1
Caddisfly	3.6	4.5	2.3
Hellgrammite	0.5	1.4	2.1
Water Penny	0.8	2.0	1.4
Isopods	0.1	0.3	0.4
Damselfly	0.1	0.0	0.0
Leech	0.0	--	--
Dragonfly	0.0	--	--
Oligochaete	--	0.0	--
Total Mass	29.2	50.0	24.1

Table 8-5
Tissue Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in parts per million, ppm)

Parameter	Sample ID: / Date Collected:	T70 07/25/17	T134 07/24/17	T170 07/25/17
PCBs Congeners				
PCB-1		0.00010 J	0.00016 J	0.00017 J [0.00020 J]
PCB-2		ND(0.000038)	ND(0.000081)	ND(0.000039) [ND(0.000050)]
PCB-3		0.00038 J	0.00058 J	0.00040 J [0.00070 J]
PCB-4		0.0022 C	0.003C	0.0034 C [0.0032 C]
PCB-5		0.00093 C	0.0013 C	0.0013 C [0.0012 C]
PCB-6		0.00015 J	0.00023	0.00031 [0.00031]
PCB-7		0.000064 CJ	0.00012 CJ	0.00013 CJ [0.00013 CJ]
PCB-8		C5	C5	C5 [C5]
PCB-9		C7	C7	C7 [C7]
PCB-10		C4	C4	C4 [C4]
PCB-11		0.000043 J	0.000058 J	0.000047 J [0.000040 J]
PCB-12		0.00033 C	0.00047 J	0.00044 J [0.00041 J]
PCB-13		C12	C12	C12 [C12]
PCB-14		0.000036 J	ND(0.000017)	ND(0.000020) [ND(0.000028)]
PCB-15		0.0022	0.0025	0.0026 [0.0025]
PCB-16		0.0025 C	0.0032 C	0.0035 C [0.0034 C]
PCB-17		0.0025	0.0033	0.0029 [0.0027]
PCB-18		0.00092	0.0014	0.0021 [0.0020]
PCB-19		0.0014	0.0020	0.0023 [0.0022]
PCB-20		0.00041 C	0.0006C	0.00069 C [0.00068 C]
PCB-21		C20	C20	C20 [C20]
PCB-22		0.00050	0.00066	0.00082 [0.00077]
PCB-23		ND(0) C	0.000021 CJ	ND(0) C [ND(0) C]
PCB-24		0.0018 C	0.0024 C	0.0028 C [0.0026 C]
PCB-25		0.0011	0.0016	0.0016 [0.0015]
PCB-26		0.00073	0.0011	0.0012 [0.0012]
PCB-27		C24	C24	C24 [C24]
PCB-28		0.0025	0.0030	0.0028 [0.0026]
PCB-29		ND(0.000018)	0.000024 J	0.000035 J [ND(0.000032)]
PCB-30		ND(0.000031)	ND(0.000031)	ND(0.000051) [ND(0.000053)]
PCB-31		0.0027	0.0039	0.0043 [0.0041]
PCB-32		C16	C16	C16 [C16]
PCB-33		C20	C20	C20 [C20]
PCB-34		C23	C23	C23 [C23]
PCB-35		ND(0.000041)	ND(0.000042)	ND(0.000080) [0.000054 J]
PCB-36		ND(0.000038)	0.000048 J	ND(0.000073) [ND(0.000029)]
PCB-37		0.00077	0.00089	0.00097 [0.00087]
PCB-38		0.00050 J	0.00055 J	ND(0.000080) [0.00059 J]
PCB-39		ND(0.000038)	ND(0.000038)	ND(0.000073) [ND(0.000029)]
PCB-40		0.00036	0.00047	0.00056 [0.00053]
PCB-41		0.0052 C	0.0065 C	0.0071 C [0.0069 C]
PCB-42		0.0014 C	0.0019 C	0.0021 C [0.002C]
PCB-43		0.011 C	0.014 C	0.016 C [0.016 C]
PCB-44		0.0033	0.0051	0.0060 [0.0058]
PCB-45		0.000071 J	0.00012 J	0.00014 J [0.00013 J]
PCB-46		0.00013 J	0.00019 J	0.00027 [0.00025]
PCB-47		0.016 C	0.017 C	0.019 C [0.019 C]
PCB-48		C47	C47	C47 [C47]
PCB-49		C43	C43	C43 [C43]

Table 8-5
Tissue Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in parts per million, ppm)

Parameter	Sample ID: / Date Collected:	T70 07/25/17	T134 07/24/17	T170 07/25/17
PCBs Congeners (continued)				
PCB-50		0.000042 J	0.000056 J	0.000048 J [0.000046 J]
PCB-51		0.0026	0.0033	0.0038 [0.0037]
PCB-52		0.011 C	0.015 C	0.019 C [0.019 C]
PCB-53		0.0018	0.0026	0.0038 [0.0037]
PCB-54		0.00034	0.00047	0.00062 [0.00057]
PCB-55		ND(0.000040)	0.000019 J	ND(0.000039) [ND(0.000054)]
PCB-56		0.0011 C	0.0014 C	0.0015 C [0.0014 C]
PCB-57		ND(0.000075)	0.000077 J	0.000077 J [ND(0.00010)]
PCB-58		ND(0.000075)	0.000050 J	ND(0.000074) [ND(0.00010)]
PCB-59		C42	C42	C42 [C42]
PCB-60		C56	C56	C56 [C56]
PCB-61		0.0027 C	0.0025 C	0.0022 C [0.0021 C]
PCB-62		ND(0) C	ND(0) C	ND(0) C [ND(0) C]
PCB-63		0.00022	0.00025	0.00021 [0.00019 J]
PCB-64		C41	C41	C41 [C41]
PCB-65		C62	C62	C62 [C62]
PCB-66		0.0046 C	0.0047 C	0.0046 C [0.0044 C]
PCB-67		0.00028	0.00034	0.00041 [0.00041]
PCB-68		C41	C41	C41 [C41]
PCB-69		0.00016 J	0.00023	0.00019 J [0.00018 J]
PCB-70		0.0055 C	0.0074 C	0.0071 C [0.0068 C]
PCB-71		C41	C41	C41 [C41]
PCB-72		0.00041	0.00046	0.00050 [0.00044]
PCB-73		C52	C52	C52 [C52]
PCB-74		C61	C61	C61 [C61]
PCB-75		C47	C47	C47 [C47]
PCB-76		C70	C70	C70 [C70]
PCB-77		0.00061 J	0.00063 J	0.00061 J [0.00069 J]
PCB-78		ND(0.000085)	ND(0.000020)	ND(0.000081) [ND(0.000066)]
PCB-79		ND(0.000085)	0.00039 J	0.00033 J [0.00029 J]
PCB-80		C66	C66	C66 [C66]
PCB-81		0.00019 J	0.00024 J	0.00026 J [0.00029 J]
PCB-82		0.00074	0.00094	0.00083 [0.00081]
PCB-83		0.0003C	0.00046 C	0.00046 C [0.00045 C]
PCB-84		0.00085	0.0013	0.0014 [0.0014]
PCB-85		0.0036 C	0.0034 C	0.0027 C [0.0026 C]
PCB-86		0.0033 C	0.0044 C	0.0042 C [0.0041 C]
PCB-87		0.0043 C	0.0058 C	0.0055 C [0.0053 C]
PCB-88		0.000075 CJ	0.000054 CJ	0.000081 CJ [0.000073 CJ]
PCB-89		0.021 C	0.028 D	0.031 D [0.030 D]
PCB-90		C89	C89	C89 [C89]
PCB-91		0.0012	0.0018	0.0019 [0.0019]
PCB-92		0.0018	0.0025	0.0031 [0.0030]
PCB-93		0.0049 C	0.0073 C	0.0097 C [0.0094 C]
PCB-94		0.000084 J	0.00012 J	0.00017 J [0.00015 J]
PCB-95		C93	C93	C93 [C93]
PCB-96		0.000044 J	0.000066 J	0.000088 J [0.000085 J]
PCB-97		C86	C86	C86 [C86]
PCB-98		0.00024 C	0.00033 C	0.00035 C [0.00035 C]
PCB-99		0.015	0.013	0.011 [0.010]
PCB-100		0.0010	0.0012	0.0014 [0.0013]
PCB-101		C89	C89	C89 [C89]
PCB-102		C98	C98	C98 [C98]
PCB-103		0.00038	0.00055	0.00063 [0.00059]

Table 8-5
Tissue Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in parts per million, ppm)

Parameter	Sample ID: / Date Collected:	T70 07/25/17	T134 07/24/17	T170 07/25/17
PCBs Congeners (continued)				
PCB-104		0.000032 J	0.000047 J	0.000063 J [0.000059 J]
PCB-105		0.0083 C	0.0067 C	0.0045 C [0.0042 C]
PCB-106		0.030 DJ	0.025 D	0.017 C [0.016 C]
PCB-107		0.0017 C	0.0016 C	0.0013 C [0.0012 C]
PCB-108		C83	C83	C83 [C83]
PCB-109		C107	C107	C107 [C107]
PCB-110		0.013	0.017	0.017 [0.016]
PCB-111		0.0017 C	0.0015 C	0.0012 C [0.0012 C]
PCB-112		ND(0.000024)	ND(0.000019)	ND(0.000031) [ND(0.000030)]
PCB-113		0.000042 J	0.000058 J	0.000091 J [0.000088 J]
PCB-114		0.00063	0.00046	0.00027 [0.00028]
PCB-115		C87	C87	C87 [C87]
PCB-116		C87	C87	C87 [C87]
PCB-117		C111	C111	C111 [C111]
PCB-118		C106	C106	C106 [C106]
PCB-119		0.0014	0.0015	0.0014 [0.0014]
PCB-120		C85	C85	C85 [C85]
PCB-121		C88	C88	C88 [C88]
PCB-122		0.00013 J	0.00016 J	0.00012 J [0.00013 J]
PCB-123		0.00063 J	0.00064 J	0.00068 J [0.00064 J]
PCB-124		0.00060	0.00078	0.00069 [0.00066]
PCB-125		ND(0.00011)	0.000065 J	0.00018 J [0.000068 J]
PCB-126		0.00045 J	0.00035 J	0.00033 J [0.00044 J]
PCB-127		C105	C105	C105 [C105]
PCB-128		0.0043	0.0038	0.0030 [0.0029]
PCB-129		0.00059	0.00070	0.00073 [0.00070]
PCB-130		0.0014	0.0012	0.0011 [0.0011]
PCB-131		ND(0.094) C	0.00011 CJ	0.00011 CJ [0.00012 CJ]
PCB-132		0.002C	0.0027 C	0.003C [0.0029 C]
PCB-133		0.00061	0.00050	0.00054 [0.00053]
PCB-134		ND(0.094) C	0.00051 C	0.00057 C [0.00055 C]
PCB-135		0.0017 C	0.0025 C	0.003C [0.003C]
PCB-136		0.0010	0.0015	0.0020 [0.0019]
PCB-137		0.0021	0.0015	0.00090 [0.00091]
PCB-138		0.046 D	0.044 D	0.044 D [0.041 D]
PCB-139		0.01C	0.014 C	0.017 C [0.017 C]
PCB-140		0.00010 J	0.00012 J	0.00015 J [0.00013 J]
PCB-141		0.0040	0.0054	0.0069 [0.0070]
PCB-142		C131	C131	C131 [C131]
PCB-143		C134	C134	C134 [C134]
PCB-144		C135	C135	C135 [C135]
PCB-145		ND(0.000094)	ND(0.000075)	ND(0.000017) [ND(0.00011)]
PCB-146		0.0060	0.0053	0.0058 [0.0058]
PCB-147		0.0012	0.0011	0.0011 [0.0010]
PCB-148		0.00011 J	0.00011 J	0.00011 J [ND(0.00011)]
PCB-149		C139	C139	C139 [C139]
PCB-150		ND(0.000094)	ND(0.000075)	0.000083 J [ND(0.00011)]
PCB-151		0.0027	0.0039	0.0054 [0.0053]
PCB-152		ND(0.000094)	ND(0.000075)	0.000042 J [ND(0.00011)]
PCB-153		0.060 D	0.054 D	0.056 D [0.052 D]
PCB-154		0.00091	0.00082	0.00089 [0.00084]
PCB-155		ND(0.000060)	ND(0.000048)	ND(0.000011) [ND(0.000070)]
PCB-156		0.0053	0.0039	0.0029 [0.0027]
PCB-157		0.00095	0.00069	0.00052 [0.00049]

Table 8-5
Tissue Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in parts per million, ppm)

Parameter	Sample ID: / Date Collected:	T70 07/25/17	T134 07/24/17	T170 07/25/17
PCBs Congeners (continued)				
PCB-158		0.0065 C	0.0054 C	0.0046 C [0.0045 C]
PCB-159		0.00042	0.00034	0.00039 [0.00038]
PCB-160		C158	C158	C158 [C158]
PCB-161		ND(0.000082)	ND(0.000065)	ND(0.000015) [ND(0.000096)]
PCB-162		0.00037	0.00032	0.00031 [0.00030]
PCB-163		C138	C138	C138 [C138]
PCB-164		C138	C138	C138 [C138]
PCB-165		ND(0.000082)	ND(0.000065)	0.000049 J [ND(0.000096)]
PCB-166		0.00024	0.00018 J	0.00011 J [0.000091 J]
PCB-167		0.0025	0.0020	0.0016 [0.0015]
PCB-168		C132	C132	C132 [C132]
PCB-169		ND(0.000077)	ND(0.000020)	ND(0.000037) [ND(0.000020)]
PCB-170		0.013 C	0.011 C	0.014 C [0.013 C]
PCB-171		0.0014	0.0013	0.0015 [0.0015]
PCB-172		0.0015 C	0.0014 C	0.0017 C [0.0016 C]
PCB-173		0.000074 J	0.00011 J	0.00013 J [0.00011 J]
PCB-174		0.0022 C	0.003C	0.0039 C [0.0038 C]
PCB-175		0.00024	0.00021	0.00023 [0.00023]
PCB-176		0.00024	0.00032	0.00038 [0.00037]
PCB-177		0.0024	0.0024	0.0029 [0.0028]
PCB-178		0.0014	0.0011	0.0012 [0.0012]
PCB-179		0.00066	0.00092	0.0012 [0.0013]
PCB-180		0.026	0.024	0.031 D [0.029 D]
PCB-181		C174	C174	C174 [C174]
PCB-182		0.01C	0.008C	0.0093 C [0.0092 C]
PCB-183		0.0044	0.0040	0.0047 [0.0046]
PCB-184		ND(0.000013)	ND(0.000019)	ND(0.000029) [ND(0.000020)]
PCB-185		0.00045	0.00060	0.00085 [0.00085]
PCB-186		ND(0.000017)	ND(0.000026)	ND(0.000039) [ND(0.000028)]
PCB-187		C182	C182	C182 [C182]
PCB-188		0.000023 J	ND(0.000019)	ND(0.000029) [ND(0.000020)]
PCB-189		0.00053	0.00048	0.00051 [0.00046]
PCB-190		C170	C170	C170 [C170]
PCB-191		0.00043	0.00033	0.00042 [0.00039]
PCB-192		C172	C172	C172 [C172]
PCB-193		0.0015	0.0013	0.0016 [0.0016]
PCB-194		0.0033	0.0032	0.0046 [0.0041]
PCB-195		0.00076	0.00074	0.00098 [0.00095]
PCB-196		0.0031 C	0.0028 C	0.004C [0.0038 C]
PCB-197		0.000062 J	0.000056 J	0.000057 J [0.000069 J]
PCB-198		0.00011 J	0.00012 J	0.00013 J [0.00014 J]
PCB-199		0.0021	0.0018	0.0023 [0.0022]
PCB-200		0.000068 J	0.000096 J	0.00013 J [0.00013 J]
PCB-201		0.00018 J	0.00015 J	0.00018 J [0.00018 J]
PCB-202		0.00036	0.00030	0.00033 [0.00032]
PCB-203		C196	C196	C196 [C196]
PCB-204		ND(0.000035)	ND(0.000018)	ND(0.000016) [ND(0.000045)]
PCB-205		0.00016 J	0.00014 J	0.00018 J [0.00017 J]
PCB-206		0.00038	0.00032	0.00040 [0.00035]
PCB-207		0.000046 J	0.000048 J	0.000041 J [0.000053 J]
PCB-208		0.000088 J	0.000072 J	0.000074 J [0.000073 J]
PCB-209		0.000026 J	0.000031 J	0.000029 J [0.000031 J]

Table 8-5
Tissue Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in parts per million, ppm)

Parameter	Sample ID:	T70	T134	T170
	Date Collected:	07/25/17	07/24/17	07/25/17
PCBs Congeners (continued)				
Decachloro Biphenyl		ND(0)	0.000031	0.000029 [ND(0)]
Total Dichloro Biphenyls		0.0058	0.0071	0.0077 [0.0074]
Total Heptachloro Biphenyls		0.067	0.060	0.075 [0.072]
Total Hexachloro Biphenyls		0.16	0.16	0.16 [0.16]
Total Monochloro Biphenyls		ND(0)	ND(0)	ND(0) [ND(0)]
Total Nonachloro Biphenyls		0.00052	0.00044	0.00052 [0.00048]
Total Octachloro Biphenyls		0.010	0.0093	0.013 [0.012]
Total Pentachloro Biphenyls		0.12	0.13	0.12 [0.11]
Total Tetrachloro Biphenyls		0.067	0.085	0.096 [0.092]
Total Trichloro Biphenyls		0.018	0.024	0.026 [0.025]
Total PCB Congeners		0.45	0.47	0.50 [0.48]
Conventional				
% Moisture		83.3	80	89.4 [81.9]
%Lipids		2.77	2.82	2.56 [2.45]

Notes:

1. Samples were collected by Arcadis, and submitted to AXYS SGS Services Inc. for analysis of PCBs, PCB Congeners, % Lipids and % Moisture.
2. Samples have been validated as per Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, ARCADIS (revised on July 2 , 2013 and approved by EPA on July 23, 2013).
3. ND - Analyte was not detected. The number in parentheses is the associated reporting limit.
4. The International Union of Pure and Applied Chemistry Congener (IUPAC) congener associated with the coelutions are presented in the following notes table "Laboratory coelutions and IUPAC Congener Number Cross-Reference".
5. Field duplicate sample results are presented in brackets.

Data Qualifiers:

C - Co-eluting congener.(Note: A number following a “C” qualifier corresponds to the primary coeluting congener for this PCB)
D - Compound quantitated using a secondary dilution.
J - Indicates that the associated numerical value is an estimated concentration.

Table 8-6
Comparison of 2000, 2007, 2012 and 2017 Tissue Sample Analytical Results

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Sample ID	Tissue Mass (grams)	Percent Lipids (%)	Total PCBs (ppm)[1]	Lipid-Normalized PCBs (mg PCB/kg lipid)
2000				
T-070	NA	NA	NA	NA
T-134	NA	1.7 [2.7]	490 [190]	29,000 [6,900]
T-170	NA	NA	NA	NA
Average	**NA**	**2.2**	**340**	**18,000**
2007				
T-070	NA	1.5	1.1	71
T-134	NA	2.4 [2.4]	1.6 [1.7]	65 [71]
T-170	NA	1.1	0.71	65
Average	NA	1.7	1.1	68
2012				
T-070	25.3	1.7	0.58	34
T-134	24.0	2.6	1.1	42
T-170	28.8	4.3	1.4	33
Average	**26.0**	**2.9**	**1.0**	**36**
2017				
T-070	29.2	2.8	0.45	16
T-134	50	2.8	0.47	17
T-170	24.1	2.6 [2.5]	0.50 [0.48]	20 [20]
Average	**34.4**	**2.7**	**0.47**	**17**
Average Percent Reduction				
2017 vs. 2000			99.9%	99.9%
2017 vs. 2007			58.5%	74.2%
2017 vs. 2012			54.2%	51.9%

Notes:

1. Total PCBs are the sum of detected congeners reported on a wet-weight basis for benthic tissue composite samples.
2. Where available, duplicate results are shown in brackets "[*]". Duplicate samples were averaged prior to calculating average concentrations.
3. ppm = parts per million; NA = not available.

Table 10-1
Summary of Post-Construction Monitoring Activities[1]

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts

Monitoring Activity	Frequency / Duration	Year					Reporting Requirement	Comments on Future Monitoring Activities
		2018	2019	2020	2021	2022		
Tree Cage Maintenance	To Be Determined	To Be Determined					Include summary information in Annual Monitoring Report.	Continuation of ongoing Tree Cage Maintenance Program as modified. See Section 10.1 of text.
Riverbank Soil Restoration	Once in 2022 (and after any flow event >3,500 cfs) + Proposal					X	Trip report to be submitted within 30 days after each monitoring event.	Performed during low flow (late spring or summer typically), and after any flow event over 3,500 cfs at Coltsville gage. Visual observation for signs of significant erosion (e.g., ruts, gullies, washouts, or sloughing).
Riprap in the River Channel, Riverbank or Swales and ACB	Once in 2022 (and after any flow event >3,500 cfs) + Proposal					X		Performed during low flow (late spring or summer typically), and after any flow event over 3,500 cfs at Coltsville gage. Visual observation for reduction in thickness that threatens the stability of the riverbanks or river channel or results in erosion of underlying soils or sediments. Also, for swales, no movement of riprap that results in the exposure of the underlying geotextile fabric. For ACB, no significant damages to the ACB, and to the shotcrete which is tying the ACB to the base of the adjacent retaining wall on Parcel I8-10-5 and the shotcrete at the transition between the ACB and the adjacent riprap at the downstream end of the ACB.
Select Critical Ancillary Items	Once in 2019 and again in 2021 + Proposal		Second Biennial Inspection		5-year Inspection by PE			Performed during low flow (late spring or summer typically). Visual observation of retaining walls and designated fences to confirm no substantial variation from as-built condition. Additional inspection by registered professional engineer (PE) in 2021. See Section 10.4 of text.
Sediment Sampling	Once in 2022 + Proposal					X	Summary report submitted within 90 days of completion of sampling, including receipt of validated data.	Performed in low flow conditions (recommended for late June or early July). Sampling between Transect 66 and Transect 210 in 200-ft intervals (every 4th transect).
Surface Water Sampling	Indefinite	See Note 2.					See Note 2.	See Note 2.
ERE and Conditional Solution Inspections	Indefinite, annually	X	X	X	X	X	Summary report to be included in consolidated inspection report for various RAAs, submitted January of following year.	Performed in late fall (typically October) at non-GE-owned and non-State owned parcels with EREs or Conditional Solutions.

Notes:
1. Please refer to EPA's *Final Post-Removal Site Control Plan: 1 1/2-Mile Removal Reach* , March 2011, for additional details.
2. Pursuant to EPA's June 28, 2017 conditional approval letter, GE will continue with its ongoing quarterly water sampling at Pomeroy Avenue and report the results in the Annual Report.
3. GE will notify EPA of all scheduled monitoring, inspections and maintenance activities, except for surface water sampling, 14 days in advance to allow for arrangements of oversight.
4. All monitoring activities will be summarized in an Annual Report, which will include a summary of all monitoring and any corrective actions that were performed.
5. For those monitoring programs for which “Proposal” is noted, GE will submit a proposal to EPA at the end of the specified monitoring period regarding the need for and scope of continued long-term monitoring.

FIGURES

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 1-1_STUDY AREA LOC MAP.dwg LAYOUT: 1-1 SAVED: 1/17/2018 9:43 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE:
---- PLOTTED: 2/9/2018 10:13 AM BY: POSENAUER, LISA

XREFS: IMAGES:
X-BDR-F-PD MassGIS_2005 X01.sid
MassGIS_2005 X02.sid

Lyman Street

PHASE 1

Elm Street

PHASE 2

HOUSATONIC RIVER

Dawes Avenue

PHASE 3

Pomeroy Avenue

PHASE 4

Confluence

0 250' 500'
GRAPHIC SCALE

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

STUDY AREA LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1-1

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 2-1_PHASE 1 STUDY AREA.dwg LAYOUT: 2-1 SAVED: 1/17/2018 9:42 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: C-PD2B-ADOBEPDF
PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:13 AM BY: POSENAUER, LISA
XREFS: IMAGES:
X-BDR-F-PD MassGIS_2005 X01.sid
MassGIS_2005 X02.sid

2014 AREA WITH OBSERVED EROSION OF BANK IN UN-REMEDIATED AREA

NEW SILVER LAKE OUTFALL

I9-4-201
(FORMERLY I9-4-23)

I9-4-25

I9-4-203

I9-4-19

I9-4-14

I9-5-16

I9-5-15

I9-5-14

I9-5-13

I9-5-1

I8-24-5

I8-24-101

I8-24-1

I8-23-6

I8-23-1

I8-23-103
(FORMERLY I8-23-2 & I8-23-3)

I8-23-4

Lyman St.

Hathaway St.

Ashley St.

Day St.

Cove St.

Root Pl.

Elm St.

Massachusetts Ave.

HOUSATONIC RIVER

HARRY'S SUPERMARKET

LAUNDROMAT

0 100' 200'
GRAPHIC SCALE

LEGEND:

I9-4-19 PARCEL ID

APPROXIMATE PROPERTY LINE

APPROXIMATE LOCATION OF RETAINING WALL

APPROXIMATE AREA REPLANTED IN FALL 2012/ SPRING 2013 WITH 15 TREES AND SHRUBS

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

PHASE 1 STUDY AREA

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3-1

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 2-2_PHASE 2 STUDY AREA.dwg LAYOUT: 2-2 SAVED: 1/17/2018 9:41 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: C-PD2B-ADOBEPDF
PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:14 AM BY: POSENAUER, LISA
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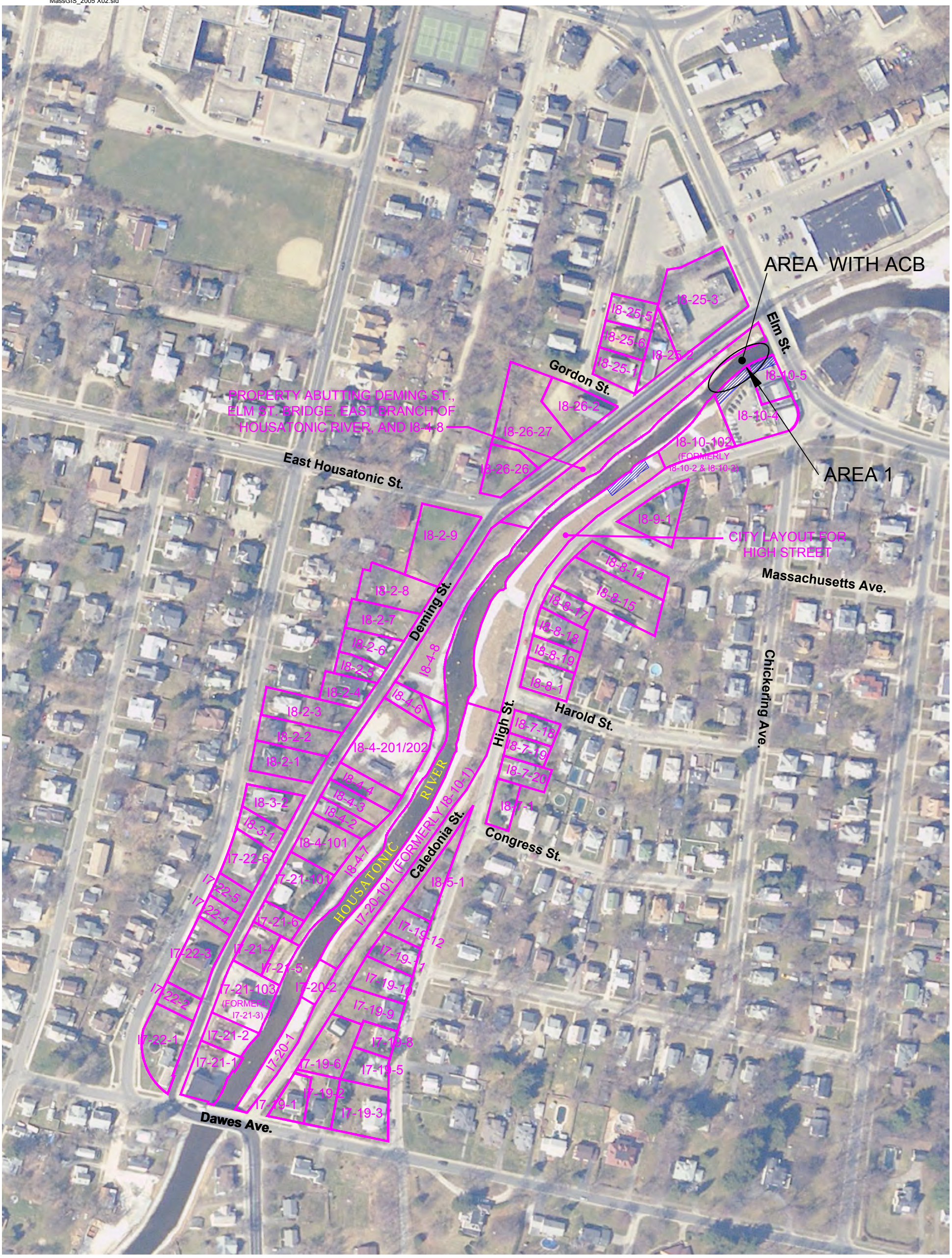
MassGIS_2005 X02.sid



0 100' 200'
GRAPHIC SCALE

LEGEND:

I7-19-1 PARCEL ID

APPROXIMATE PROPERTY LINE

APPROXIMATE LOCATION OF RETAINING WALL

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

PHASE 2 STUDY AREA

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3-2

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 2-3_PHASE 3 STUDY AREA.dwg LAYOUT: 2-3 SAVED: 1/17/2018 9:41 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: C-PD2B-ADOBEPDF
PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:14 AM BY: POSENAUER, LISA

XREFS: IMAGES:
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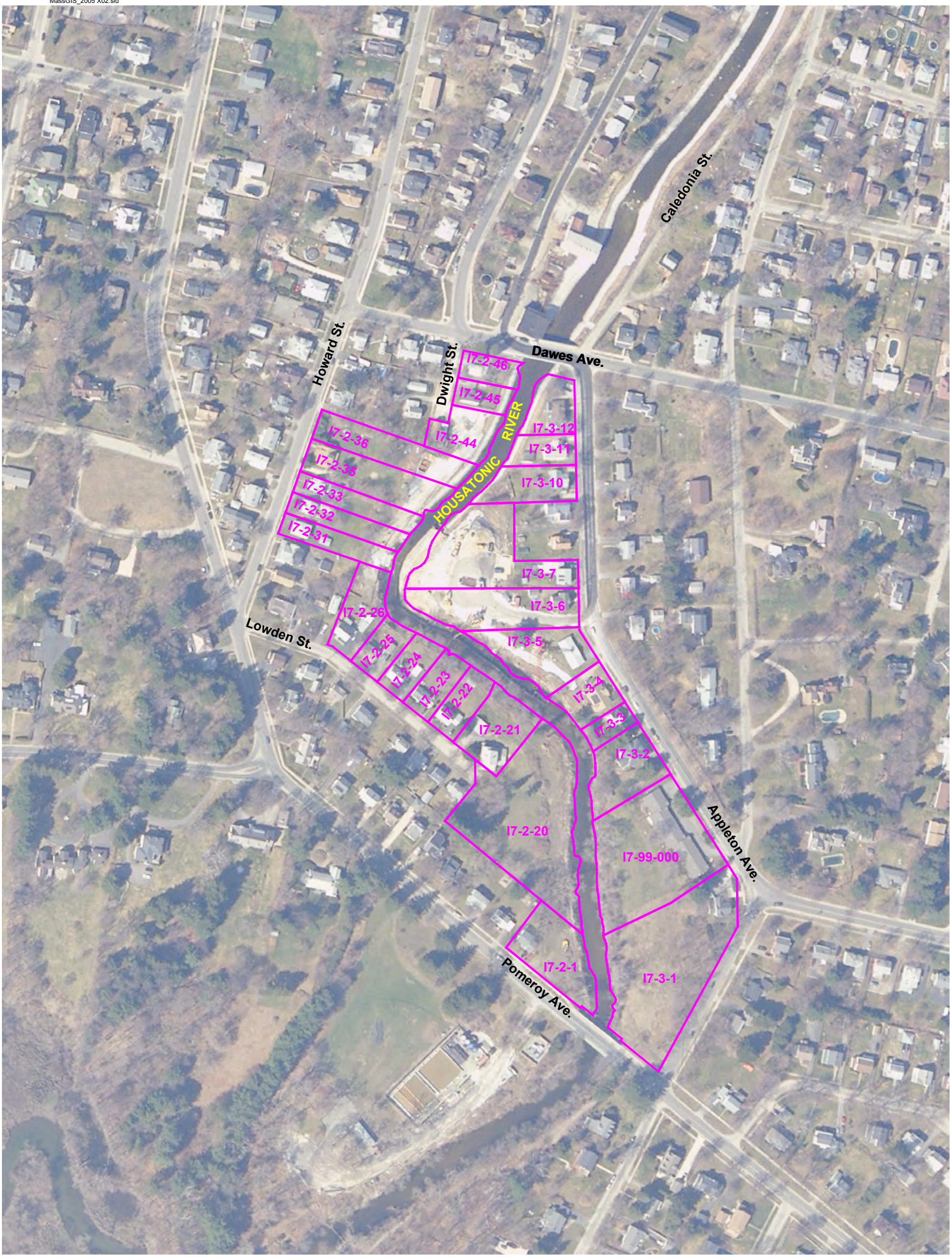
MassGIS_2005 X02.sid



0 100' 200'
GRAPHIC SCALE

LEGEND:

I7-2-20 PARCEL ID

APPROXIMATE PROPERTY LINE

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

PHASE 3 STUDY AREA

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3-3

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 2-4_PHASE 4 STUDY AREA.dwg LAYOUT: 2-4 SAVED: 1/17/2018 9:43 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: C-PD2B-ADOBEPDF
PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:14 AM BY: POSENAUER, LISA

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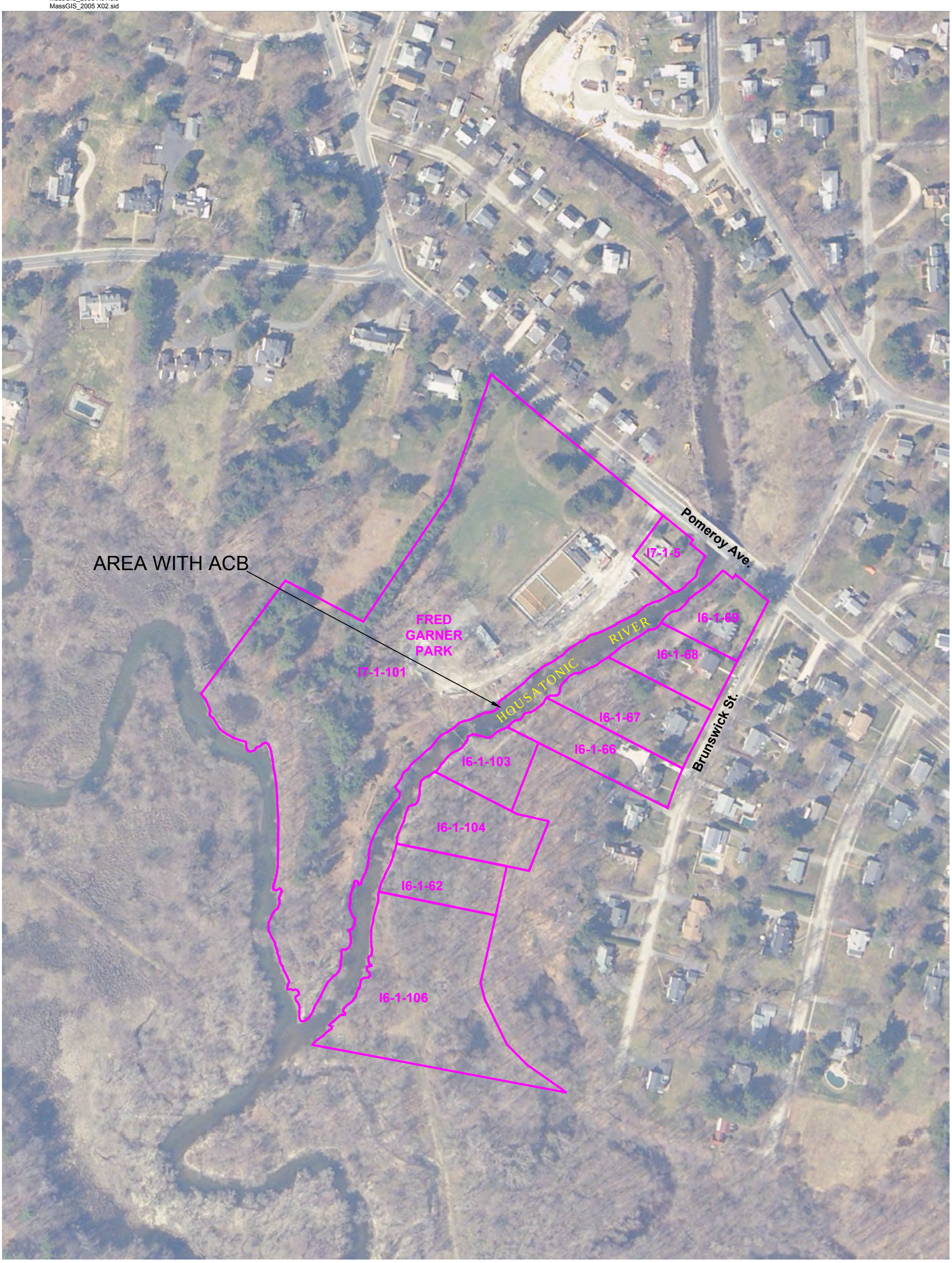

0 100' 200'
GRAPHIC SCALE

LEGEND:

I6-1-106 PARCEL ID

APPROXIMATE PROPERTY LINE

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

PHASE 4 STUDY AREA

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3-4

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 7-1_SEDIMENT SAMPLE_LYMAN TO ELM.dwg LAYOUT: 7-1 SAVED: 2/9/2018 10:11 AM ACADVER: 20.1S (LMS TECH) PAGESETUP:
C-PD2B-ADOBEPDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:15 AM BY: POSENAUER, LISA

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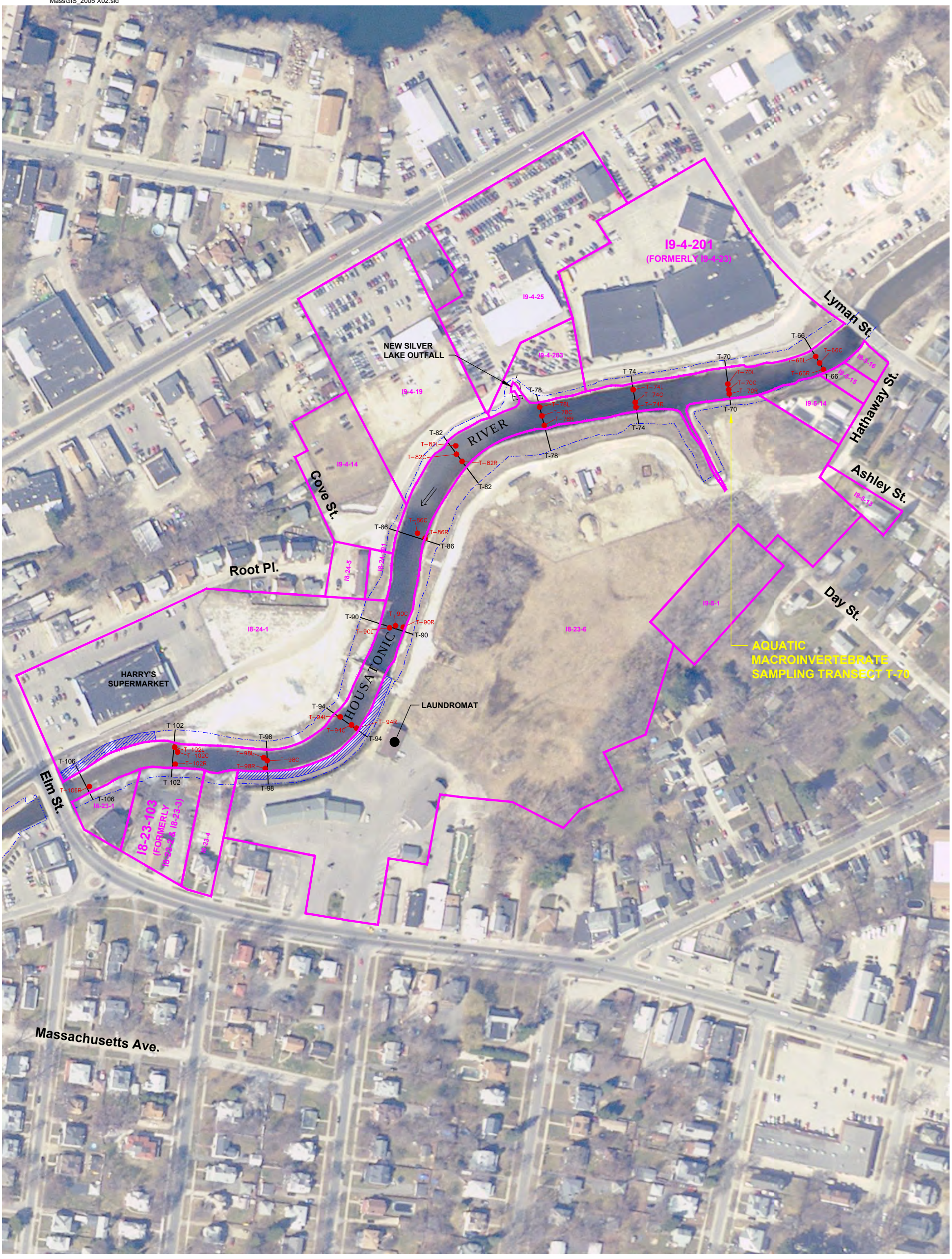
MassGIS_2005 X02.sid



0 100' 200'
GRAPHIC SCALE

LEGEND:

I9-4-19	PARCEL ID
	APPROXIMATE PROPERTY LINE
	APPROXIMATE LOCATION OF RETAINING WALL
T-210	TRANSECT LINE
T-86L	SAMPLE POINT

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

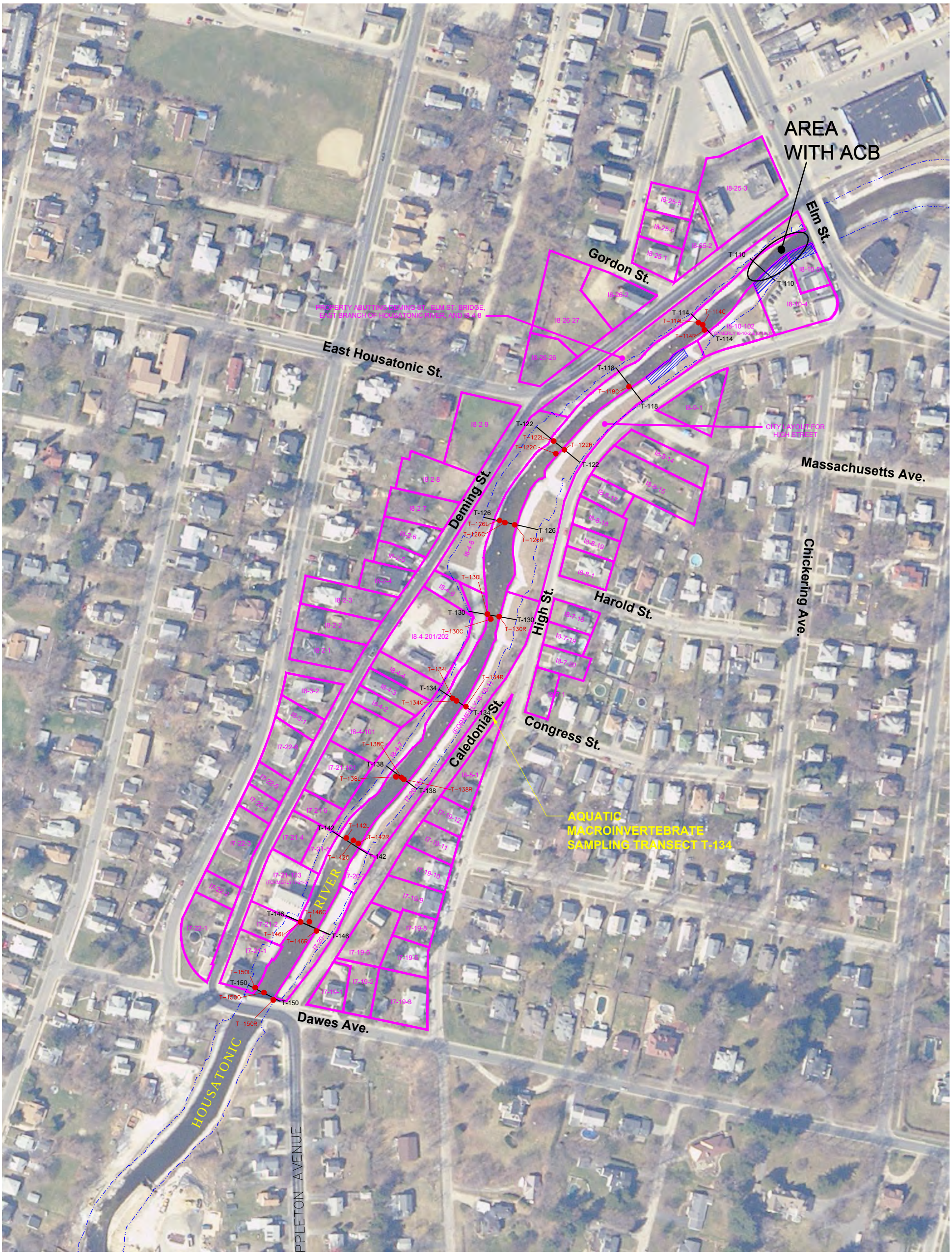
SEDIMENT SAMPLE AND AQUATIC MACROINVERTEBRATE SAMPLING TRANSECT LOCATIONS LYMAN STREET TO ELM STREET

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7-1

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 7-2_SEDIMENT SAMPLE_ELM TO DAWES.dwg LAYOUT: 7-2 SAVED: 2/9/2018 10:02 AM ACADVER: 20.1S (LMS TECH) PAGESETUP:
C-PD2B-ADOBEPDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:15 AM BY: POSENAUER, LISA

XREFS: IMAGES:
X-BDR-F-PD MassGIS_2005 X01.sid



0 100' 200'
GRAPHIC SCALE

LEGEND:

I9-4-19 PARCEL ID

APPROXIMATE PROPERTY LINE

APPROXIMATE LOCATION OF RETAINING WALL

T-210 TRANSECT LINE

T-142R SAMPLE POINT

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

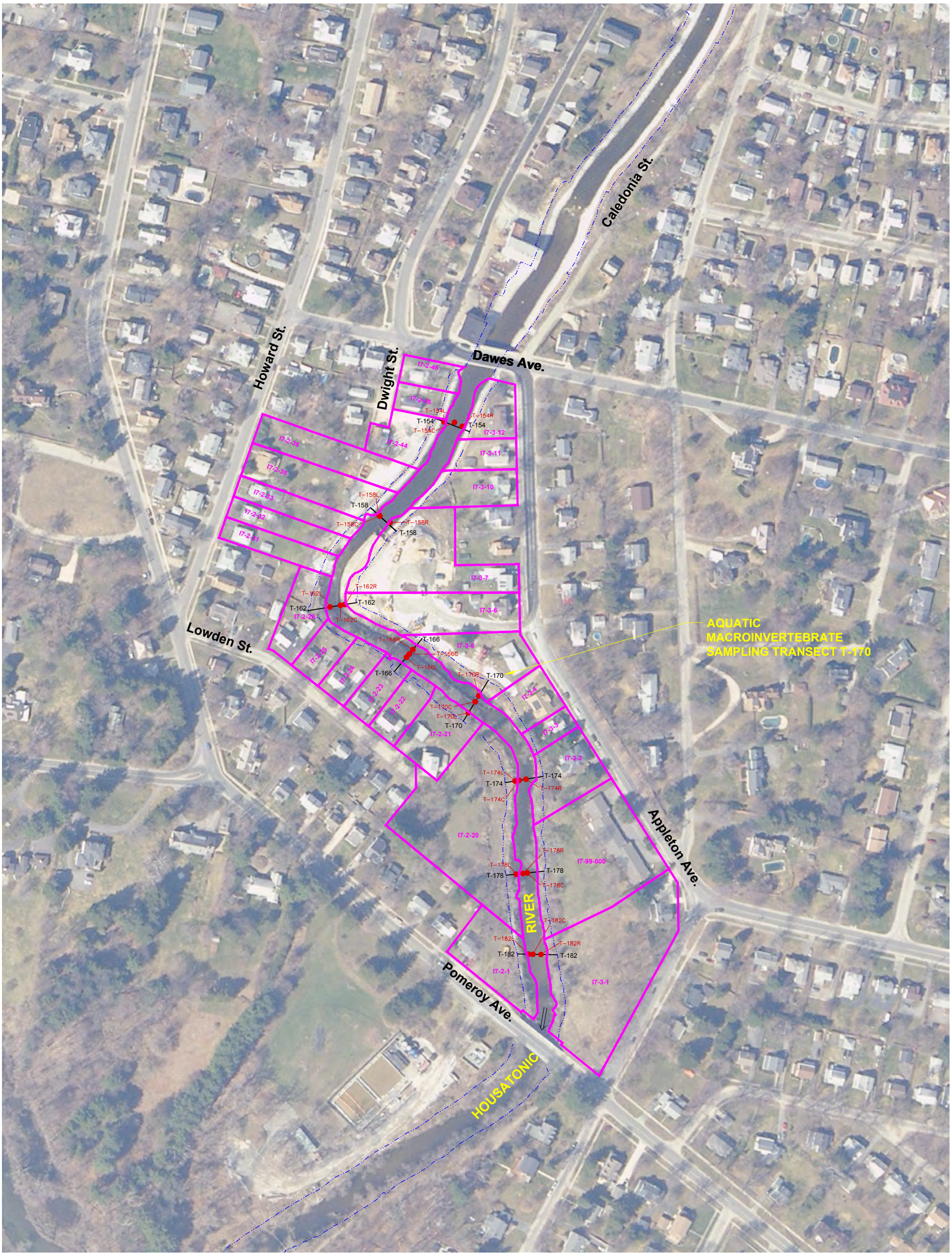
SEDIMENT SAMPLE AND AQUATIC MACROINVERTEBRATE SAMPLING TRANSECT LOCATIONS ELM STREET TO DAWES AVENUE

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7-2

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 7-3_SEDIMENT SAMPLE_DAWES TO POMEROY.dwg LAYOUT: 7-3 SAVED: 2/9/2018 10:07 AM ACADVER: 20.1S (LMS TECH) PAGESETUP:
C-PD2B-ADOBEPDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:16 AM BY: POSENAUER, LISA

XREFS: IMAGES:
X-BDR-F-PD MassGIS_2005 X01.sid



LEGEND:

- I9-4-19 — PARCEL ID
- APPROXIMATE PROPERTY LINE
- APPROXIMATE LOCATION OF RETAINING WALL
- T-210 — TRANSECT LINE
- T-182L — SAMPLE POINT

NOTES:

1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

SEDIMENT SAMPLE AND AQUATIC MACROINVERTEBRATE SAMPLING LOCATIONS DAWES AVENUE TO POMEROY AVENUE

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7-3

CITY: SYRACUSE, NY DIV/GROUP: EBC-IM/DV DB: L.POSENAUER PIC:(Opt) PM:(Reqd) TM: L.PUTNAM LYR:(Opt)ON=*;OFF=*REF*
C:\Users\lposenauer\OneDrive - ARCADIS\BIM 360 Docs\GE CORP ENV PROG\GE HOUSA RIVER 1.5 OMM INSPECTIONS\2018\ALL31044.4000\01-DWG\FIG 7-4_SEDIMENT SAMPLE_POMEROY TO CONFLUENCE.dwg LAYOUT: 7-4 SAVED: 2/9/2018 10:09 AM ACADVER: 20.1S (LMS TECH)
PAGESETUP: C-PD2B-ADOBEPDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/9/2018 10:16 AM BY: POSENAUER, LISA
XREFS: IMAGES:
X-BDR-F-PD MassGIS_2005 X01.sid

AREA WITH ACB

Pomeroy Ave.

Brunswick St.

FRED GARNER PARK

I7-1-5
I7-1-101
I6-1-63
I6-1-64
I6-1-67
I6-1-66
I6-1-103
I6-1-104
I6-1-62
I6-1-106

T-186 T-186L T-186C T-186R T-186
T-190 T-190L T-190C T-190R T-190
T-194 T-194L T-194C T-194R T-194
T-198 T-198L T-198C T-198R T-198
T-202 T-202L T-202C T-202R T-202
T-206L T-206C T-206R T-206 T-206
T-210L T-210C T-210R T-210 T-210

HOUSATONIC RIVER

0 100' 200'
GRAPHIC SCALE

LEGEND:

I9-4-19 PARCEL ID

APPROXIMATE PROPERTY LINE

APPROXIMATE LOCATION OF RETAINING WALL

T-210 TRANSECT LINE

T-194L SAMPLE POINT

NOTES:

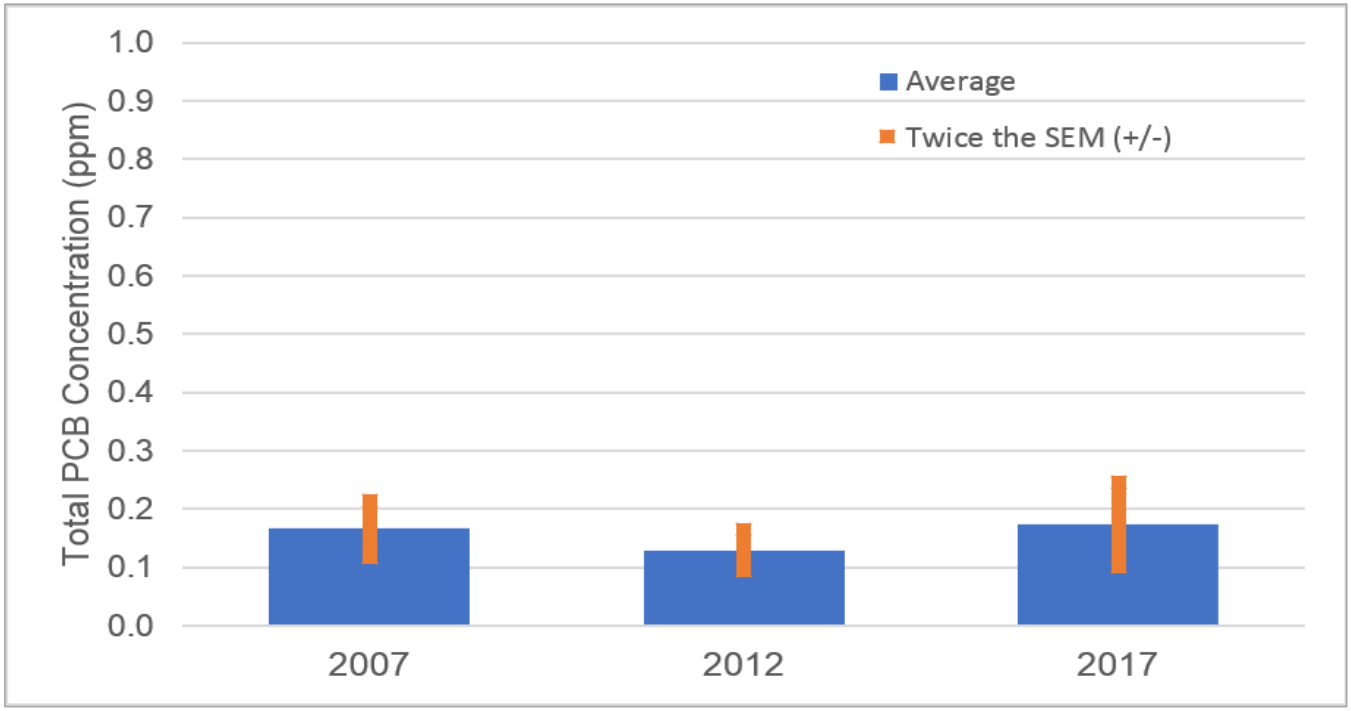
1. THE BASEMAP IMAGES PRESENTED ON THIS FIGURE WERE OBTAINED FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS) COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS 1:5000 COLOR ORTHO IMAGERY, 2005.
2. NOT ALL PHYSICAL FEATURES SHOWN.

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
1 1/2-MILE REACH OF THE HOUSATONIC RIVER

SEDIMENT SAMPLE LOCATIONS POMEROY AVENUE TO CONFLUENCE

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7-4



Notes:
ppm - parts per million

GENERAL ELECTRIC COMPANY
PITTSFIELD , MASSACHUSETTS

1 1/2-MILE REACH OF THE HOUSATONIC RIVER

AVERAGE TOTAL PCB CONCENTRATION AND SEM FOR 2007, 2012, AND 2017

ARCADIS Design & Consultancy for natural and built assets

FIGURE
8-1

G:\GE\PRJ\GE_Housatonic_Mile_and_Half\Reports and Presentations\2017 Annual Rpt\Figures\Figure 8-1 backup

Figure 8-2A:

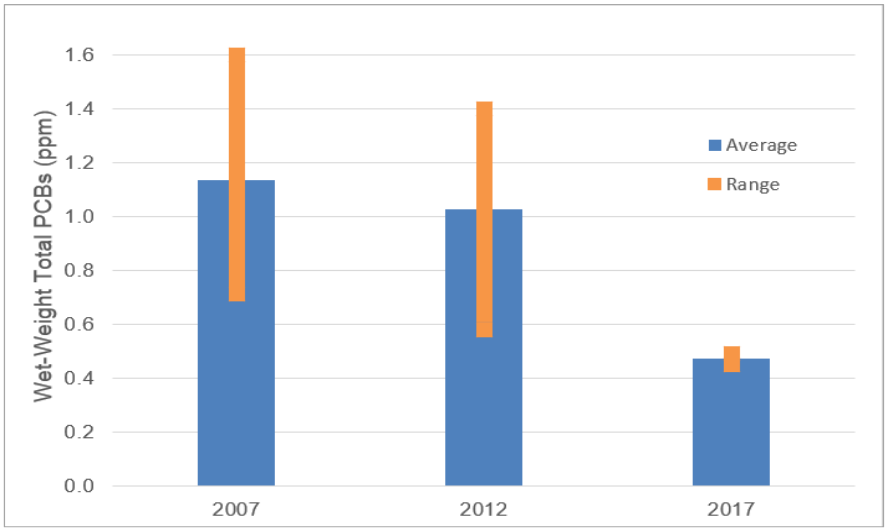
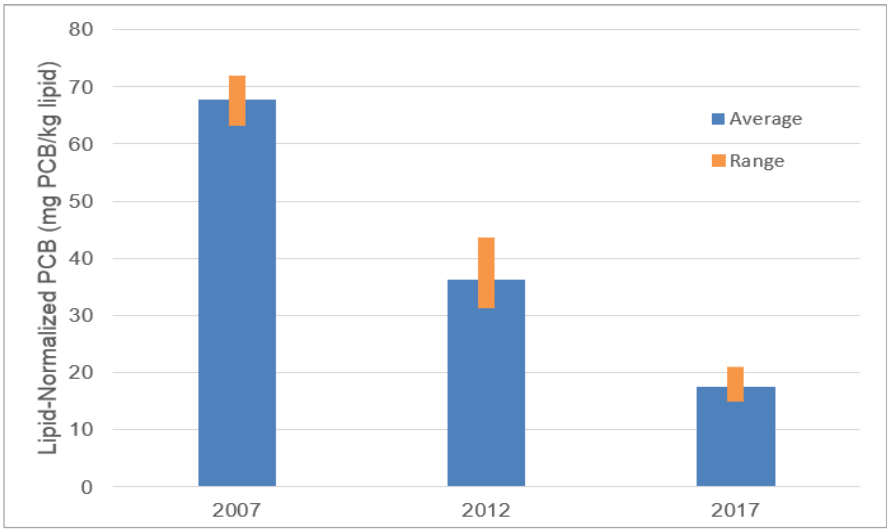


Figure 8-2B:



Notes:
ppm - parts per million

GENERAL ELECTRIC COMPANY
PITTSFIELD , MASSACHUSETTS

1 1/2-MILE REACH OF THE HOUSATONIC RIVER

SUMMARY OF AQUATIC MACROINVERTEBRATE WET-WEIGHT TOTAL PCB AND LIPID-NORMALIZED PCB DATA

ARCADIS Design & Consultancy for natural and built assets

FIGURE
8-2

APPENDIX A

Field Data Sheets from 2017 Inspection/Monitoring Activities

RIVERBANK SOIL, RIPRAP, AND ARTICULATED CONCRETE BLOCKS (ACB) MONITORING FIELD FORM

Date: July 19, 2017
Lead Monitor: Penny Rabasco

Monitoring Area	Monitoring Program	Comments/Recommendations and Brief Description of Specific Location
Lyman St Bridge to Elm Street Bridge	Soil:	No problems identified.
	Riprap:	No problems identified.
Elm Street Bridge to Dawes Ave Bridge	Soil:	No problems identified.
	Riprap:	No problems identified.
	ACB:	No problems identified.
Dawes Ave Bridge to Pomeroy Ave Bridge	Soil:	No problems identified.
	Riprap:	No problems identified.
Pomeroy Ave to the Confluence	Soil:	No problems identified.
	Riprap:	No problems identified.
	ACB:	No problems identified.

THE RETAINING WALLS LOCATED AT PARCELS I8-10-4 AND CITY LAYOUT FOR HIGH STREET ABUTTING HIGH STREET FORMALLY PARCEL I8-10-1 INSPECTION FIELD FORM

Date: __July 19, 2017_____
Lead Monitor: __Penny Rabasco_____

Retaining wall: **Parcel** [**I8-10-4**] **OR** **Layout for High St (formally I8-10-1)**
(circle one)

Wall Deflection Indicators		**Comments**
1. GENERAL CONDITION Timber Facades Paved Areas behind wall	[GOOD] FAIR POOR [Good] Fair Poor [Good] Fair Poor	
2. EXPOSED TIMBER FACADES General Condition Missing, damaged or loose boards (if Yes, describe _____)	[GOOD] FAIR POOR YES [NO]	
3. PAVED AREAS (approx 20-ft behind wall) General Condition Cracks in asphalt pavement parallel to the wall Excessively cracked curbs	[GOOD] FAIR POOR YES [NO] YES [NO]	
4. OTHER Pronounced drop in ground surface elevation Excessively leaning fences, trees or utility poles	YES [NO] YES [NO]	
PHOTOGRAPHS:	[YES] NO	
RECOMMENDATIONS:		

THE RETAINING WALL LOCATED AT PARCELS I8-10-5 INSPECTION FIELD FORM

Date: __July 19, 2017_____
Lead Monitor: __Penny Rabasco_____

Retaining wall: Parcel I8-10-5

Wall Deflection Indicators		**Comments**
1. GENERAL CONDITION Exposed Wall Face Condition Parking Lot Condition	[GOOD] FAIR POOR [Good] Fair Poor [Good] Fair Poor	
2. EXPOSED WALL FACE General Condition Deteriorated Concrete (e.g., flaking, spalling) Cracking of wall Cracking around anchor heads (if Yes, describe pattern, e.g., parallel lines or circular_____) Interface between wall and Elm St. Bridge Abutment : Excessively wide gap Interface between wall and ACB: Excessively wide gap	[GOOD] FAIR POOR YES [NO] YES [NO] YES [NO] YES [NO] YES [NO]	Although no gap was observed between the Elm St. Bridge Abutment and the retaining wall, the side of the retaining wall adjacent to the bridge abutment has been exposed.
3. PARKING LOT (approx 20-ft behind wall) General Condition Cracks in asphalt pavement parallel to the wall Excessively leaning fences	[GOOD] FAIR POOR YES [NO] YES [NO]	A sink hole was observed in the parking lot in June 2017, and was repaired in July 2017. A separate inspection of this issue was performed on July 6, 2017. Sand bags and vegetative debris were observed near the repaired sink hole.
4. OTHER Depressed area along the rear of wall	YES [NO]	
PHOTOGRAPHS:	[YES] NO	See Appendix B for photographs
RECOMMENDATIONS: Remove vegetative debris and sand bags observed to near the repaired sink hole.		

THE RETAINING WALLS LOCATED AT PARCELS I8-10-4 AND CITY LAYOUT FOR HIGH STREET ABUTTING HIGH STREET FORMALLY PARCEL I8-10-1 INSPECTION FIELD FORM

Date: __July 19, 2017_____
Lead Monitor: __Penny Rabasco_____

Retaining wall: **Parcel I8-10-4** **OR** **[Layout for High St (formally I8-10-1)]**
(circle one)

Wall Deflection Indicators		**Comments**
1. GENERAL CONDITION Timber Facades Paved Areas behind wall	[GOOD] FAIR POOR [Good] Fair Poor [Good] Fair Poor	
2. EXPOSED TIMBER FACADES General Condition Missing, damaged or loose boards (if Yes, describe _____)	[GOOD] FAIR POOR YES [NO]	
3. PAVED AREAS (approx 20-ft behind wall) General Condition Cracks in asphalt pavement parallel to the wall Excessively cracked curbs	[GOOD] FAIR POOR YES [NO] YES [NO]	
4. OTHER Pronounced drop in ground surface elevation Excessively leaning fences, trees or utility poles	YES [NO] YES [NO]	
PHOTOGRAPHS:	[YES] NO	
RECOMMENDATIONS:		

OTHER CRITICAL ANCILLARY ITEMS INSPECTION FIELD FORM

Date: __July 19, 2017_____
Lead Monitor: __Penny Rabasco___

General Condition	Comments
Fencing on top of the retaining walls on Parcel I8-10-4	No problems identified.
Fencing on top of the retaining walls on Parcel I8-10-5	No problems identified.
Fencing on top of the retaining wall adjacent to the City Layout for High Street	No problems identified.

APPENDIX B

Surface Water Monitoring Data Validation Report

Appendix B
Surface Water Monitoring Data Validation Report – 2017 Surface Water Monitoring Program
1½-Mile Reach of the Housatonic River

General Electric Company
Pittsfield, Massachusetts

1.0 General

This attachment summarizes the data validation review performed on behalf of the General Electric Company (GE) for surface water samples collected from January through October 2017 as part of 1½ Mile Reach of the Housatonic River sampling activities conducted at the GE-Pittsfield/Housatonic Site in Pittsfield, Massachusetts. The samples were analyzed for polychlorinated biphenyls (PCBs) and total suspended solids (TSS) by Pace Analytical of Minneapolis, Minnesota and Eurofins Lancaster Laboratories of Lancaster, Pennsylvania. Data validation was performed for six PCB samples and 10 total suspended solids (TSS) samples.

2.0 Data Evaluation Procedures

This attachment outlines the applicable quality control criteria utilized during the data review process and any deviations from those criteria. The data review was conducted in accordance with the following documents:

- *Field Sampling Plan/Quality Assurance Project Plan (*FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, Arcadis (Revision 5 submitted by GE on July 2, 2013 and approved by EPA on July 23, 2013)*;*
- Addendum to the FSP/QAPP, General Electric Company, Pittsfield, Massachusetts, Arcadis (submitted by GE on August 23, 2017 and approved by EPA on August 28, 2017); and
- EPA Region I, *EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses* (July 1996, revised December 1996) (EPA Region I Guidelines).

The data were validated to Tier I and Tier II levels, as described below. Any deviations from the applicable quality control criteria utilized during the data review process are identified below. A tabulated summary of the Tier I/Tier II data review is presented in Table B-1. Each sample subject to evaluation is listed in Table B-1 to document that data review was performed. Samples that required data qualification are listed separately.

The following data qualifiers were used in this data evaluation:

J The compound was positively identified, but the associated numerical value is an estimated concentration. This qualifier is used when the data evaluation procedure identifies a deficiency in the data generation process. This qualifier is also used when a compound is detected at an estimated concentration less than the corresponding practical quantitation limit (PQL).

ND(PQL) The compound was analyzed for, but was not detected at the method detection limit. The sample PQL is presented in parentheses. Non-detect sample results are presented as ND(PQL) in this report for consistency with documents previously prepared for investigations conducted at the GE-Pittsfield/Housatonic River Site. [1]

[1] This project specific nomenclature differs from that in EPA guidance, which uses the qualifier U for non-detected compounds.

ND(PQL) J The compound was not detected above the reported sample PQL, but the sample PQL is estimated and may or may not represent the actual level of quantitation. Non-detect sample results that required this qualification are presented as ND(PQL) J in this report for consistency with documents previously prepared for investigations conducted at the GE-Pittsfield/Housatonic River Site. [2]

R Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data should not be used for any qualitative or quantitative purpose.

3.0 Data Validation Procedures

Section 7.5 of the revised FSP/QAPP states that all analytical data will be validated to a Tier I level following the procedures presented in the EPA Region I Guidelines. The Tier I review consisted of a completeness evidence audit, as outlined in the *EPA Region I CSF Completeness Evidence Audit Program* (EPA Region I, July 31, 1991), to ensure that laboratory data and documentation were present. In the event that data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the EPA Region I Tier I data completeness requirements.

All analytical results from the surface water sampling activities described above were also subjected to a Tier II data review. The Tier II data review consisted of a review of data package summary forms for identification of quality assurance/quality control (QA/QC) deviations and qualification of the data according to the EPA Region I Guidelines. Additionally, field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the samples subject to Tier I and Tier II data review is presented in the following table.

Summary of Samples Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I &Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
PCBs	0	0	0	6	0	0	6
TSSs	6	0	0	4	0	0	10
Total	**6**	**0**	**0**	**10**	**0**	**0**	**16**

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in EPA Region I Guidelines. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. A summary of the QA/QC parameter deviations that resulted in data qualification is presented in Section 4 below.

[2] This project specific nomenclature differs from that in EPA guidance, which uses the qualifier UJ for non-detected compounds in this category.

4.0 Summary of QA/QC Parameter Deviations Requiring Data Qualification

This section provides a summary of the deviations from the applicable QA/QC criteria that resulted in qualification of results.

Blank action levels for compounds/analytes detected in the blanks were calculated at five times the blank concentrations. Detected sample results that were below the blank action level and below the reporting limit were qualified as non-detect (ND) at the practical quantitation limit (PQL), and detected sample results that were below the blank action level and above the reporting limit were qualified as ND at the detected compound concentration (DCC), and the total PCB concentration was adjusted accordingly. The compounds detected in method/equipment blanks which resulted in qualification of sample data, along with the number of affected samples, are presented in the following table.

Compounds Qualified Due to Blank Deviations

Analysis	Analyte/Compound	Number of Affected Samples	Qualification
PCBs	Aroclor-1254	1	ND(PQL)
		2	ND(DCC)
	Total PCBs	3	Adjusted

5.0 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I/II data validation reviews. The percent usability calculation also includes quality control samples (i.e., field/equipment blanks, trip blanks, and field duplicates) to aid in the evaluation of data usability. Data usability is summarized in the following table.

Data Usability

Parameter	Percent Usability	Rejected Data
PCBs	100	None
TSS	100	None

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses to provide a measure of compliance of the analytical data with the Data Quality Objectives (DQOs) specified in the FSP/QAPP. The following sections present summaries of the PARCC parameters assessment with regard to the DQOs specified in the FSP/QAPP.

5.1 Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared to their average value. For this investigation, precision was defined as the RPD between duplicate sample results. The duplicate samples used to evaluate precision included LCS/LCSD samples. None of the data required qualification due to LCS/LCSD sample RPD deviations.

5.2 Accuracy

Accuracy measures the bias in an analytical system or the degree of agreement of a measurement with a known reference value. For this investigation, accuracy was defined as the percent recovery of QA/QC samples that were spiked with a known concentration of an analyte or compound of interest. The QA/QC samples used to evaluate analytical accuracy included instrument calibration, LCS/LCSD samples, and surrogate compound recoveries. None of the data required qualification due to instrument calibration deviations or LCS/LCSD, MS/MSD, or surrogate compound recovery deviations.

5.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter, which is most concerned with the proper design of the sampling program. The representativeness criterion is best satisfied by making certain that sampling locations are selected properly and a sufficient number of samples are collected. This parameter has been addressed by collecting samples at locations specified in the EPA-approved work plans, and by following the procedures for sample collection/analyses that were described in the FSP/QAPP. Additionally, the analytical program used procedures consistent with EPA-approved analytical methodology. A QA/QC parameter that is an indicator of the representativeness of a sample is holding time. Holding time criteria are established to maintain the samples in a state that is representative of the in-situ field conditions before analysis. None of the data required qualification due to holding time devaitions.

5.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. This goal was achieved through the use of the standardized techniques for sample collection and analysis presented in the FSP/QAPP. Specifically, all the surface water samples collected between January and December 2016 were analyzed by EPA SW-846 method 8082 for PCBs and 2540D for TSSs.

5.5 Completeness

Completeness is defined as the percentage of measurements that are judged to be valid or usable to meet the prescribed DQOs. The completeness criterion is essentially the same for all data uses the generation of a sufficient amount of valid data. The actual completeness of this analytical data set was 100%.

Table B -1

2017 Annual Monitoring Report
1 1/2-Mile Reach of the Housatonic River
General Electric Company - Pittsfield, Massachusetts
(Results are presented in parts per million, ppm)

Sample Delivery Group No.	Sample ID	Lab Sample ID	Date Collected	Matrix	Validation Level	Qualification	Compound	QA/QC Parameter	Value	Control Limits	Qualified Result	Notes
PCBs												
10377584_ArcadisPittsfield	LOCATION-4	10377584008	1/26/2017	Water	Tier II	Yes	Aroclor-1254	Method Blank	-	-	ND(0.000050)	
							Total PCBs	Method Blank	-	-	ND(0.000050)	
10377584_ArcadisPittsfield	LOCATION-6A	10377584006	1/25/2017	Water	Tier II	Yes	Aroclor-1254	Method Blank	-	-	ND(0.00017)	
							Total PCBs	Method Blank	-	-	0.000052	
10380411_ArcadisPittsfield	LOCATION-4	10380411009	2/23/2017	Water	Tier II	No						
10380411_ArcadisPittsfield	LOCATION-6A	10380411007	2/23/2017	Water	Tier II	No						
NGC07-1880998_v1	LOCATION-6A	9341315	4/27/2017	Water	Tier II	No						
NGC08-1880999_v1	LOCATION-6A	9341317	10/25/2017	Water	Tier II	Yes	Aroclor-1254	Equipment Blank	-	-	ND(0.000053)	
							Total PCBs	Equipment Blank	-	-	ND(0.000053)	
TSSs												
10377584_ArcadisPittsfield	LOCATION-4	10377584008	1/26/2017	Water	Tier II	No						
10377584_ArcadisPittsfield	LOCATION-6A	10377584006	1/25/2017	Water	Tier II	No						
10380411_ArcadisPittsfield	LOCATION-4	10380411009	2/23/2017	Water	Tier II	No						
10380411_ArcadisPittsfield	LOCATION-6A	10380411007	2/23/2017	Water	Tier II	No						
10383661_ArcadisPittsfield	LOCATION-4	10383661009	3/30/2017	Water	Tier I	No						
10383661_ArcadisPittsfield	LOCATION-6A	10383661007	3/30/2017	Water	Tier I	No						
10387113_ArcadisPittsfield	LOCATION-4	10387113009	4/27/2017	Water	Tier I	No						
10387113_ArcadisPittsfield	LOCATION-6A	10387113007	4/27/2017	Water	Tier I	No						
NGC02-1831185_v1	LOCATION-6A	9126606	7/25/2017	Water	Tier I	No						
NGC06-1868272_v1	LOCATION-6A	9287115	10/25/2017	Water	Tier I	No						

APPENDIX C

Surface Water Monitoring – EPA Split Sampling Results

Table 1
Pomeroy Avenue* Surface Water Data - 2017 Split Sampling - PCB Aroclors
GE-Pittsfield/Housatonic River - Pittsfield, MA

Results are in µg/L

Client	Lab	Sample ID	Date Collected	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
EPA	Test America	H2-SW000052-0-7J25	1/25/2017	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)
GE	Pace	Location 6A	1/25/2017	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.17)	0.052	0.052
EPA	Test America	H2-SW000052-0-7A27	4/27/2017	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)
EPA	Test America	H2-SW000052-1-7A27 (Duplicate)	4/27/2017	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)	ND(0.010)
GE	Pace	Location 6A	4/27/2017	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)	ND(0.0096)
EPA	Test America	H2-SW000052-0-7L25	7/25/2017	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)
GE	Pace	Location 6A	7/25/2017	NA	NA	NA	NA	NA	NA	NA	NA
EPA	Test America	H2-SW000052-0-7O25	10/25/2017	ND(0.0095)	ND(0.0095)	ND(0.0095)	ND(0.0095)	ND(0.0095)	ND(0.0095)	ND(0.0095)	ND(0.0095)
GE	Pace	Location 6A	10/25/2017	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.0094)	ND(0.053)	ND(0.0094)	ND(0.053)

Notes:
* - Samples collected from downstream of bridge.
Tier II Data Validation was performed on the EPA (Test America) split samples.
ND (0.0094) - Analyte was not detected. The value in parentheses is the associated reporting limit.
NA - Not Analyzed. Sample collected by GE, however mistakenly discarded by the laboratory.

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	**H2-SW000052-0-7J25**				**H2-SW000052-0-7A27**			
	Sample Location:	**Pomeroy Ave**				**Pomeroy Ave**			
	Sample Type:	**Field Sample**				**Field Sample**			
	Matrix:	**Surface Water**				**Surface Water**			
	Collection Date:	**1/25/2017**				**4/27/2017**			
	Dilution Factor:	**1.0**				**1.0**			
	% Moisture:	**N/A**				**N/A**			
	Units:	**pg/L**				**pg/L**			
CL#	**Compounds**	**Result**	**Flag**	**RL**	**EDL**	**Result**	**Flag**	**RL**	**EDL**
1	PCB-1	416		190	2.05	12.6	J[2]	191	1.30
1	PCB-2	7.07	J	190	1.98	191	U	191	0.99
1	PCB-3	36.8	J	190	1.98	2.98	J	191	1.00
2	PCB-4	2000		190	32.7	2450		191	8.84
2	PCB-5	190	U	190	15.1	191	U	191	3.00
2	PCB-6	106	J	190	15.4	54.6	J	191	3.14
2	PCB-7	190	U	190	14.4	191	U	191	3.01
2	PCB-8	180	J	190	15.2	60.4	J	191	3.07
2	PCB-9	190	U	190	16.3	12.7	J	191	3.12
2	PCB-10	82.3	J	190	21.7	87.3	J	191	5.74
2	PCB-11	190	U	190	14.8	191	U[1]	191	3.03
2	PCB-12/13	379	U	379	15.2	25.7	J	381	3.01
2	PCB-14	190	U	190	13.2	191	U	191	2.64
2	PCB-15	190	U	190	16.9	90.6	J	191	2.90
3	PCB-16	57.5	J	190	2.98	71.0	J	191	1.80
3	PCB-17	163	J	190	2.19	198		191	1.35
3	PCB-18/30	172	J	379	1.89	208	J	381	1.19
3	PCB-19	470		190	2.20	719		191	1.71
3	PCB-20/28	46.9	J	379	1.85	85.7	J	381	1.73
3	PCB-21/33	19.1	J	379	1.76	381	U[1]	381	1.63
3	PCB-22	16.9	J	190	1.95	28.3	J	191	1.77
3	PCB-23	190	U	190	1.80	191	U	191	1.67
3	PCB-24	190	U	190	1.69	191	U	191	1.08
3	PCB-25	37.9	J	190	1.81	53.9	J	191	1.67
3	PCB-26/29	70.9	J	379	1.81	108	J	381	1.66
3	PCB-27	153	J	190	1.68	181	J	191	1.03
3	PCB-31	61.6	J	190	1.75	105	J	191	1.57
3	PCB-32	82.7	J	190	1.52	102	J	191	0.98
3	PCB-34	190	U	190	1.85	191	U	191	1.72
3	PCB-35	190	U	190	1.90	191	U	191	1.74
3	PCB-36	190	U	190	1.73	191	U	191	1.61
3	PCB-37	9.10	J	190	2.30	18.5	J	191	1.75
3	PCB-38	190	U	190	1.96	191	U	191	1.78
3	PCB-39	190	U	190	1.76	191	U	191	1.57
4	PCB-40/71	41.7	J	379	1.40	65.9	J	381	1.10
4	PCB-41	190	U	190	1.70	191	U	191	1.29
4	PCB-42	20.2	J	190	1.53	32.7	J	191	1.20
4	PCB-43	190	U	190	1.61	191	U	191	1.32
4	PCB-44/47/65	221	J	569	1.34	673		572	1.04
4	PCB-45	190	U	190	1.66	191	U	191	1.25
4	PCB-46	18.1	J	190	1.73	23.7	J	191	1.31
4	PCB-48	190	U	190	1.42	10.9	J	191	1.10
4	PCB-49/69	174	J	379	1.19	250	J	381	0.92
4	PCB-50/53	155	J	379	1.37	212	J	381	1.05
4	PCB-51	104	J	190	1.34	216		191	1.04
4	PCB-52	414		190	1.45	572		191	1.11
4	PCB-54	40.0	J	190	1.07	60.0	J	191	0.64
4	PCB-55	190	U	190	1.62	191	U	191	1.30
4	PCB-56	8.54	J	190	1.78	22.1	J	191	1.35
4	PCB-57	190	U	190	1.67	191	U	191	1.30
4	PCB-58	190	U	190	1.68	191	U	191	1.26
4	PCB-59/62/75	569	U	569	1.05	12.7	J	572	0.81
4	PCB-60	190	U	190	1.71	9.82	J	191	1.29
4	PCB-61/70/74/76	67.7	J	759	1.63	180	J	763	1.26
4	PCB-63	190	U	190	1.51	2.68	J	191	1.15
4	PCB-64	25.8	J	190	0.99	45.1	J	191	0.77

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	**H2-SW000052-0-7J25**				**H2-SW000052-0-7A27**			
	Sample Location:	**Pomeroy Ave**				**Pomeroy Ave**			
	Sample Type:	**Field Sample**				**Field Sample**			
	Matrix:	**Surface Water**				**Surface Water**			
	Collection Date:	**1/25/2017**				**4/27/2017**			
	Dilution Factor:	**1.0**				**1.0**			
	% Moisture:	**N/A**				**N/A**			
	Units:	**pg/L**				**pg/L**			
CL#	**Compounds**	**Result**	**Flag**	**RL**	**EDL**	**Result**	**Flag**	**RL**	**EDL**
4	PCB-66	28.1	J	190	1.78	69.9	J	191	1.32
4	PCB-67	190	U	190	1.55	191	U	191	1.22
4	PCB-68	190	U	190	1.50	191	U[1]	191	1.14
4	PCB-72	190	U	190	1.64	3.90	J	191	1.22
4	PCB-73	190	U	190	1.12	191	U	191	0.84
4	PCB-77	19.0	U	19.0	2.26	19.1	U	19.1	1.37
4	PCB-78	190	U	190	1.77	191	U	191	1.32
4	PCB-79	190	U	190	1.56	191	U	191	1.17
4	PCB-80	190	U	190	1.47	191	U	191	1.12
4	PCB-81	19.0	U	19.0	2.22	19.1	U	19.1	1.37
5	PCB-82	190	U	190	4.82	13.2	J[2]	191	4.92
5	PCB-83	190	U	190	5.05	191	U	191	5.34
5	PCB-84	37.9	J	190	4.75	69.4	J	191	4.57
5	PCB-85/116/117	569	U	569	3.35	26.6	J	572	3.41
5	PCB-86/87/97/108/ 119/125	58.2	J	1140	3.48	134	J	1140	3.55
5	PCB-88/91	24.0	J	379	3.93	46.1	J	381	3.92
5	PCB-89	190	U	190	4.39	191	U	191	4.30
5	PCB-90/101/113	161	J	569	3.56	316	J	572	3.59
5	PCB-92	27.2	J	190	4.15	54.5	J	191	4.15
5	PCB-93/100	379	U	379	3.91	14.8	J	381	3.89
5	PCB-94	190	U	190	4.30	191	U	191	4.11
5	PCB-95	221		190	4.01	362		191	3.89
5	PCB-96	3.80	J	190	1.40	4.79	J	191	0.79
5	PCB-98/102	379	U	379	3.87	10.0	J	381	3.80
5	PCB-99	49.4	J	190	3.74	98.9	J	191	3.33
5	PCB-103	190	U	190	3.72	9.03	J	191	3.58
5	PCB-104	190	U	190	1.07	1.69	J	191	0.74
5	PCB-105	16.7	J	19.0	3.57	35.8		19.1	3.37
5	PCB-106	190	U	190	3.01	191	U	191	3.25
5	PCB-107/124	379	U	379	3.15	381	U	381	3.17
5	PCB-109	190	U	190	3.06	7.68	J	191	2.97
5	PCB-110/115	120	J	379	3.13	244	J	381	3.13
5	PCB-111	190	U	190	2.93	191	U	191	3.05
5	PCB-112	190	U	190	2.97	191	U	191	3.17
5	PCB-114	19.0	U	19.0	3.55	19.1	U	19.1	3.35
5	PCB-118	57.1		19.0	3.38	118		19.1	3.23
5	PCB-120	190	U	190	2.92	191	U	191	2.92
5	PCB-121	190	U	190	2.94	191	U	191	2.91
5	PCB-122	190	U	190	3.50	191	U	191	3.43
5	PCB-123	19.0	U	19.0	3.48	19.1	U	19.1	3.38
5	PCB-126	19.0	U	19.0	3.83	19.1	U	19.1	3.42
5	PCB-127	190	U	190	3.32	191	U	191	3.23
6	PCB-128/166	11.7	J	379	2.20	20.4	J	381	2.01
6	PCB-129/138/163	155	J	569	2.33	202	J	572	2.14
6	PCB-130	6.05	J	190	2.85	10.5	J	191	2.69
6	PCB-131	190	U	190	2.68	191	U	191	2.46
6	PCB-132	50.5	J	190	2.62	60.7	J	191	2.44
6	PCB-133	190	U	190	2.55	191	U	191	2.41
6	PCB-134/143	379	U	379	2.67	9.86	J	381	2.49
6	PCB-135/151	93.2	J	379	2.43	107	J	381	2.25
6	PCB-136	34.1	J	190	1.90	39.7	J	191	1.67
6	PCB-137	2.84	J	190	2.26	4.52	J[2]	191	2.01
6	PCB-139/140	379	U	379	2.31	381	U	381	2.18
6	PCB-141	36.2	J	190	2.55	40.6	J	191	2.39
6	PCB-142	190	U	190	2.66	191	U	191	2.56

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	**H2-SW000052-0-7J25**				**H2-SW000052-0-7A27**			
	Sample Location:	**Pomeroy Ave**				**Pomeroy Ave**			
	Sample Type:	**Field Sample**				**Field Sample**			
	Matrix:	**Surface Water**				**Surface Water**			
	Collection Date:	**1/25/2017**				**4/27/2017**			
	Dilution Factor:	**1.0**				**1.0**			
	% Moisture:	**N/A**				**N/A**			
	Units:	**pg/L**				**pg/L**			
CL#	**Compounds**	**Result**	**Flag**	**RL**	**EDL**	**Result**	**Flag**	**RL**	**EDL**
6	PCB-144	9.54	J	190	2.40	11.9	J	191	2.18
6	PCB-145	190	U	190	1.82	191	U	191	1.64
6	PCB-146	27.2	J	190	2.38	31.9	J	191	2.07
6	PCB-147/149	175	J	379	2.34	218	J	381	2.19
6	PCB-148	190	U	190	2.37	191	U	191	2.18
6	PCB-150	190	U	190	1.72	191	U	191	1.53
6	PCB-152	190	U	190	1.72	191	U	191	1.59
6	PCB-153/168	157	J	379	1.95	197	J	381	1.85
6	PCB-154	3.98	J	190	2.11	191	U	191	1.97
6	PCB-155	190	U	190	1.52	191	U	191	1.59
6	PCB-156/157	10.2	J	19.0	1.96	15.5	J	38.1	1.34
6	PCB-158	12.9	J	190	1.82	16.0	J	191	1.67
6	PCB-159	190	U	190	1.39	1.57	J	191	0.99
6	PCB-160	190	U	190	1.94	191	U	191	2.05
6	PCB-161	190	U	190	1.91	191	U	191	1.90
6	PCB-162	190	U	190	1.35	191	U	191	0.96
6	PCB-164	11.3	J	190	2.00	15.1	J	191	1.98
6	PCB-165	190	U	190	2.10	191	U	191	1.95
6	PCB-167	3.99	J	19.0	1.51	6.33	J	19.1	0.88
6	PCB-169	19.0	U	19.0	1.66	19.1	U	19.1	0.95
7	PCB-170	47.6	J	190	1.24	52.1	J	191	1.17
7	PCB-171/173	16.9	J	379	1.17	14.1	J[2]	381	1.20
7	PCB-172	8.30	J	190	1.20	10.5	J	191	1.17
7	PCB-174	58.4	J	190	1.16	68.8	J	191	1.27
7	PCB-175	190	U	190	2.27	191	U	191	1.86
7	PCB-176	6.25	J	190	1.63	6.38	J	191	1.35
7	PCB-177	31.0	J	190	1.18	37.6	J	191	1.18
7	PCB-178	13.5	J	190	2.36	13.1	J	191	1.96
7	PCB-179	25.9	J	190	1.79	26.3	J	191	1.42
7	PCB-180/193	109	J	379	0.96	125	J	381	0.96
7	PCB-181	190	U	190	1.02	191	U	191	1.05
7	PCB-182	190	U	190	2.11	191	U	191	1.75
7	PCB-183	30.0	J	190	0.99	30.0	J	191	0.91
7	PCB-184	190	U	190	1.82	191	U	191	1.48
7	PCB-185	190	U	190	0.97	191	U	191	1.12
7	PCB-186	190	U	190	1.74	191	U	191	1.42
7	PCB-187	73.2	J	190	2.18	80.3	J	191	1.76
7	PCB-188	190	U	190	1.68	191	U	191	1.48
7	PCB-189	19.0	U	19.0	2.30	1.94	J	19.1	0.93
7	PCB-190	9.30	J	190	0.93	10.9	J	191	0.85
7	PCB-191	2.62	J	190	0.89	191	U	191	1.72
7	PCB-192	190	U	190	0.90	191	U	191	0.91
8	PCB-194	19.8	J	190	1.79	22.2	J	191	1.17
8	PCB-195	7.04	J	190	1.81	8.40	J	191	1.24
8	PCB-196	10.1	J	190	1.43	11.0	J	191	1.22
8	PCB-197	1.04	J	190	1.01	191	U	191	0.86
8	PCB-198/199	24.1	J	379	1.45	25.7	J	381	1.30
8	PCB-200	2.98	J	190	1.00	2.59	J	191	1.04
8	PCB-201	3.50	J	190	1.00	2.11	J	191	0.93
8	PCB-202	4.36	J	190	1.12	4.01	J	191	1.07
8	PCB-203	13.5	J	190	1.38	15.2	J	191	1.22
8	PCB-204	190	U	190	1.06	191	U	191	0.97
8	PCB-205	190	U	190	1.47	191	U	191	0.92
9	PCB-206	6.18	J	190	2.56	6.01	J	191	2.46
9	PCB-207	190	U	190	1.80	191	U	191	1.87
9	PCB-208	190	U	190	2.20	191	U	191	2.17
10	PCB-209	190	U	190	1.57	191	U	191	1.31

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	**H2-SW000052-0-7J25**				**H2-SW000052-0-7A27**			
	Sample Location:	**Pomeroy Ave**				**Pomeroy Ave**			
	Sample Type:	**Field Sample**				**Field Sample**			
	Matrix:	**Surface Water**				**Surface Water**			
	Collection Date:	**1/25/2017**				**4/27/2017**			
	Dilution Factor:	**1.0**				**1.0**			
	% Moisture:	**N/A**				**N/A**			
	Units:	**pg/L**				**pg/L**			
CL#	**Compounds**	**Result**	**Flag**	**RL**	**EDL**	**Result**	**Flag**	**RL**	**EDL**
	Total MoCB	460	J	190	19.0	191	U	191	19.1
	Total DiCB	2370	J	190	19.0	2780	J	191	19.1
	Total TrCB	1360	J	190	19.0	1880	J	191	19.1
	Total TeCB	1320	J	190	19.0	2460	J	191	19.1
	Total PeCB	776	J	190	19.0	1570	J	191	19.1
	Total HxCB	801	J	190	19.0	1010	J	191	19.1
	Total HpCB	432	J	190	19.0	477	J	191	19.1
	Total OcCB	86.4	J	190	19.0	91.2	J	191	19.1
	Total NoCB	190	U	190	19.0	191	U	191	19.1
	DeCB	190	U	190	19.0	191	U	191	19.1
	Total PCBs^	7610	J			10300	J		
	Total TEQ#	0.0026	J			0.0053	J		

TIER 2/S4VM DATA VALIDATION QUALIFIER COMMENTS:

EDL - Estimated Detection Limit. For Congener Method 1668A it is typical to report the EDL rather than an MDL. The EDL is a sample-specific detection limit based on the noise present in the sample at the retention time of an undetected analyte, and is more representative of what can be detected in that sample. EDL is the concentration of a given analyte required to produce a signal with a peak height of at least 2.5 times the background noise level.

^ Total PCBs are the sum of the total homologues.

The Toxic Equivalent concentrations are calculated with the Toxicity Equivalency Factors (TEFs) found in "The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds, Society of Toxicology, July 7, 2006. The TE values are calculated using the final validated data and include the positive results and estimated values The TE values are estimated (J) when any individual congener is estimated. The TE calculations do not include RL values.

J - Sample concentrations reported below the laboratory reporting limit are flagged (J) on the Data Summary Table as estimated values with no superscripts.

[1] Blank contamination; the positive results for PCB 11, PCB 21/33, and PCB 68 in the affected samples that are less than the RL are reported as non-detects (U) at the RL.

[2] Congener did not meet the ion abundance ratio identification criteria. Results are quantitated using the theoretical ion ratio and reported as an EMPC; estimate (J) the affected results.

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	H2-SW000052-0-7L25				H2-SW000052-1-7L25				H2-SW000052-0-7O25			
	Sample Location:	Pomeroy Ave				Pomeroy Ave				Pomeroy Ave			
	Sample Type:	Field Sample				Field Duplicate				Field Sample			
	Matrix:	Surface Water				Surface Water				Surface Water			
	Collection Date:	7/25/2017				7/25/2017				10/25/2017			
	Dilution Factor:	1.0				1.0				1.0			
	% Moisture:	N/A				N/A				N/A			
	Units:	pg/L				pg/L				pg/L			
CL#	Compounds	Result	Flag	RL	EDL	Result	Flag	RL	EDL	Result	Flag	RL	EDL
1	PCB-1	681		191	5.87	789		190	3.15	179	J	191	0.89
1	PCB-2	8.66	J	191	4.18	12.5	J	190	2.44	2.49	J	191	0.73
1	PCB-3	62.5	J	191	4.00	68.7	J	190	2.47	18.2	J	191	0.77
2	PCB-4	6630		191	99.7	8390		190	29.7	2700		191	10.9
2	PCB-5	191	U	191	53.7	190	U[4]	190	14.2	9.81	J	191	4.88
2	PCB-6	294		191	56.2	362		190	14.9	117	J	191	5.11
2	PCB-7	191	U	191	53.8	190	U	190	14.2	191	U	191	4.88
2	PCB-8	524		191	55.0	620		190	14.6	218		191	4.99
2	PCB-9	191	U	191	55.9	60.0	J[2]	190	14.8	20.6	J	191	5.07
2	PCB-10	225	J[2]	191	62.2	301		190	20.3	103	J	191	7.35
2	PCB-11	191	U	191	54.1	190	U	190	14.3	191	U[1]	191	4.91
2	PCB-12/13	381	U	381	53.8	93.1	J	381	14.3	29.5	J	382	4.89
2	PCB-14	191	U	191	47.2	190	U	190	12.5	191	U	191	4.28
2	PCB-15	254		191	51.0	305		190	14.1	137	J	191	4.82
3	PCB-16	192		191	6.45	240		190	5.31	98.0	J	191	2.89
3	PCB-17	496		191	4.85	679		190	3.99	252		191	2.17
3	PCB-18/30	538		381	4.26	735		381	3.51	282	J	382	1.91
3	PCB-19	1980		191	6.49	2410		190	4.72	900		191	2.72
3	PCB-20/28	216	J	381	5.05	256	J	381	4.96	124	J	382	2.96
3	PCB-21/33	72.3	J	381	4.78	82.3	J	381	4.69	42.1	J	382	2.80
3	PCB-22	70.0	J	191	5.19	80.5	J	190	5.10	41.9	J	191	3.05
3	PCB-23	191	U	191	4.88	190	U	190	4.79	191	U	191	2.86
3	PCB-24	191	U	191	3.88	190	U	190	3.2	191	U	191	1.74
3	PCB-25	139	J	191	4.88	172	J	190	4.79	72.2	J	191	2.86
3	PCB-26/29	281	J	381	4.88	351	J	381	4.79	126	J	382	2.86
3	PCB-27	477		191	3.69	620		190	3.04	227		191	1.65
3	PCB-31	258		191	4.61	309		190	4.52	144	J	191	2.70
3	PCB-32	267		191	3.53	350		190	2.91	153	J	191	1.58
3	PCB-34	191	U	191	5.05	190	U	190	4.95	191	U	191	2.96
3	PCB-35	191	U	191	5.10	190	U	190	5.01	191	U	191	2.99
3	PCB-36	191	U	191	4.72	190	U	190	4.64	191	U	191	2.77
3	PCB-37	43.7	J	191	4.96	54.9	J	190	5.25	24.2	J	191	3.03
3	PCB-38	191	U	191	5.20	190	U	190	5.11	191	U	191	3.05
3	PCB-39	191	U	191	4.60	190	U	190	4.52	191	U	191	2.70
4	PCB-40/71	180	J	381	3.32	235	J	381	3.49	113	J	382	1.73
4	PCB-41	191	U	191	3.88	190	U	190	4.08	191	U	191	2.02
4	PCB-42	94.0	J	191	3.60	122	J	190	3.79	55.4	J	191	1.88
4	PCB-43	191	U	191	3.97	190	U	190	4.17	4.90	J	191	2.07
4	PCB-44/47/65	1050		572	3.14	1390		571	3.30	608		574	1.64
4	PCB-45	191	U	191	3.75	190	U	190	3.94	191	U	191	1.95
4	PCB-46	67.7	J	191	3.93	91.1	J	190	4.13	35.7	J	191	2.05
4	PCB-48	28.4	J	191	3.32	35.9	J	190	3.49	17.0	J	191	1.73
4	PCB-49/69	735		381	2.76	958		381	2.90	430		382	1.44
4	PCB-50/53	582		381	3.18	818		381	3.34	372	J	382	1.65
4	PCB-51	429		191	3.13	591		190	3.29	271		191	1.63
4	PCB-52	1650		191	3.35	1820		190	3.52	922		191	1.74
4	PCB-54	175	J	191	1.90	240		190	1.12	104	J	191	0.62
4	PCB-55	191	U	191	3.01	190	U	190	2.85	191	U	191	1.95
4	PCB-56	50.6	J	191	3.12	59.5	J	190	2.96	38.3	J	191	2.03
4	PCB-57	191	U	191	3.00	190	U	190	2.85	191	U	191	1.95
4	PCB-58	27.6	J	191	2.92	190	U	190	2.77	21.3	J	191	1.90
4	PCB-59/62/75	32.5	J	572	2.44	42.2	J	571	2.57	19.5	J	574	1.27
4	PCB-60	19.4	J	191	2.99	22.2	J	190	2.84	16.4	J	191	1.94
4	PCB-61/70/74/76	373	J	762	2.91	429	J	762	2.76	307	J	765	1.89
4	PCB-63	7.07	J	191	2.67	7.83	J	190	2.53	4.80	J	191	1.73
4	PCB-64	114	J	191	2.33	149	J	190	2.45	76.7	J	191	1.21

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	H2-SW000052-0-7L25				H2-SW000052-1-7L25				H2-SW000052-0-7O25			
	Sample Location:	Pomeroy Ave				Pomeroy Ave				Pomeroy Ave			
	Sample Type:	Field Sample				Field Duplicate				Field Sample			
	Matrix:	Surface Water				Surface Water				Surface Water			
	Collection Date:	7/25/2017				7/25/2017				10/25/2017			
	Dilution Factor:	1.0				1.0				1.0			
	% Moisture:	N/A				N/A				N/A			
	Units:	pg/L				pg/L				pg/L			
CL#	Compounds	Result	Flag	RL	EDL	Result	Flag	RL	EDL	Result	Flag	RL	EDL
4	PCB-66	172	J	191	3.06	202		190	2.90	135	J	191	1.99
4	PCB-67	191	U	191	2.81	5.84	J	190	2.67	191	U	191	1.82
4	PCB-68	191	U[3]	191	2.63	190	U[3]	190	2.49	191	U[1]	191	1.71
4	PCB-72	12.2	J	191	2.82	13.4	J	190	2.67	6.44	J	191	1.83
4	PCB-73	22.1	J	191	2.52	31.7	J	190	2.65	15.2	J	191	1.31
4	PCB-77	8.01	J	19.1	3.15	10.3	J	19.0	2.96	6.46	J	19.1	2.08
4	PCB-78	191	U	191	3.05	190	U	190	2.89	191	U	191	1.98
4	PCB-79	191	U	191	2.69	190	U	190	2.55	3.36	J	191	1.75
4	PCB-80	191	U	191	2.60	190	U	190	2.46	191	U	191	1.68
4	PCB-81	19.1	U	19.1	3.06	19.0	U	19.0	2.93	19.1	U	19.1	2.12
5	PCB-82	48.0	J	191	15.7	54.7	J	190	17.4	45.8	J	191	9.71
5	PCB-83	191	U	191	17.1	190	U	190	18.9	191	U	191	10.5
5	PCB-84	217		191	14.6	252		190	16.2	143	J	191	9.02
5	PCB-85/116/117	82.7	J	572	10.9	103	J	571	12.1	81.5	J	574	6.73
5	PCB-86/87/97/108/ 119/125	394	J	1140	11.3	448	J	1140	12.5	362	J	1150	7.00
5	PCB-88/91	160	J	381	12.5	189	J	381	13.9	104	J	382	7.73
5	PCB-89	191	U	191	13.8	190	U	190	15.2	191	U	191	8.48
5	PCB-90/101/113	1010		572	11.5	1150		571	12.7	739		574	7.08
5	PCB-92	175	J	191	13.3	203		190	14.6	122	J	191	8.18
5	PCB-93/100	58.5	J	381	12.5	72.8	J	381	13.8	36.4	J	382	7.68
5	PCB-94	18.1	J[2]	191	13.1	25.1	J	190	14.5	11.7	J	191	8.11
5	PCB-95	1180		191	12.4	1500		190	13.8	708		191	7.68
5	PCB-96	15.7	J	191	1.82	19.5	J	190	0.85	10.1	J	191	0.48
5	PCB-98/102	34.9	J	381	12.1	42.1	J	381	13.4	22.2	J	382	7.49
5	PCB-99	297		191	10.7	343		190	11.8	259		191	6.58
5	PCB-103	34.0	J	191	11.4	40.1	J	190	12.6	20.5	J	191	7.06
5	PCB-104	7.44	J	191	1.68	9.72	J	190	0.78	4.54	J	191	0.44
5	PCB-105	129		19.1	10.9	148		19.0	12.1	168		19.1	6.67
5	PCB-106	191	U	191	10.4	190	U	190	11.5	191	U	191	6.41
5	PCB-107/124	381	U	381	10.1	381	U	381	11.2	14.5	J	382	6.25
5	PCB-109	21.3	J[2]	191	9.49	31.3	J	190	10.5	25.3	J	191	5.86
5	PCB-110/115	763		381	10.0	887		381	11.1	641		382	6.17
5	PCB-111	191	U	191	9.77	190	U	190	10.8	191	U	191	6.02
5	PCB-112	191	U	191	10.1	190	U	190	11.2	191	U	191	6.25
5	PCB-114	19.1	U	19.1	10.8	19.0	U	19.0	11.7	19.1	U	19.1	6.68
5	PCB-118	379		19.1	10.3	458		19.0	11.6	440		19.1	6.42
5	PCB-120	191	U	191	9.35	190	U	190	10.3	191	U	191	5.77
5	PCB-121	191	U	191	9.31	190	U	190	10.3	191	U	191	5.74
5	PCB-122	191	U	191	11.0	190	U	190	12.1	191	U	191	6.77
5	PCB-123	19.1	U	19.1	10.8	19.0	U	19.0	11.8	19.1	U	19.1	6.61
5	PCB-126	19.1	U	19.1	11.1	19.0	U	19.0	12.4	19.1	U	19.1	7.35
5	PCB-127	191	U	191	10.3	190	U	190	11.4	191	U	191	6.37
6	PCB-128/166	71.0	J	381	4.97	88.3	J	381	5.91	99.1	J	382	4.98
6	PCB-129/138/163	724		572	5.28	916		571	6.27	817		574	5.29
6	PCB-130	30.6	J[2]	191	6.64	43.9	J	190	7.89	38.9	J	191	6.66
6	PCB-131	191	U	191	6.07	190	U	190	7.21	191	U	191	6.09
6	PCB-132	227		191	6.03	287		190	7.16	226		191	6.04
6	PCB-133	13.3	J	191	5.96	19.0	J	190	7.07	13.2	J	191	5.97
6	PCB-134/143	34.7	J	381	6.17	43.7	J	381	7.32	35.4	J	382	6.18
6	PCB-135/151	384		381	5.58	495		381	6.62	324	J	382	5.59
6	PCB-136	143	J	191	4.14	186	J	190	4.91	116	J	191	4.15
6	PCB-137	16.9	J	191	4.98	19.0	J	190	5.92	24.8	J	191	4.99
6	PCB-139/140	381	U	381	5.38	381	U	381	6.39	9.43	J	382	5.39
6	PCB-141	156	J	191	5.91	197		190	7.02	155	J	191	5.92
6	PCB-142	191	U	191	6.32	190	U	190	7.51	191	U	191	6.34

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	H2-SW000052-0-7L25				H2-SW000052-1-7L25				H2-SW000052-0-7O25			
	Sample Location:	Pomeroy Ave				Pomeroy Ave				Pomeroy Ave			
	Sample Type:	Field Sample				Field Duplicate				Field Sample			
	Matrix:	Surface Water				Surface Water				Surface Water			
	Collection Date:	7/25/2017				7/25/2017				10/25/2017			
	Dilution Factor:	1.0				1.0				1.0			
	% Moisture:	N/A				N/A				N/A			
	Units:	pg/L				pg/L				pg/L			
CL#	Compounds	Result	Flag	RL	EDL	Result	Flag	RL	EDL	Result	Flag	RL	EDL
6	PCB-144	43.4	J	191	5.40	54.5	J	190	6.41	36.7	J	191	5.41
6	PCB-145	191	U	191	4.06	190	U	190	4.82	191	U	191	4.07
6	PCB-146	113	J	191	5.12	150	J	190	6.09	116	J	191	5.14
6	PCB-147/149	786		381	5.42	1000		381	6.43	701		382	5.43
6	PCB-148	191	U	191	5.39	190	U	190	6.40	191	U	191	5.40
6	PCB-150	191	U	191	3.79	190	U	190	4.50	191	U	191	3.80
6	PCB-152	191	U	191	3.93	190	U	190	4.67	191	U	191	3.94
6	PCB-153/168	683		381	4.57	883		381	5.42	714		382	4.58
6	PCB-154	191	U	191	4.87	190	U	190	5.78	17.1	J	191	4.88
6	PCB-155	191	U	191	4.30	190	U	190	4.85	191	U	191	3.57
6	PCB-156/157	61.5		38.1	2.96	69.6		38.1	2.04	73.2		38.2	1.12
6	PCB-158	57.4	J	191	4.13	75.2	J	190	4.91	72.5	J	191	4.14
6	PCB-159	5.11	J	191	2.21	6.75	J	190	1.50	6.00	J	191	0.81
6	PCB-160	191	U	191	5.08	190	U	190	6.03	191	U	191	5.09
6	PCB-161	191	U	191	4.71	190	U	190	5.59	191	U	191	4.72
6	PCB-162	191	U	191	2.13	1.87	J[2]	190	1.44	1.74	J	191	0.78
6	PCB-164	54.2	J	191	4.89	71.2	J	190	5.80	56.8	J	191	4.90
6	PCB-165	191	U	191	4.82	190	U	190	5.73	191	U	191	4.83
6	PCB-167	23.5		19.1	1.90	27.5		19.0	1.30	25.2		19.1	0.70
6	PCB-169	19.1	U	19.1	2.05	19.0	U	19.0	1.41	19.1	U	19.1	0.82
7	PCB-170	219		191	1.54	282		190	1.29	195		191	0.76
7	PCB-171/173	71.2	J	381	1.57	92.4	J	381	1.32	64.8	J	382	0.78
7	PCB-172	38.9	J	191	1.53	53.4	J	190	1.28	35.6	J	191	0.76
7	PCB-174	286		191	1.67	387		190	1.40	252		191	0.83
7	PCB-175	6.67	J	191	2.24	10.1	J	190	1.97	7.93	J	191	0.91
7	PCB-176	23.3	J	191	1.62	31.5	J	190	1.42	24.9	J	191	0.66
7	PCB-177	153	J	191	1.55	203		190	1.30	137	J	191	0.77
7	PCB-178	48.1	J	191	2.35	64.4	J	190	2.07	49.2	J	191	0.95
7	PCB-179	92.9	J	191	1.71	128	J	190	1.50	94.8	J	191	0.69
7	PCB-180/193	510		381	1.27	693		381	1.06	477		382	0.63
7	PCB-181	191	U	191	1.38	190	U	190	1.15	191	U	191	0.68
7	PCB-182	191	U	191	2.10	190	U	190	1.85	191	U	191	0.85
7	PCB-183	123	J	191	1.19	167	J	190	1.00	114	J	191	0.59
7	PCB-184	191	U	191	1.78	190	U	190	1.57	191	U	191	0.72
7	PCB-185	32.5	J	191	1.46	39.4	J	190	1.23	23.8	J	191	0.73
7	PCB-186	191	U	191	1.70	190	U	190	1.50	191	U	191	0.69
7	PCB-187	248		191	2.12	340		190	1.86	284		191	0.86
7	PCB-188	2.38	J	191	2.30	190	U	190	1.97	191	U	191	0.64
7	PCB-189	7.42	J	19.1	2.01	9.09	J	19.0	1.06	6.87	J	19.1	0.57
7	PCB-190	45.1	J	191	1.11	60.3	J	190	0.93	40.9	J	191	0.55
7	PCB-191	6.87	J	191	1.14	11.4	J	190	0.95	8.22	J	191	0.56
7	PCB-192	191	U	191	1.19	190	U	190	1.00	191	U	191	0.59
8	PCB-194	106	J	191	2.80	117	J	190	1.30	76.6	J	191	0.59
8	PCB-195	49.2	J	191	2.96	53.3	J	190	1.37	33.9	J	191	0.62
8	PCB-196	44.6	J	191	2.04	60.1	J	190	1.15	41.6	J	191	0.62
8	PCB-197	2.98	J	191	1.43	4.02	J	190	0.81	3.17	J	191	0.44
8	PCB-198/199	101	J	381	2.17	129	J	381	1.22	90.8	J	382	0.66
8	PCB-200	12.1	J	191	1.73	16.7	J	190	0.98	12.0	J	191	0.53
8	PCB-201	10.4	J	191	1.56	14.7	J	190	0.88	11.1	J	191	0.47
8	PCB-202	17.3	J	191	1.99	22.8	J	190	1.07	15.9	J	191	0.50
8	PCB-203	60.4	J	191	2.04	77.8	J	190	1.15	54.6	J	191	0.62
8	PCB-204	191	U	191	1.62	190	U	190	0.91	191	U	191	0.49
8	PCB-205	6.17	J	191	2.03	7.19	J	190	0.97	5.88	J	191	0.50
9	PCB-206	25.0	J	191	3.08	32.9	J	190	1.61	24.3	J	191	0.89
9	PCB-207	191	U	191	2.38	3.50	J	190	1.20	2.98	J	191	0.63
9	PCB-208	6.01	J[2]	191	2.80	7.78	J	190	1.37	6.06	J	191	0.70
10	PCB-209	5.98	J	191	3.04	7.83	J	190	1.58	6.52	J	191	0.80

ESAT Generated Data Summary Table - Validated Results

Site: General Electric Co. Lab: TestAmerica Sacramento Method 1668A Analysis: 209 CB Congeners

	Sample No.:	H2-SW000052-0-7L25				H2-SW000052-1-7L25				H2-SW000052-0-7O25			
	Sample Location:	Pomeroy Ave				Pomeroy Ave				Pomeroy Ave			
	Sample Type:	Field Sample				Field Duplicate				Field Sample			
	Matrix:	Surface Water				Surface Water				Surface Water			
	Collection Date:	7/25/2017				7/25/2017				10/25/2017			
	Dilution Factor:	1.0				1.0				1.0			
	% Moisture:	N/A				N/A				N/A			
	Units:	pg/L				pg/L				pg/L			
CL#	Compounds	Result	Flag	RL	EDL	Result	Flag	RL	EDL	Result	Flag	RL	EDL
	Total MoCB	752	J	191	19.1	870	J	190	19.0	200	J		
	Total DiCB	7930	J	191	19.1	10100	J	190	19.0	3340	J		
	Total TrCB	5030	J	191	19.1	6340	J	190	19.0	2490	J		
	Total TeCB	5830	J	191	19.1	7270	J	190	19.0	3580	J		
	Total PeCB	5020	J	191	19.1	5980	J	190	19.0	3960	J		
	Total HxCB	3630	J	191	19.1	4630	J	190	19.0	3680	J		
	Total HpCB	1910	J	191	19.1	2570	J	190	19.0	1820	J		
	Total OcCB	410	J	191	19.1	503	J	190	19.0	346	J		
	Total NoCB	31.0	J	191	19.1	44.2	J	190	19.0	33.3	J		
	DeCB	5.98	J	191	19.1	7.83	J	190	19.0	6.52	J		
	Total PCBs^	30500	J			38300	J			19400	J		
	Total TEQ#	0.0188	J			0.0224	J			0.022	J		

TIER 2/S4VM DATA VALIDATION QUALIFIER COMMENTS:

EDL - Estimated Detection Limit. For Congener Method 1668A it is typical to report the EDL rather than an MDL. The EDL is a sample-specific detection limit based on the noise present in the sample at the retention time of an undetected analyte, and is more representative of what can be detected in that sample. EDL is the concentration of a given analyte required to produce a signal with a peak height of at least 2.5 times the background noise level.

^ Total PCBs are the sum of the total homologues.

The Toxic Equivalent concentrations are calculated with the Toxicity Equivalency Factors (TEFs) found in "The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds, Society of Toxicology, July 7, 2006. The TE values are calculated using the final validated data and include the positive results and estimated values. The TE values are estimated (J) when any individual congener is estimated. The TE calculations do not include RL values.

J - Sample concentrations reported below the laboratory reporting limit are flagged (J) on the Data Summary Table as estimated values with no superscripts.

[1] Blank contamination; the positive results for PCB 11 and PCB 68 in the affected samples that are less than the RL are reported as non-detects (U) at the RL.

[2] Congener did not meet the ion abundance ratio identification criteria. Results were "corrected" by the laboratory using the theoretical ion ratio and reported as an EMPC; estimate (J) the affected results.

[3] Method Blank contamination; the positive results for PCB 68 in samples H2-SW000052-0-7L25 and H2-SW000052-1-7L25 are reported as non-detects (U) at the RL.

[4] Congener did not meet the signal to noise identification criteria. The affected results are reported as non-detects (U) at the RL.

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