Pre-Design Investigation Work Plan for Portion of East Street Area 2-South Removal Action -- Future City Recreational Area

General Electric Company
Pittsfield, Massachusetts

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1. Introduction

1.1 General

On October 7, 1999, a Consent Decree (CD) executed by the General Electric Company (GE), the United States Environmental Protection Agency (EPA), the Massachusetts Department of Environmental Protection (MDEP), and several other government agencies was lodged in the United States District Court for the District of Massachusetts (Court). The CD governs (among other things) the performance of response actions to address polychlorinated biphenyls (PCBs) and other hazardous constituents in soils, sediment, and groundwater in several areas at and near Pittsfield, Massachusetts that collectively comprise the GE-Pittsfield/Housatonic River Site (the Site). Following lodging, the CD underwent a period of public comment which ended on February 23, 2000. On July 20, 2000, the United States filed responses to the public comments and a motion to enter the CD. On October 27, 2000, the Court approved and entered the CD.

Separate from the CD, GE entered into a Definitive Economic Development Agreement (DEDA) with the City of Pittsfield and the Pittsfield Economic Development Authority (PEDA), effective upon entry of the CD. Among other things, this DEDA requires GE to construct athletic field(s) and associated structures and landscaping, for lease to the City, in the northeastern portion of an area of the GE Pittsfield Plant site designated in the CD as East Street Area 2-South. This portion of East Street Area 2-South is referred to herein as the Future City Recreational Area and is shown on Figure 1. To accommodate this agreement, the CD and the accompanying *Statement of Work for Removal Actions Outside the River* (which is Volume I of Appendix E to the CD) establish, among the Performance Standards for the GE Plant Area, specific Performance Standards for the Future City Recreational Area within East Street Area 2-South.

Due to the timeframe established in the DEDA for the construction of the Future City Recreational Area, the response actions for that portion of East Street Area 2-South will be conducted prior to the response actions that comprise the remainder of the East Street Area 2-South Removal Action under the CD and the SOW. Correspondingly, the pre-design investigation activities for the Future City Recreational Area must be conducted in advance of the investigations for the remainder of East Street Area 2-South. In these circumstances, this separate *Pre-Design Investigation Work Plan for Portion of East Street Area 2-South Removal Action -- Future City Recreational Area* (Work Plan) has been prepared to describe the soil investigations proposed by GE for the Future City Recreational Area to support the evaluation and design of response actions for that area. The results of these

investigations will be used to develop a Removal Design/Removal Action (RD/RA) Work Plan for such response actions prior to the development of RD/RA submittals for the rest of the East Street Area 2-South Removal Action.

This Work Plan includes a summary of available soil information related to the Future City Recreational Area and an assessment concerning the need for additional information to support future RD/RA activities for response actions within that area. Based on this assessment, this Work Plan includes a proposal for additional soil investigations for this area, as well as certain adjacent areas.

1.2 Format of Document

The remainder of this Work Plan is presented in four sections. Section 2 provides a summary of pertinent background information concerning the Future City Recreational Area, including a brief description of this area and a summary of the available soil analytical data. Section 3 summarizes the applicable Performance Standards contained in the CD and SOW for soils within the Future City Recreational Area and the applicable pre-design soil investigation requirements. Section 4 identifies several data needs to support RD/RA activities for the Future City Recreational Area, presents an assessment of the usability of existing data to satisfy those data needs, and describes the proposed additional investigations to complete the obtaining of the necessary data to fill those data needs. Section 5 presents the proposed schedule for completing the proposed pre-design investigations.

2. Background Information

2.1 General

This section of the Work Plan provides a general summary of information concerning the Future City Recreational Area, with an emphasis on the available analytical soil data. Specifically, Section 2.2 describes the area, while Section 2.3 summarizes the available soil data. Several tables and figures included in this Work Plan supplement the information presented in this section. Figure 1 presents a general location plan, while Figure 2 presents a more detailed site plan.

2.2 Site Description

As noted in Section 1.1, the Future City Recreational Area is located in the northeast corner of East Street Area 2-South within the GE Plant Area (see Figure 1). This approximately 4-acre area is generally bounded by East Street to the north, Newell Street to the east, and other parts of East Street Area 2-South to the west and south. This area is grass-covered, with no buildings or pavement (see Figure 2).

2.3 Assessment of Available Soil Analytical Data

Information concerning the Future City Recreational Area and adjacent areas has been summarized in several prior reports prepared under the Massachusetts Contingency Plan (MCP) and the Resource Conservation and Recovery Act (RCRA) corrective action programs that were ongoing at the GE facility (and related areas) since the early 1990s. Those documents, listed below, provide discussions concerning past and current site uses, site utilities, and results of soil, groundwater, and ambient air investigations relevant to this area:

- *East Street Area 2 MCP Phase II Supplemental Data Summary*, Blasland & Bouck Engineers, P.C., May 1990;

- *East Street Area 2 MCP Phase II Scope of Work*, Blasland & Bouck Engineers, P.C., August 1990;

- *MCP Interim Phase II Report and Current Assessment Summary for East Street Area 2/USEPA Area 4*, Blasland, Bouck & Lee, Inc. (BBL), August 1994;

- *MCP Supplemental Phase II Scope of Work and Proposal for RCRA Facility Investigation of East Street Area 2/USEPA Area 4*, BBL, July 1995;

- *Addendum to MCP Supplemental Phase II Scope of Work and Proposal for RCRA Facility Investigation of East Street Area 2/USEPA Area 4*, Golder Associates, May 1996;

- *Revised Addendum to MCP Supplemental Phase II Scope of Work and Proposal for RCRA Facility Investigation of East Street Area 2/USEPA Area 4*, BBL, September 1998; and

- *Proposal for Supplemental Source Control Containment/Recovery Measures*, BBL, January 1999.

The locations of prior soil investigations within and near the Future City Recreational Area are illustrated on Figure 2, while the PCB soil sample results are summarized in Table 1. Tables 2 through 5 present the existing analytical soils data for non-PCB constituents listed in Appendix IX of 40 CFR Part 264, plus three additional constituents -- benzidine, 2-chloroethylvinyl ether, and 1,2-diphenylhydrazine (Appendix IX+3). An assessment of the usability of these data to support RD/RA activities for the Future City Recreational Area is presented in Section 4.2.

3. Applicable Performance Standards for Soils and Pre-Design Investigation Requirements

3.1 General

This section of the Work Plan summarizes the Performance Standards contained in the CD and SOW that are applicable to response actions at the Future City Recreational Area, and the pertinent requirements for pre-design soil investigations in that area.

The Data Quality Objectives (DQOs) for the proposed investigations consist of obtaining the necessary soil analytical data for PCBs and other Appendix IX+3 constituents to meet those soil sampling requirements and thus to achieve the applicable Performance Standards. The application of the data resulting from the pre-design investigations described herein, together with the usable existing data, to achieve the Performance Standards will be presented in an RD/RA Work Plan for response actions at this area.

3.2 Performance Standards for Response Actions at the Future City Recreational Area

Response actions for soils at the Future City Recreational Area must achieve the relevant Performance Standard included in the CD and the SOW for the GE Plant Area. The Performance Standards for soils at the GE Plant Area are set forth in Paragraph 25 of the CD and Section 2.2.2 of the SOW. Those that are relevant to the Future City Recreational Area may be summarized as follows:

- In support of the construction of the Future City Recreational Area, GE shall install a one-foot-thick (minimum) soil cover in this area in accordance with the general requirements for such covers set forth in the SOW, and shall remove and replace soils in the next two feet below that one-foot cover as necessary to achieve a spatial average PCB concentration at or below 15 ppm in that two-foot depth.

- Response actions for depths greater than three feet within this area shall be determined as part of the response actions for the overall averaging area within East Street Area-2 South where the Future City Recreational Area is located (i.e., the former Gas Plant/Scrap Yard Area), taking into account the anticipated performance of the above-described response actions for the top three feet. The pertinent Performance Standards for that overall averaging area include the following:

-- If the spatial average PCB concentration in the 1- to 6-foot depth increment exceeds 200 ppm, GE shall: (a) for areas within the 100-year floodplain of the Housatonic River, remove and replace soils to achieve the foregoing spatial average PCB concentration in that depth increment; and (b) for areas outside that 100-year floodplain, undertake a combination of removal and replacement of soils in unpaved areas and/or enhancement of existing pavement/concrete surfaces in paved areas as necessary to ensure the removal or covering by enhanced pavement of the PCB concentrations causing the spatial average to exceed 200 ppm.

-- If subsurface utilities are present and the spatial average PCB concentration in the corresponding utility corridor exceeds 200 ppm in the 1- to 6-foot depth increment, GE shall evaluate whether any additional response actions are necessary. In addition, if subgrade utilities are installed, repaired, or replaced in the future, GE shall ensure that the backfill material used has a spatial average PCB concentration at or below 25 ppm.

-- If the spatial average PCB concentration in the 0- to 15-foot depth increment at the averaging area exceeds 100 ppm after incorporating the anticipated performance of the response actions described above, GE shall install an engineered barrier (as described in the SOW) over the areas causing such exceedance, and provide flood storage compensation as described in the SOW.

C GE shall evaluate the need for additional response actions to address Appendix IX+3 constituents other than PCBs using the protocols described in Section 2.2.2 and Attachment F of the SOW, after taking into account the anticipated response actions to address PCBs, and shall achieve the Performance Standards for such non-PCB constituents that are also set out in Section 2.2.2 and Attachment F of the SOW. For the Future City Recreational Area, GE proposes that the evaluation of non-PCB constituents, as well as the application of the Performance Standards for such constituents, be made for the same depth increments that are to be used for PCBs.

3.3 Soil Sampling Requirements

Section 2.2.3 and Attachment D of the SOW set forth specified requirements for soil sampling at the Future City Recreational Area, which are intended to ensure achievement of the applicable Performance Standards. However, based on further review of the applicable Performance Standards (summarized in Section 3.2 above), a

modification to the specified soil sampling requirements is necessary to ensure collection of the necessary data to apply those Performance Standards. Specifically, those soil sampling requirements need to be modified to reflect the depth increments that will exist after installation of the soil cover, rather than the currently existing depth increments. For example, the soil sampling requirements specified in the SOW call for sampling of the top one foot of soil at approximately 50-foot intervals (e.g., establishing a 50-foot grid and sampling at the grid nodes). However, due to the planned installation of a one-foot soil cover (minimum) over this area (consisting of clean soil tested prior to installation), such sampling of the existing one-foot depth interval is not warranted. Rather, since the existing 0- to 2-foot depth increment will become the future 1- to 3-foot depth increment (or deeper), that depth increment should be sampled on a 100-foot sampling grid. Similarly, the other soil sampling requirements specified in the SOW for the existing soils must likewise be modified to incorporate the depth increments that will exist following installation of the one-foot soil cover. (Note that, in some areas, the thickness of the soil cover may need to be greater than one foot to obtain a suitable surface topography for the recreational area. For such areas, the data from the depth increments described below will be evaluated, in conjunction with the cover material sampling data, to estimate average concentrations for the actual post-cover depth increments.)

Based on this modification, the soil sampling requirements for the Future City Recreational Area are as follows:

1. Within the Future City Recreational Area, GE must collect subsurface soil samples on an approximate 100-foot grid sampling pattern, from the current 0- to 2-foot, 2- to 5-foot, and 5- to 14-foot depth increments, except where usable data already exist for the pertinent depth interval(s) at or near the grid node in question. More detailed criteria for determining the adequacy of existing data to satisfy this grid sampling requirement are set forth in Section 2.1.1 of Attachment D to the SOW.

2. All soil samples collected from the three depth intervals identified above will be analyzed for PCBs (except at locations and depths where usable PCB data already exist). In addition, certain soil samples must be analyzed for other Appendix IX+3 constituents (with any exclusions proposed to and approved by EPA) in accordance with the following general criteria:

   - The total number of Appendix IX+3 samples must be approximately one-third the total number of PCB samples (considering both existing and proposed new sample data); and

- The Appendix IX+3 sample locations and depths will be selected to attain a representative horizontal and vertical sample distribution of these constituents within the Future City Recreational Area, taking into account the locations/depths of the available data. However, these sample locations/depths will be selected so that approximately half the total available Appendix IX+3 samples come from the 0- to 2-foot depth increment, with the other half from deeper increments. In addition, field observations at the time of sampling will also be considered (e.g., photoionization detector (PID) readings, evidence of staining, and prior knowledge of data gaps at and surrounding a particular grid node).

3. Sample collection and analysis procedures must comply with GE's Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), as approved by EPA.

In addition to meeting these soil sampling requirements, GE has elected to collect some soil samples from locations outside of and adjacent to the Future City Recreational Area as part of the investigations proposed herein. As described further in Section 4.4 below, since such samples will be collected from areas that will not be subject to the Future City Recreational Area soil cover, they will be collected at the grid pattern and depth increments specified in the SOW for the rest of the East Street Area 2-South. The resulting data will be considered (if relevant) in the design of response actions for the Future City Recreational Area and will also be utilized, at a later date, in the RD/RA evaluations for the remainder of the averaging area that includes the Future City Recreational Area.

4. Proposed Pre-Design Investigations

4.1 General

To support future RD/RA activities for the Future City Recreational Area, it is necessary to have the requisite soils data to meet the soil sampling requirements described in Section 3.3 and to apply the Performance Standards discussed in Section 3.2. Hence, this section of the Work Plan first assesses the existing available soils data from this area to determine their usability for these purposes. It then identifies the additional data needs to support RD/RA activities for this area and proposes the field investigations necessary to satisfy those data needs.

4.2 Assessment of Existing Soil Analytical Data for Usability

The existing soil analytical data for the Future City Recreational Area and adjacent areas were discussed in Section 2.3 and are summarized in Tables 1 through 5. These data have been reviewed to assess their usability to support RD/RA activities for this area. As provided in Attachment D to the SOW, the criteria for determining the usability of existing data to support RD/RA activities include: (1) an evaluation of whether such data reflect the appropriate locations and depth increments necessary to apply the pertinent Performance Standards and to meet the pertinent soil sampling requirements; and (2) an assessment of the quality of such data in terms of quality assurance/quality control.

As described in Section 3 above, the Performance Standards and soil sampling requirements for the Future City Recreational Area require grid-based characterization of three depth increments relative to existing grade -- 0- to 2-foot, 2- to 5-foot, and 5- to 14-foot depths. Hence, the existing soil analytical data for this area were first reviewed to determine whether and to what extent they would meet these depth requirements. The data that were consistent with these requirements were then assessed for overall analytical quality by reviewing the available documentation.

The initial step in the assessment of the usability of the existing soil data from the Future City Recreational Area involved review of the depth increments from which the samples were taken, as well as review of the sample locations in relation to the requisite grid sampling pattern. For the latter review, a 100-foot grid was established for this area, as shown on Figure 3. An existing sample location was considered to satisfy the grid characterization requirement if it was in close proximity (i.e., within approximately 25 feet) to a node on the sample grid.

This review indicated that existing PCB analytical data are available for four sampling locations within the Future City Recreational Area, as shown on Figure 3. For two of these locations (X-17 and 95-9), soil PCB data are

available in two-foot sampling increments to depths of 10 feet and 20 feet below the surface, respectively (see Table 1). GE proposes to use the PCB data from these 2-foot depth increments to satisfy the soil characterization requirements at these locations as follows: 0- to 2-foot data to satisfy the 0- to 2-foot interval requirement; 2- to 6-foot data to satisfy the 2- to 5-foot interval requirement; and data from the 6- to 14-foot depth intervals (available only at sample location 95-9) to satisfy the 5- to 14-foot interval requirement. For the other two locations (202S and 210S), PCB data are only available for the upper 0- to 0.5-foot depth (see Table 1). Since this depth increment is less than one-half of the required depth increment at this location (i.e., 0 to 2 feet), these two samples are not considered suitable for satisfying RD/RA requirements related to PCBs.

In addition, at each of these four locations (202S, 210S, X-17, and 95-9), Appendix IX+3 data are available for certain depth increments. Where Appendix IX+3 data from these locations are available from within one of the specified RD/RA depth increments, such data will be used to characterize that depth increment in accordance with Attachment D to the SOW.

The PCB and Appendix IX+3 data that were considered usable from a depth standpoint were then reviewed for overall analytical quality. This review revealed that the available documentation was sufficient to identify any data quality discrepancies that would limit the usability of the data, and review of that documentation indicated no such discrepancies or other significant data quality issues noted by the analytical laboratory. However, this review did reveal that the samples from boring X-17 that were analyzed for polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) were analyzed only for total PCDD/PCDF homologues, not for 2,3,7,8-substituted PCDD/PCDF congeners. Hence, the existing PCDD/PCDF data from that boring will not be used to satisfy RD/RA requirements. With that exception, review of these data and the accompanying laboratory documentation indicated that these data are of acceptable quality for use in satisfying RD/RA requirements for response actions at the Future City Recreational Area. Accordingly, these data will be utilized for that purpose as described above and as shown on Figure 3.

In addition, as noted above, GE has elected to collect some soil samples from locations outside of and adjacent to the Future City Recreational Area as part of the investigations proposed herein. Hence, the existing soil analytical data from such adjacent areas have likewise been reviewed and evaluated for usability based on the same criteria described above, except modified to focus on the sampling depth requirements specified in the SOW for the rest of East Street Area 2-South -- i.e., 0- to 1-foot, 1- to 6-foot, and 6- to 15-foot depth increments. For this review, a 25-foot grid was established for the areas outside of but adjacent to the Future City Recreational Area, as shown on Figure 3.

This review identified four sampling locations where existing data will meet at least some of the depth criteria for usability; these are sample locations X-16, X-18, E2SC-5, and E2SC-14, as shown on Figures 2 and 3. For two of these locations (E2SC-5 and E2SC-14), soil PCB data are available from the depth increments specified in the SOW (i.e., 0-1 foot, 1-6 feet, and 6-15 feet), as shown in Table 1. For the other two locations (X-16 and X-18), soil PCB data are available in two-foot sampling increments, as also shown in Table 1. GE proposes to use the PCB data from these borings as follows: 0- to 2-foot data to satisfy the 0- to 1-foot depth requirement; 2- to 6-foot data to satisfy the 1- to 6-foot depth requirement; and data from the deeper increments to satisfy the 6- to 15-foot depth requirement. In addition, at each of these locations, Appendix IX+3 data (excluding pesticides and herbicides) are available from depth increments that are equal to or fall within (or close to) the 6- to 15-foot depth (see Tables 2, 3, 5, and 6). These data will be used to characterize that 6- to 15-foot depth increment.

These data were then reviewed for overall analytical quality, using the same procedures described above. As with the data from within the Future City Recreational Area, this review revealed sufficient documentation to identify any data quality discrepancies, and review of that documentation indicated no such discrepancies or other significant data quality issues noted by the laboratory. As with boring X-17, however, the samples from borings X-16 and X-18 were analyzed only for total PCDD/PCDF homologues, not 2,3,7,8-substituted congeners, and hence the PCDD/PCDF data will not be used to satisfy RD/RA requirements. Otherwise, the analytical data from these borings appear to be of acceptable data quality and hence will be used as discussed in Section 4.4 and shown on Figure 3.

4.3 Identification of Additional Data Needs

Based on review of the applicable Performance Standards and soil sampling requirements for the Future City Recreational Area, together with the assessment of existing available data presented in Section 4.2, it has been determined that additional data collection is necessary to meet the soil characterization requirements described in Section 3.3. The soil sampling activities proposed to address these additional data needs are described in Sections 4.4 and 4.5.

4.4 Proposed Soil Sampling Activities

To address the additional soil sampling data needs for the Future City Recreational Area, the 100-foot sampling grid established for this area (Figure 3) was used to identify soil sampling locations, considering the existing data available at four prior sampling locations. The proposed sampling locations, sample depths, and sample analyses are shown on Figure 3.

The overall soil sampling effort proposed for the Future City Recreational Area will involve the collection of 58 new soil samples from 20 new and existing locations, and the analysis of these samples for PCBs and/or Appendix IX+3 constituents (or, for the 0- to 2-foot sample at location X-17, PCDDs/PCDFs). However, for those samples proposed for Appendix IX+3 analysis, GE proposes to exclude analysis for pesticides and herbicides for the following reasons: (1) the presence of pesticides and herbicides would not be related to any prior manufacturing processes conducted by GE, and (2) EPA and MDEP have previously allowed the exclusion of these constituents from Appendix IX+3 analysis at the GE Plant Area.

The locations and depth intervals for which it is currently anticipated that samples will be submitted for Appendix IX+3 analysis (excluding pesticides and herbicides) are shown on Figure 3. The locations and depths proposed for such sampling have been selected to attain a spatially representative horizontal and vertical distribution of Appendix IX+3 data within the Future City Recreational Area, with the Appendix IX+3 samples representing approximately one-third of the total number of PCB samples and the Appendix IX+3 samples approximately evenly divided between the 0- and 2-foot depth increment and the deeper increments. However, some modification to these locations/depths may be made in the field considering PID readings or visual observations (e.g., evidence of staining).

The following table summarizes the proposed soil sampling and analysis effort for the Future City Recreational Area, together with the existing data from that area that will be used to satisfy the RD/RA requirements:

	PCB Samples by Depth Increment				Appendix IX+3 Samples by Depth Increment			
	0-2 ft	2-5 ft	5-14 ft	Total	0-2 ft	2-5 ft	5-14 ft	Total
Proposed	19	19	19	57	9*	5	5	19
Existing	2	2	1	5	2	0	0	2
Total	21	21	20	62	11	5	5	21

Note:

* At location X-17 (0-2 feet), the proposed Appendix IX+3 analysis will be limited to PCDDs/PCDFs and existing data will be used for the other Appendix IX+3 constituents.

Thus, following the proposed sample collection and analysis effort and taking into account the existing usable data, a total of 62 PCB sample results will be available to satisfy the grid node and depth increment requirements described in Section 3.3 above. In addition, 21 samples will have been analyzed for Appendix IX+3 constituents

(excluding pesticides and herbicides), with these samples approximately evenly divided between the 0- to 2-foot depth increment and the deeper depth increments.

In addition, at the same time as the soil sampling is performed for the Future City Recreational Area, GE proposes to conduct additional soil investigations in the areas immediately outside of but adjacent to the Future City Recreational Area, so as to have such information available prior to conducting the response actions in that area. Since the sampling in these adjacent areas will be conducted outside the area to be covered with the recreational area soil cover, these samples will be collected at the grid spacing and depth intervals specified in the SOW for the rest of East Street Area 2-South -- i.e., 50-foot spacing for the top one foot and 100-foot spacing for the 1- to 6-foot and 6- to 15-foot depth increments. The proposed locations and depth intervals for these samples are also shown on Figure 3. The PCB and Appendix IX+3 data from these samples will be considered, if relevant, in the design of the response actions for the Future City Recreational Area and will also be utilized at a later date in the RD/RA evaluations for the remainder of the averaging area that includes the Future City Recreational Area.

In determining the scope of this additional sampling effort, the existing sampling data from locations near the Future City Recreational Area have been taken into account. As discussed in Section 4.2, data from four sampling locations in these adjacent areas meet the depth and data quality criteria for usability. Considering those existing usable data, the proposed soil sampling for locations outside the Future City Recreational Area will involve the collection of 22 surface soil samples and 20 subsurface soil samples (from 11 new or existing borings), with analysis for PCBs and/or Appendix IX+3 constituents (excluding pesticides and herbicides) -- or, for the samples from existing borings X-16 and X-18, PCDDs/PCDFs -- as shown on Figure 3. The number and distribution of samples selected for Appendix IX+3 analysis have been based on the criteria specified in Attachment D to the SOW for the selection of such samples at the GE Plant Area. As with the sampling within the Future City Recreational Area, some modifications to the Appendix IX+3 samples locations/depths may be made in the field considering PID readings or visual observations of staining.

The following table summarizes the proposed sampling and analysis effort for the areas adjacent to the Future City Recreational Area, together with the existing usable data for those areas:

	PCB Samples by Depth Increment				Appendix IX+3 Samples by Depth Increment			
	0-1 ft	1-6 ft	6-15 ft	Total	0-1 ft	1-6 ft	6-15 ft	Total
Proposed	22	9	9	40	9	5	3*	17
Existing	4	4	4	12	0	0	2	2
Total	26	13	13	52	9	5	5	19

Note:

* At locations X-16 and X-18 (6-15 feet), the proposed Appendix IX+3 analysis will be limited to PCDDs/PCDFs and existing data will be used for the other Appendix IX+3 constituents.

4.5 Soil Sampling and Analytical Procedures

The collection and analysis of the soil samples described above will be conducted following the procedures set forth in GE's FSP/QAPP (September 2000, approved October 17, 2000). Specifically, the analytical procedures for the analysis of soil samples will be consistent with the procedures presented in Table 1 of the FSP/QAPP. The field procedures will follow the Standard Operating Procedures (SOPs) presented in Appendices A through W of the FSP/QAPP.

Soil samples collected for this investigation will utilize EPA Method 8082 for the analysis of Aroclor-specific PCBs. Results for PCBs will be reported on a dry-weight basis with a detection limit of 0.05 ppm for all Aroclors.

Select soil samples will also be analyzed for additional Appendix IX+3 constituents (excluding pesticides and herbicides) following the methods presented in Table 1 of the FSP/QAPP. Sample results will be presented on a dry-weight basis with detection limits consistent with those presented in Table 3 of the FSP/QAPP. Analysis of samples for PCDDs/PCDFs will be performed using EPA Method 8290 for the samples collected from the 0- to 2-foot and 0- to 1-foot depth increments and Method 8280A for all other samples. PCDD/PCDF results will be reported on a dry-weight basis for both total homologues and 2,3,7,8-substituted congeners. Sample detection limits will be consistent with those presented in Table 3 of the FSP/QAPP.

The rationale for the selection of the above-referenced methods for PCDD/PCDF analyses is based on review of the corresponding method detection limits (MDLs) and the applicable Performance Standards for PCDD/PCDF Toxicity Equivalent (TEQ) concentrations specified in the SOW -- i.e., 1.5 ppb for the (post-cover) 1- to 3-foot depth at the Future City Recreational Area, 1 ppb for subsurface soil (top one foot) outside that area, and 20 ppb

for other subsurface soil at the GE Plant Area. As shown in Table 3 of the FSP/QAPP, the MDLs for Method 8280A are higher than those for Method 8290. Due to these higher MDLs, it is possible that PCDD/PCDF analysis by Method 8280A could potentially fail to detect a TEQ concentration that in fact exceeds a Performance Standard of 1.5 or 1 ppb. Hence, Method 8290 will be used for soil samples from depth increments to which those Performance Standards apply. However, use of Method 8280A would not fail to detect TEQ exceedances of the 20 ppb Performance Standard for deeper soil. Hence, use of Method 8280A is wholly adequate to ensure achievement of that Performance Standard.

Quality control samples (i.e., matrix spike/matrix spike duplicates, field duplicates, and field blanks) will be collected at the frequency specified in Table 4 of the FSP/QAPP for each sample matrix collected. Tables 4 and 5 of the FSP/QAPP present the quality control criteria and corrective action procedures to be followed for each of the analytical procedures listed in Table 1 and for field-generated quality control samples. Overall project quality assurance will be provided by following the procedures for sample collection and analysis, corrective action, and data reporting and validation specified in the FSP/QAPP.

5. Schedule

GE proposes to complete the additional investigations described in this Work Plan and to submit a Pre-Design Investigation Report for the Future City Recreational Area within 90 days of the EPA's approval of this Work Plan. However, this timeframe is contingent upon winter weather conditions allowing for timely completion of the field activities.

The Pre-Design Investigation Report will present the results of all investigations conducted pursuant to this Work Plan. It will also consider the sufficiency of the available data to support RD/RA activities for this area; and if it is determined that further data are needed to support RD/RA activities to achieve the soil-related Performance Standards, it will propose supplemental investigations to fill those data needs and a schedule for performing those supplemental investigations and submitting a Supplemental Pre-Design Investigation Report. If GE concludes in the Pre-Design Investigation Report that the available data are sufficient to support RD/RA activities for this area, then that report will include a proposed schedule for submission of an RD/RA Work Plan for the response actions at the Future City Recreational Area. Given the relatively straightforward nature of the response actions at this area, GE does not believe that it will be necessary to submit both a conceptual and then a final RD/RA Work Plan for those response actions.

Tables

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

PRE-DESIGN INVESTIGATION WORK PLAN FOR PORTION OF EAST STREET AREA 2 - SOUTH REMOVAL ACTION -- FUTURE CITY RECREATIONAL AREA

SUMMARY OF EXISTING SOIL PCB DATA
(Results presented in dry weight parts per million, ppm)

Sample-ID	Date Sampled	Depth Interval (feet)	Total PCBs
Sample Locations Within Limits of Future City Recreational Area			
X-17	7/8/91	0-2	ND (0.05) [ND (0.05)]
		2-4	0.16
		4-6	ND (0.05)
		6-8	ND (0.05)
		8-10	ND (0.05)
95-9	3/4/96	0-2	0.31
		2-4	ND (0.042)
		4-6	0.03 J
		6-8	0.013 JP
		8-10	0.018 J
		10-12	0.069
		12-14	ND (0.037)
		14-16	0.069
		16-18	0.045 JP
		18-20	530 P
202S	5/7/91	0-0.5	0.87 (1.0)
210S	9/17/97	0-0.5	9.2
Sample Locations Adjacent to Future City Recreational Area			
X-16	6/25-7/10/91	0-2	0.07
		2-4	0.6
		4-6	ND (0.05)
		6-8	0.09
		8-10	0.12
		10-12	ND (0.05)
		12-14	0.24
X-18	6/25-7/10/91	0-2	0.64
		2-4	ND (0.05)
		4-6	0.06
		6-8	ND (0.05)
		8-10	0.05
		14-16	ND (0.05) [0.37]
E2SC-5	10/25/98	0-1	1.6
		1-6	0.29
		6-15	0.13
	10/26/98	38-40	ND
	10/26/98	40-42	ND
E2SC-14	10/8/98	0-1	0.6
		1-6	ND
		6-15	ND

Notes:

1. ND - Not detected. Detection limit shown in parentheses.
2. Duplicate analyses are shown in brackets.
3. J - Indicates an estimated value less than the PQL-required quantitation limit.
4. P - The analyte is detected in the sample. The percent differences in the concentrations calculated from two dissimilar GC columns is greater than 25%. The value should be considered estimated.

TABLE 2
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PRE-DESIGN INVESTIGATION WORK PLAN FOR PORTION OF EAST STREET AREA 2 - SOUTH
REMOVAL ACTION -- FUTURE CITY RECREATIONAL AREA

SUMMARY OF EXISTING SOIL APPENDIX IX+3 VOLATILE ORGANICS DATA
(Concentrations are presented in dry weight parts per million, ppm)

	Sample Locations Within Limits of Future City Recreational Area				Sample Locations Adjacent to Future City Recreational Area				
Sample ID:	**202S**	**210S**	**95-9**	**X-17**	**X-16**	**X-18**	**E2SC-5**	**E2SC-5**	**E2SC-14**
Sample Depth (feet):	**0-0.5**	**0-0.5**	**18-20**	**0-2**	**8-10**	**14-16**	**10-12**	**38-40**	**8-10**
Date Collected:	**5/7/91**	**9/17/97**	**3/4/96**	**7/8/91**	**6/25-7/10/91**	**6/25-7/10/91**	**10/25/98**	**10/26/98**	**10/8/98**
Acetone	0.016 B [0.021 B]	0.024 JB	ND	ND	0.01 J	0.029	0.021	0.0049 J	ND
Benzene	ND [ND]	ND	ND	ND	ND	0.001 J	ND	ND	ND
Ethylbenzene	ND [ND]	ND	ND	ND	ND	0.003 J	ND	0.024	ND
Methylene Chloride	0.072 B [0.030 B]	0.022 B	0.009 JB	0.01 JB	0.012 B	0.014 B	ND	ND	ND
Tetrachloroethene	ND [ND]	ND	ND	ND	ND	ND	ND	0.0012 J	ND
Toluene	ND [ND]	ND	ND	ND	ND	ND	ND	0.004 J	ND
Xylenes (Total)	ND [ND]	ND	ND	ND	ND	ND	ND	0.033	ND

Notes:

1. Samples were analyzed for Appendix IX+3 volatile organic compounds; only those constituents detected in at least one sample are shown.
2. ND - Not detected.
3. J - Indicates an estimated value less than the PQL-required quantitation limit.
4. B - Indicates the analyte was also detected in the associated method blank.
5. Duplicate results are presented in brackets.

TABLE 3
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PRE-DESIGN INVESTIGATION WORK PLAN FOR PORTION OF EAST STREET AREA 2 - SOUTH
REMOVAL ACTION -- FUTURE CITY RECREATIONAL AREA

SUMMARY OF EXISTING SOIL APPENDIX IX+3 SEMIVOLATILE ORGANICS DATA
(Concentrations are presented in dry weight parts per million, ppm)

	Sample Locations Within Limits of Future City Recreational Area				Sample Locations Adjacent to Future City Recreational Area				
Sample ID:	**202S**	**210S**	**95-9**	**X-17**	**X-16**	**X-18**	**E2SC-5**	**E2SC-5**	**E2SC-14**
Sample Depth (feet):	**0-0.5**	**0-0.5**	**18-20**	**0-2**	**8-10**	**14-16**	**6-15**	**38-40**	**6-15**
Date Collected:	**5/7/91**	**9/17/97**	**3/4/96**	**7/8/91**	**6/25-7/10/91**	**6/25-7/10/91**	**10/25/98**	**10/26/98**	**10/8/98**
Acetophenone	ND [0.074]	ND	0.052 J	ND	ND	ND	0.021 J	ND	ND
Acenaphthene	ND [ND]	ND	ND	ND	ND	9.8	0.1 J	3.5 D	ND
Acenaphthylene	0.31 J [0.54]	ND	ND	ND	ND	4.9	0.84	1.6	ND
Aniline	ND [0.048 J]	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	0.22 J [0.27 J]	ND	ND	ND	ND	4.4	2	2.4	ND
Benzo(a)anthracene	0.63 [0.96]	0.090 J	ND	ND	0.053 J	5.2	0.49	1.4	ND
Benzo(b)fluoranthene	0.52 [0.81]	0.12 J	ND	ND	0.045 JX	5.2 X	0.33 J	0.87	ND
Benzo(k)fluoranthene	0.72 [1.2]	0.062 JB	ND	ND	0.045JX	5.2 X	0.16 J	0.38	ND
Benzoic Acid	0.51 J [0.18 J]	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND [ND]	0.097 J	ND	ND	0.048 J	4.8	0.45	1.2	ND
Benzo(g,h,i)perylene	0.44 J [0.61]	0.057 J	ND	ND	ND	2.4	0.12 J	0.22 J	ND
Bis(2-ethylhexyl)phthalate	0.17 J [2.2]	0.18 J	ND	0.088 BJ	0.15 BJ	0.28 BJ	0.17 J	0.14 J	0.28 J
Chrysene	0.77 [0.96]	0.10 JB	ND	ND	0.063 J	5	0.53	1.2	ND
Di-n-Butylphthalate	0.079 J [0.077 J]	ND	ND	ND	ND	ND	ND	ND	0.16 J
Dibenzo(a,h)anthracene	0.14 J [0.25 J]	ND	ND	ND	ND	0.7 J	ND	0.06 J	ND
Dibenzofuran	ND [ND]	ND	ND	ND	ND	0.79	0.055 J	0.28 J	ND
1,2-Dichlorobenzene	ND [ND]	ND	0.048 J	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND [ND]	ND	0.052 J	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND [ND]	ND	0.73	ND	ND	0.62 J	ND	ND	ND
Fluorene	0.13 J [0.16 J]	ND	ND	ND	ND	6.6	0.73	2.8 D	ND
Fluoranthene	0.85 [1.0]	0.15 J	ND	ND	0.091 J	10	1	2.6 D	ND
Indeno(1,2,3-cd)pyrene	0.35 J [0.48]	0.056 J	ND	ND	ND	1.5	0.1 J	0.21 J	ND
1-Methylnaphthalene	0.16 J [0.15 J]	ND	ND	ND	ND	30 D	ND	ND	ND
2-Methylnaphthalene	0.077 J [0.076 J]	ND	ND	ND	ND	12	0.64	3.1 D	ND
Naphthalene	0.17 J [0.18 J]	ND	ND	ND	ND	61 D	0.97	4.3 D	ND
Pentachlorobenzene	ND [ND]	ND	0.3 J	ND	ND	ND	ND	ND	ND
Phenanthrene	0.89 [0.92]	0.068 J	ND	ND	0.052 J	32 D	2.8	9.1 D	ND
Phenol	0.069 J [0.066 J]	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	1.1 [1.3]	0.15 J	ND	ND	0.18 J	21 D	1.5	4.5 D	ND
1,2,4-Trichlorobenzene	ND [ND]	ND	3.1	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ND [ND]	ND	0.23 J	ND	ND	ND	ND	ND	ND

Notes:

1. Samples were analyzed for Appendix IX+3 semivolatile organic compounds; only those constituents detected in at least one sample are presented.
2. Duplicate results are presented in brackets.
3. J - Indicates an estimated value less than the PQL-required quantitation limit.
4. B - Indicates the compound was also detected in the associated method blank.
5. D - Indicates that the compound was identified at a secondary dilution factor.
6. X - Indicates that coeluting isomers were noted by the laboratory.
7. ND - Not detected.

TABLE 4
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PRE-DESIGN INVESTIGATION WORK PLAN FOR PORTION OF EAST STREET AREA 2 - SOUTH
REMOVAL ACTION -- FUTURE CITY RECREATIONAL AREA

SUMMARY OF EXISTING SOIL APPENDIX IX+3 PESTICIDE/HEERBICIDE DATA
(Concentrations are presented in dry weight parts per million, ppm)

	Sample Locations Within Limits of Future City Recreational Area	Sample Locations Adjacent to Future City Recreational Area	
Sample ID:	**X-17**	**X-16**	**X-18**
Sample Depth (feet):	**0-2**	**8-10**	**14-16**
Date Collected:	**7/8/91**	**6/25-7/10/91**	**6/25-7/10/91**
2,4,5-T	ND	0.07	ND
2,4-D	ND	0.28	ND
2,4,5-TP (Silvex)	ND	0.072	ND

Notes:

1. Samples were analyzed for Appendix IX+3 pesticide/herbicide compounds; only those constituents detected in at least one sample are shown.
2. ND - Not detected.

TABLE 5
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PRE-DESIGN INVESTIGATION WORK PLAN FOR PORTION OF EAST STREET AREA 2 - SOUTH
REMOVAL ACTION -- FUTURE CITY RECREATIONAL AREA

SUMMARY OF EXISTING SOIL POLYCHLORINATED DIBENZOFURANS AND POLYCHLORINATED DIBENZO-P-DIOXINS DATA
(Results are presented in dry-weight parts per million, ppm)

	Sample Locations Within Limits of Future City Recreational Area				Sample Locations Adjacent to Future City Recreational Area				
Sample ID:	**202S**	**210S**	**95-9**	**X-17**	**X-16**	**X-18**	**E2SC-5**	**E2SC-5**	**E2SC-14**
Sample Depth (feet):	**0-0.5**	**0-0.5**	**18-20**	**0-2**	**8-10**	**14-16**	**6-15**	**38-40**	**6-15**
Date Collected:	**5/7/91**	**9/17/97**	**3/4/96**	**7/8/91**	**6/25-7/10/91**	**6/25-7/10/91**	**10/25/98**	**10/26/98**	**10/8/98**
Furans									
2,3,7,8-TCDF	0.00042 [ND]	0.000015 g	ND	ND	ND	ND	0.0000000033 g	ND	ND
TCDFs (total)	0.00098 [ND]	0.00015	ND	ND	ND	ND	0.000000016	ND	ND
1,2,3,7,8-PeCDF	ND	0.0000070	ND	NA	NA	NA	ND	ND	ND
2,3,4,7,8-PeCDF	ND	0.000018	ND	NA	NA	NA	ND	ND	ND
PeCDFs (total)	0.00088 [ND]	0.00089	ND	ND	ND	ND	0.000000014	ND	ND
1,2,3,4,7,8-HxCDF	ND	0.000049	ND	NA	NA	NA	ND	ND	ND
1,2,3,6,7,8-HxCDF	ND	ND v	ND	NA	NA	NA	ND	ND	ND
2,3,4,6,7,8-HxCDF	ND	0.000056	ND	NA	NA	NA	ND	ND	ND
HxCDFs (total)	0.00097 [0.0004]	0.00052	ND	ND	ND	ND	4.8E-09	ND	ND
1,2,3,4,6,7,8-HpCDF	ND	0.00020	ND	NA	NA	NA	ND	ND	ND
1,2,3,4,7,8,9-HpCDF	ND	0.000032	ND	NA	NA	NA	ND	ND	ND
HpCDFs (total)	0.00096 [0.00054]	0.00052	ND	ND	ND	ND	ND	ND	ND
OCDF	0.00032 [ND]	0.000084	ND	ND	ND	ND	ND	ND	ND
Dioxins									
2,3,7,8-TCDD	ND	0.00000090 j	NA	ND	ND	ND	ND	ND	ND
TCDDs (total)	ND	0.000012	ND	ND	ND	ND	ND	ND	ND
PeCDDs (total)	ND	0.000029	NA	ND	ND	ND	ND	ND	ND
HxCDDs (total)	ND	0.000180	ND	ND	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-HpCDD	ND	0.000081	ND	NA	NA	NA	ND	ND	ND
HpCDDs (total)	0.00011 [ND]	0.00017	ND	ND	ND	ND	ND	ND	ND
OCDD	0.00098 [0.00066]	0.00033	ND	ND	ND	ND	ND	ND	ND

Notes:

1. Samples were analyzed for 2,3,7,8-substituted polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). Only those constituents detected in at least one sample are presented.
2. ND - Not detected.
3. NA - Not Analyzed.
4. g- 2,3,7,8-TCDF results have been confirmed on a DB-225 column.
5. v- Indicates an elevated detection limit due to chemical interference.
6. j - Indicates an estimated value less than the PQL-required quantitation limit.
7. Duplicate results are presented in brackets.

TABLE 6
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PRE-DESIGN INVESTIGATION WORK PLAN FOR PORTION OF EAST STREET AREA 2 - SOUTH
REMOVAL ACTION -- FUTURE CITY RECREATIONAL AREA

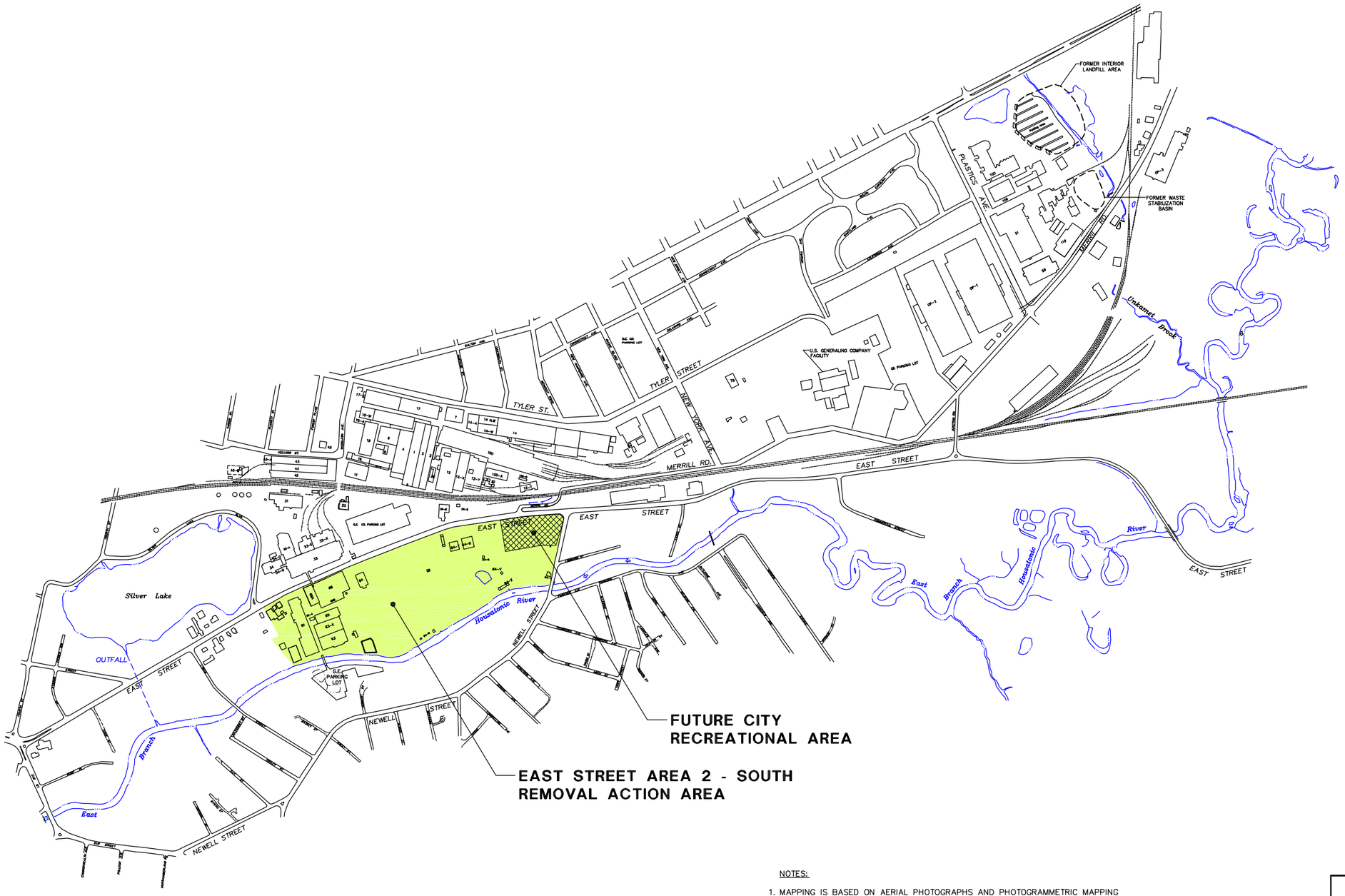
SUMMARY OF EXISTING SOIL APPENDIX IX+3 INORGANICS DATA
(Results are presented in dry-weight parts per million, ppm)

	Sample Locations Within Limits of Future City Recreational Area				Sample Locations Adjacent to Future City Recreational Area				
Sample ID:	**202S**	**210S**	**95-9**	**X-17**	**X-16**	**X-18**	**E2SC-5**	**E2SC-5**	**E2SC-14**
Sample Depth (feet):	**0-0.5**	**0-0.5**	**18-20**	**0-2**	**8-10**	**14-16**	**6-15**	**38-40**	**6-15**
Date Collected:	**5/7/91**	**9/17/97**	**3/4/96**	**7/8/91**	**6/25-7/10/91**	**6/25-7/10/91**	**10/25/98**	**10/26/98**	**10/8/98**
Aluminum	9210 [6220]	NA	NA	13,400	17,300	13,400	NA	NA	NA
Antimony	ND N [ND N]	0.60 N	ND	ND N	ND N	ND N	0.29 J*	ND	0.13 J*
Arsenic	ND WNL [4.6 NL]	7.3	6.3	11.9 N	9.3 N	3.6 N	7.5	3	7.4
Barium	48.6 [51.1]	134	16.7 J*	26.4	91.2	26.6	35.3	8.3 J*	24.6
Beryllium	0.32 J* [0.21 J*]	0.26 J*	0.04 J*	0.22 J*	0.68	0.23 J*	0.37 J*	0.065 J*	0.28 J*
Cadmium	ND [ND]	0.78 J*	ND	ND	ND	ND	0.29 J*	0.18 J*	0.099 J*
Calcium	10,500 [7,310]	NA	NA	1,400 EL	6,730 EL	5,910 EL	NA	NA	NA
Chromium	22.2 [13.7]	17.9	8.5	13	18.1	8.1	10.9	3.8	11.8
Cobalt	10.2 [6.5]	NA	11.7	13.7	16.2	6	12.8	4.2 J*	13.4
Copper	30.4 [22.7]	38.2 E	27.9	35 L	22.9 L	9.1 L	17.3	8.6	19.2
Iron	19,700 [15,700]	NA	NA	28,200 E	39,400 E	28,200 E	NA	NA	NA
Lead	65.2 [45.0]	33.8 L	7.80	38.9 M	1.8	1.8	10.7	4.2	6.4
Magnesium	9,050 [5,710]	NA	NA	4,950 L	7,220 L	5,190 L	NA	NA	NA
Manganese	445 [925]	NA	NA	915	2,040	199	NA	NA	NA
Mercury	0.2 [0.22]	ND	ND	ND NL	ND NL	ND NL	0.037 J*	0.012 J*	0.012 J*
Nickel	18.1 [11.8]	26.9	16.8	23.1	24.3	10.7	19.2	4.4 J*	21
Potassium	800 [547 J*]	NA	NA	335 J*	612 J*	289 J*	NA	NA	NA
Selenium	ND WNL[ND WNL]	1.3	0.76	ND WN	ND WN	ND WN	ND	ND	ND
Silver	ND N[ND N]	ND	ND	ND N	ND N	ND N	ND	ND	ND
Sodium	77.9 J* [152 J*]	NA	NA	96.1 J*	113 J*	110 J*	NA	NA	NA
Sulfide	ND [ND]	17	ND	ND	ND	ND	ND	ND	ND
Thallium	ND W[ND W]	ND	ND	ND QN	ND QN	ND QN	ND	ND	2.7
Tin	NA	ND	ND	NA	NA	NA	ND	ND	ND
Vanadium	18.2 [13.2]	15.9	4.3	12.4	22	8.1	12.1	3 J*	10.9
Zinc	88.6 E [62.6 E]	97.2	48.3	74.3 E	80.2 E	43.2 E	68.5	19.6	64.9
Cyanide	1.1 [1.1]	NA	ND	ND	ND	22	NA	NA	NA
Total Phenols	0.23 [0.21]	NA	ND	ND	ND	ND	NA	NA	NA

Notes:

1. Samples were analyzed for Appendix IX+3 inorganics.
2. ND - Compound was not detected.
3. NA - Not Analyzed. Analytes are not required as part of Appendix IX of 40 CFR Part 264.
4. Duplicate results are presented in brackets.
5. N - Indicates sample matrix spike analysis was outside control limits.
6. L - Indicates laboratory duplicate analysis was outside control limits.
7. W - Indicates sample graphite furnace atomic absorption (GFAA) matrix spike analysis was outside control limits.
8. E - Serial dilution results not within 10%. Applicable only if analyte concentration is at least 50X the IDL in original sample.
9. Q - Indicates sample GFAA post-digestion matrix spike recovery was less than 40% and the sample analysis should considered
10. M- Indicates sample analysis was completed by methods of standard addition (MSA).
11. J* - The analyte was detected at a concentration above the IDL but below the CRDL.

Figures



0 500' 1000'
APPROXIMATE SCALE

NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. – FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY; AND BLASLAND AND BOUCK ENGINEERS, P.C. P.C. CONSTRUCTION PLANS.
2. NOT ALL PHYSICAL FEATURES SHOWN.
3. SITE BOUNDARIES/LIMITS ARE APPROXIMATE.

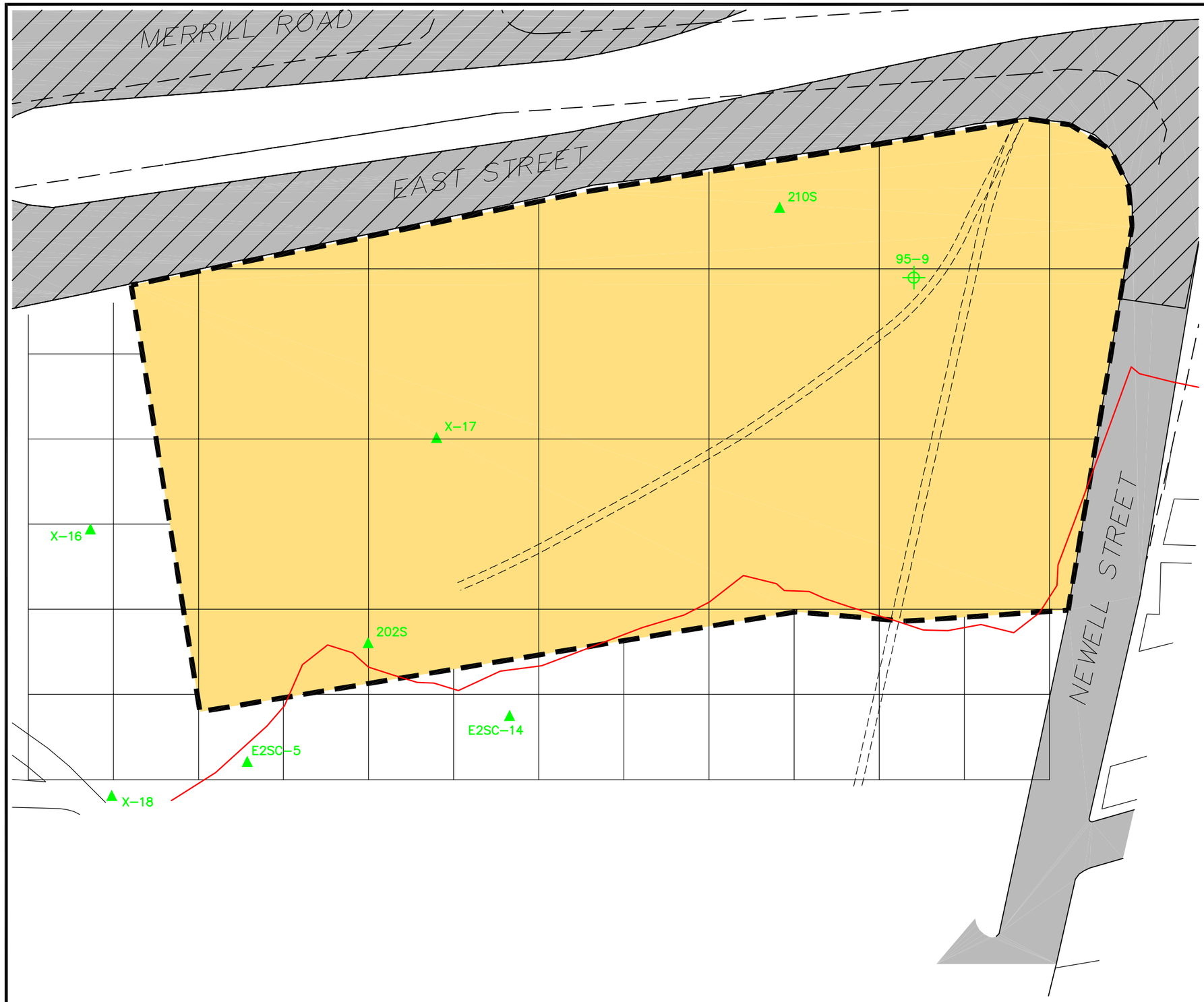
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
PRE–DESIGN INVESTIGATION WORK PLAN FOR
PORTION OF EAST STREET AREA 2 – SOUTH REMOVAL ACTIONS

SITE PLAN

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE
1

L: ON=*, OFF=REF
P: STD-PCP/DL
3/1/00 SYR-54-GMS JER GMS
10111001/10111B03.DWG



LEGEND:

- APPROXIMATE LIMITS OF FUTURE CITY RECEATIONAL AREA
- APPROXIMATE 100-YEAR FLOODPLAIN
- X-18 EXISTING SOIL BORING
- 95-9 EXISTING MONITORING WELL
- FUTURE PAVED AREA
- UNPAVED AREA
- EXISTING ROAD ALIGNMENT
- FUTURE MERRILL ROAD ALIGNMENT/ EAST STREET ALIGNMENT (APPROXIMATE)

NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. – FLOWN IN APRIL 1990.
2. NOT ALL PHYSICAL FEATURES SHOWN.
3. SITE BOUNDARY IS APPROXIMATE.
4. ALL SAMPLING LOCATIONS ARE APPROXIMATE.
5. EXTENT OF VARIOUS SURFACE COVERS IS APPROXIMATE.
6. 100-YEAR FLOODPLAIN BOUNDARY IS BASED ON ELEVATIONS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY: "FLOOD INSURANCE STUDY" – CITY OF PITTSFIELD, MASSACHUSETTS" JANUARY 16, 1987; AND "FLOOD INSURANCE RATE MAP – CITY OF PITTSFIELD, MASSACHUSETTS" (PANELS 250037 0010C AND 25037 0020C), FEBRUARY 19, 1982, AND TWO-FOOT CONTOUR TOPOGRAPHIC MAPPING GENERATED PHOTOGRAMETRICALLY IN 1990 AT A BASE SCALE OF 1:2,400.
7. LIMITS OF FUTURE MERRILL ROAD/EAST STREET ALIGNMENT ARE BASED ON BASE MAPPING PREPARED BY J.H. MAXYMILIAN, INC. ("JHM FURTHER DELINEATION SAMPLING" DATED 6/15/99).

0 60' 120'

APPROXIMATE SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

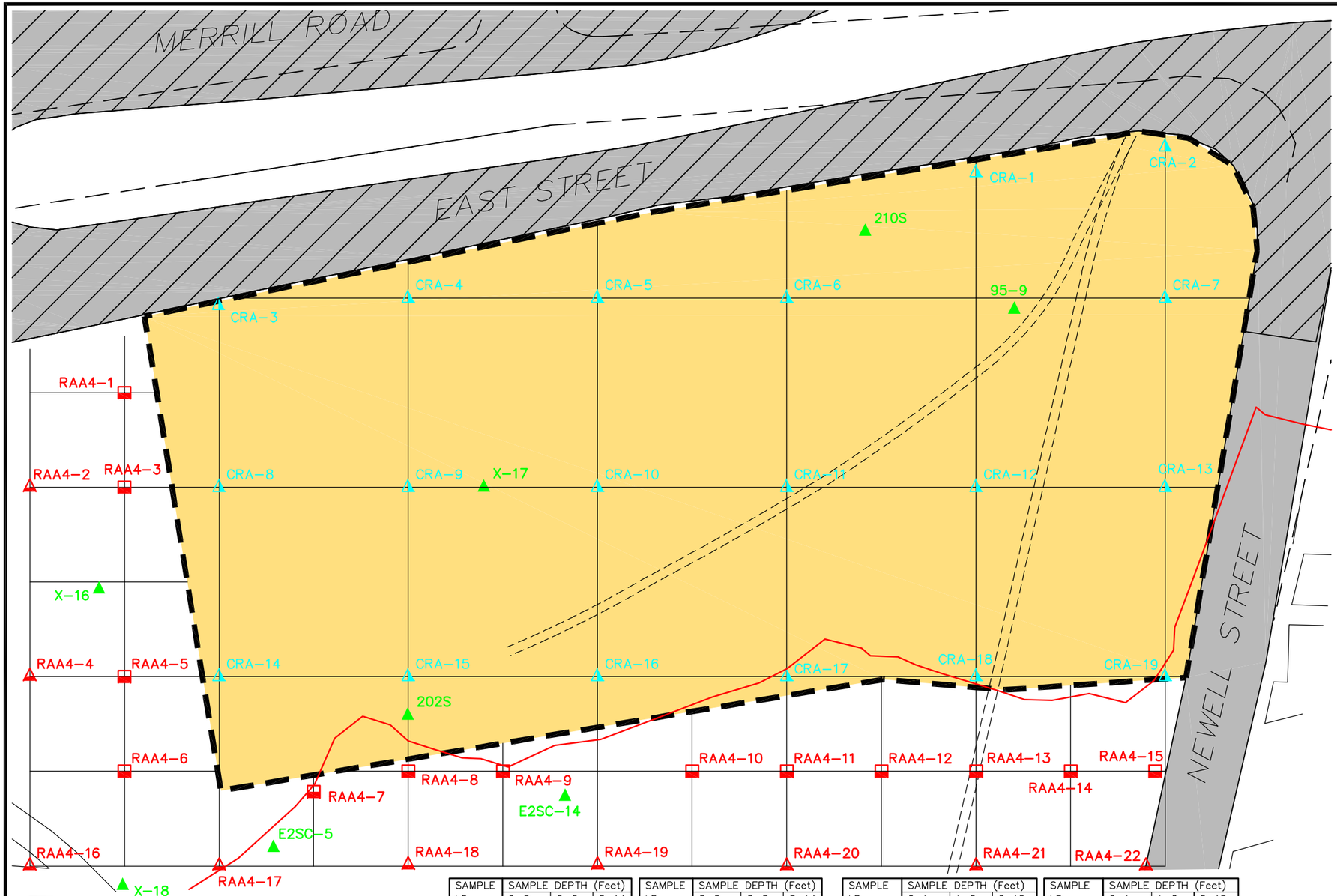
PRE-DESIGN INVESTIGATION WORK PLAN
FOR PORTION OF EAST STREET AREA 2 – REMOVAL ACTIONS

FUTURE CITY RECREATIONAL AREA AND EXISTING SOIL SAMPLING LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 2

L: ON=* OFF=*REF*
P: STD-PCP/BL
11/7/00 SYR-54-CHM JER GMS DMW
10111001/1011B05.DWG



LEGEND:

- APPROXIMATE LIMITS OF FUTURE CITY RECEATIONAL AREA
- APPROXIMATE 100-YEAR FLOODPLAIN
- X-18 — EXISTING SOIL SAMPLE LOCATION WHERE ADDITIONAL SAMPLING IS PROPOSED AT CERTAIN DEPTHS AND EXISTING DATA WILL BE UTILIZED FOR RD/RA EVALUATIONS.
- CRA-1 — PROPOSED SOIL SAMPLING LOCATION WITHIN FUTURE CITY RECREATIONAL AREA
- RAA4-5 — PROPOSED SOIL SAMPLING LOCATION OUTSIDE FUTURE CITY RECREATIONAL AREA
- RAA4-6 — PROPOSED SURFACE SOIL SAMPLING LOCATION
- FUTURE PAVED AREA
- UNPAVED AREA
- EXISTING ROAD ALIGNMENT
- FUTURE MERRILL ROAD ALIGNMENT/ EAST STREET ALIGNMENT (APPROXIMATE)

NOTES:

1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. – FLOWN IN APRIL 1990.
2. NOT ALL PHYSICAL FEATURES SHOWN.
3. SITE BOUNDARY IS APPROXIMATE.
4. ALL SAMPLING LOCATIONS ARE APPROXIMATE.
5. EXTENT OF VARIOUS SURFACE COVERS IS APPROXIMATE.
6. 100-YEAR FLOODPLAIN BOUNDARY IS BASED ON ELEVATIONS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY: "FLOOD INSURANCE STUDY" – CITY OF PITTSFIELD, MASSACHUSETTS" JANUARY 16, 1987; AND "FLOOD INSURANCE RATE MAP – CITY OF PITTSFIELD, MASSACHUSETTS" (PANELS 250037 0010C AND 25037 0020C), FEBRUARY 19, 1982, AND TWO-FOOT CONTOUR TOPOGRAPHIC MAPPING GENERATED PHOTOGRAMETRICALLY IN 1990 AT A BASE SCALE OF 1:2,400.
7. LIMITS OF FUTURE MERRILL ROAD/EAST STREET ALIGNMENT ARE BASED ON BASE MAPPING PREPARED BY J.H. MAXYMILIAN, INC. ("JHM FURTHER DELINEATION SAMPLING" DATED 6/15/99).

TABLE NOTES:

- P – SOIL SAMPLE PROPOSED FOR PCB ANALYSIS.
- A – SOIL SAMPLE PROPOSED FOR PCB AND APPENDIX IX+3 ANALYSIS.
- P* – EXISTING PCB ANALYTICAL DATA TO BE UTILIZED.
- A* – EXISTING APPENDIX IX+3 ANALYTICAL DATA TO BE UTILIZED.
- A*d – SOIL SAMPLE PROPOSED FOR PCDD/PCDF ANALYSIS. EXISTING DATA FOR PCBS AND OTHER APPENDIX IX+3 CONSTITUENTS TO BE UTILIZED.
- A*e – EXISTING APPENDIX IX+3 ANALYTICAL DATA (EXCLUDING PCBs) TO BE UTILIZED.
- –– SAMPLING FOR THIS DEPTH INCREMENT TO BE PERFORMED AT ADJACENT PROPOSED LOCATIONS.

SAMPLE I.D.	SAMPLE DEPTH (Feet) 0–2	2–5	5–14
CRA–1	P	P	A
CRA–2	P	A	P
CRA–3	A	P	P
CRA–4	P	P	P
95–9	P*	P*	P*
CRA–5	A	P	P
X–17	A*d	P*	––
CRA–6	P	A	P
CRA–7	A	P	P
CRA–8	P	A	P
CRA–9	P	P	A
CRA–10	P	A	P
CRA–11	A	P	P
CRA–12	A	P	P
CRA–13	P	P	A
202S	A*	––	––
210S	A*	––	––

SAMPLE I.D.	SAMPLE DEPTH (Feet) 0–2	2–5	5–14
CRA–14	A	P	P
CRA–15	P	P	A
CRA–16	A	P	P
CRA–17	P	P	A
CRA–18	A	P	P
CRA–19	P	A	P

SAMPLE I.D.	SAMPLE DEPTH (Feet) 0–1	1–6	6–15
RAA4–1	A	––	––
RAA4–2	P	A	P
RAA4–3	P	––	––
RAA4–4	P	A	P
RAA4–5	A	––	––
RAA4–6	P	––	––
RAA4–7	P	––	––
RAA4–8	A	––	––
RAA4–9	P	––	––
RAA4–10	A	––	––
RAA4–11	P	––	––
RAA4–12	P	––	––
RAA4–13	A	––	––
RAA4–14	P	––	––
RAA4–15	A	––	––

SAMPLE I.D.	SAMPLE DEPTH (Feet) 0–1	1–6	6–15
RAA4–16	A	P	P
RAA4–17	A	P	P
RAA4–18	P	A	P
RAA4–19	A	A	P
RAA4–20	P	P	P
RAA4–21	P	P	A
RAA4–22	P	A	P
X–16	P*	P*	A*d
X–18	P*	P*	A*d
E2SC–5	P*	P*	A*
E2SC–14	P*	P*	A*

0 60' 120'

APPROXIMATE SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
PRE-DESIGN INVESTIGATION WORK PLAN
FOR PORTION OF EAST STREET AREA 2 – REMOVAL ACTIONS

PROPOSED SOIL SAMPLE LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 3

L: ON=* OFF=*REF*
P: STD-PCP/BL
11/8/00 SYR-54-CHM JER GMS DMW
10111001/1011B04.DWG