01-0455

Corporate Environmental Programs
General Electric Company
100 Woodlawn Avenue, Pittsfield, MA 01201

SOMS 37787

February 20, 2002

Mr. Bryan Olson
EPA Project Coordinator
U.S. Environmental Protection Agency
EPA New England
One Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Re: GE-Pittsfield/Housatonic River Site
Plant Site 2 Groundwater Management Area (GECD330)
Addendum to Baseline Monitoring Program Proposal

Dear Mr. Olson:

In accordance with the Consent Decree for the GE-Pittsfield/Housatonic River Site and Attachment H to the Statement of Work for Removal Actions Outside the River, GE submitted a *Baseline Monitoring Program Proposal for Plant Site 2 Groundwater Management Area* (Baseline Monitoring Proposal) on April 24, 2001. This Groundwater Management Area is also known as GMA 3. EPA provided conditional approval of the Baseline Monitoring Proposal by letter dated November 21, 2001. EPA's conditional approval letter required several modifications to the scope of the baseline monitoring program for GMA 3 and directed GE to submit an Addendum to the Baseline Monitoring Proposal to address the conditions in EPA's letter and to set forth a revised schedule for the baseline monitoring program activities.

This letter constitutes the Addendum to GE's Baseline Monitoring Proposal. This Addendum describes the modifications to GE's baseline monitoring program for GMA 3. These modifications include the modifications required by EPA's conditional approval letter, as well as a few additional proposed modifications based on a recently completed inventory and inspection of the existing wells in GMA 3 that were proposed for use in the baseline program. In addition, this Addendum presents a schedule for the upcoming field activities (including the completion of well installations and the Spring 2002 groundwater monitoring) and associated reporting.

Overview of Program

The baseline groundwater monitoring program for GMA 3 includes a network of wells that will be sampled semi-annually for groundwater quality. These wells are of various types, as described in the Baseline Monitoring Proposal:

- GW-2 sentinel wells - wells that will be sampled for compliance with the GW-2 standards.

- GW-3 perimeter wells - wells around the perimeter of this GMA that will be sampled for the constituents subject to the GW-3 standards. (These include both upgradient and downgradient perimeter wells, but only the downgradient perimeter wells are considered compliance points for the GW-3 standards.)

- Source area sentinels wells - wells located near potential source areas, which will be sampled for the constituents subject to the GW-3 standards to provide an early indication of groundwater quality conditions that could exceed the GW-3 standards at downgradient perimeter wells.

- Natural attenuation monitoring wells - wells that will be monitored to assess intrinsic and natural processes that could mitigate groundwater impacts.

Some monitoring wells fall into more than one of these categories.

In addition, during the baseline monitoring program, GE will monitor numerous wells at GMA 3 for groundwater elevations and the potential presence of light non-aqueous-phase liquid (LNAPL). These wells will be monitored for such purposes at least quarterly, with some subject to more frequent monitoring (e.g., weekly or monthly). Further, as discussed below, four surface water staff gauges will be monitored quarterly in conjunction with the groundwater elevation measurements.

Figure 1 illustrates the locations of all monitoring wells and staff gauges that will be used in this GMA 3 baseline monitoring program.

Well Inventory/Inspection

On January 7-9, 2002, an inventory/inspection was performed at the accessible existing monitoring wells at GMA 3 that were proposed for use in either the groundwater quality or water level/NAPL monitoring activities. The results of this inspection/inventory are presented in Table 1. As discussed below, these results have led to certain proposed modifications to the baseline monitoring program beyond those required by EPA's conditional approval letter.

As a follow-up to this well inventory/inspection, GE is in the process of re-surveying and removing the bottom sediment from all previously existing wells that will be sampled during the GMA 3 baseline monitoring program. During performance of this task, it was confirmed that wells 39B, 51-16, and 59-3 should be replaced, as discussed below. Upon completion of this activity, GE may propose to replace additional wells where significant accumulation of sediment has occurred which cannot be removed.

Modifications to Baseline Monitoring Program

In accordance with EPA's conditional approval letter and subsequent discussions between GE and EPA, the following modifications have been made to the baseline monitoring program:

- Well GMA3-2 will be installed as a GW-2 sentinel well to the south of an occupied building at 440 Merrill Road.

- A new upgradient GW-3 perimeter well (GMA3-3) will be installed along Dalton Avenue in the center of the northern boundary of the GMA. This well will replace wells 50B and 43B for GW-3 groundwater quality monitoring purposes. However, well 43B will continue to be monitored under GE's natural attenuation monitoring program and well 50B will be monitored for groundwater elevation on a quarterly basis.

- Previously proposed GW-2 sentinel well/GW-3 perimeter well 27B will be replaced by a new well (GMA3-4), located near Building 106.

- Well GMA3-5 will be installed as a GW-2 sentinel well/GW-3 perimeter well to the east of Building OP-3.

- Previously proposed GW-2 sentinel well 101B will be replaced by a new well (GMA3-6), located near Building 109.

- Well OBG-2 will be monitored as a GW-2 sentinel well near Building OP-3, instead of well OBG-1, as previously proposed.

- Well 82B will be monitored as a GW-3 perimeter well to the south of Building OP-3.

- Previously proposed GW-2 sentinel well 20B will be removed from the baseline monitoring program. This well was not listed in EPA's conditional approval letter as part of the revised program. In any event, this well could not be located during the recent well inventory and likely no longer exists. Several other GW-2 monitoring wells (i.e., new wells GMA3-4, GMA3-6, and GMA3-9) are located in the vicinity of the buildings that were to be covered by prior well 20B (see Figure 1).

In addition, EPA's conditional approval letter required GE to verify that all of the proposed GW-2 sentinel wells and all of the proposed shallow monitoring wells downgradient of and proximate to known or suspected LNAPL sources are screened across the top of the water table, and if they are not, to provide replacement wells. In accordance with this requirement, GE evaluated the screen placement of all proposed GW-2 sentinel wells[1] and all proposed shallow monitoring wells downgradient of and near known or suspected LNAPL sources.[2] Based on this evaluation, GE has identified a number of proposed GW-3 wells that do not meet the required criterion (i.e., have wells screens below the water table), and it proposes the following activities to address these wells:

- GE proposes to install a new well GMA1-7 (as shown on Figure 1) to replace well 34B as a GW-2 sentinel well/GW-3 perimeter well located to the south of Building 59. This well will also be utilized as an LNAPL monitoring well in place of wells 31B and 34B, as neither of these existing wells is screened to intercept the water table.

- GE proposes to install a new well GMA1-8 (as shown on Figure 1) to replace well 33B as a GW-2 sentinel well located near an occupied building to the south of Merrill Road, since well 33B is screened from 15 to 20 feet below grade and therefore not able to monitor GW-2 groundwater conditions (less than 15 feet deep).

- GE proposes to install a new well GMA1-9 (as shown on Figure 1) to replace well 74B as a GW-2 sentinel well located between the Former Interior Landfill and Buildings 105 and 125 because the existing well is screened from a depth of 13 to 18 feet, which is approximately 5 feet below the water table.

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[1] These wells consisted of previously-proposed wells 16B-R, 33B, 34B, 51-14, 74B, GMA3-2, GMA3-4, GMA3-6, and OBG-2.

[2] These wells consisted of previously-proposed wells 31B, 34B, 35B, 51-5, 51-6, 51-7, 51-8, 51-9, 51-11, 51-12, 51-13, 51-14, 51-15, 51-16, 51-17, 51-18, 51-19, 51-21, 59-01, 59-03, 59-07, UB-MW-10, UB-PZ-1, UB-PZ-2, and UB-PZ-3.

- GE proposes to remove well 35B from the LNAPL monitoring program since it is screened approximately 5 feet below the water table and would likely not be able to detect LNAPL, if present. GE does not propose to replace this well as existing well 51-12 is an appropriately screened monitoring well downgradient from the current extent of LNAPL in the vicinity of well 35B.

In addition, GE will replace LNAPL monitoring wells 51-16 and 59-3 and natural attenuation monitoring well 39B with wells 51-16R, 59-3R, and 39B-R, respectively, in response to deteriorating well conditions observed during the recent well inventory and subsequent follow-up activities.

Taking account of these modifications and proposed modifications, GE's proposed modified GMA 3 baseline groundwater quality monitoring program is summarized in Table 2. That table lists all existing and new wells to be sampled for groundwater quality in the GMA 3 baseline program, and it specifies the type of well each one will be, as well as the rationale. As shown in Table 2, the modified baseline groundwater quality monitoring program will involve 38 monitoring wells (as compared to 36 in the April 2001 Baseline Monitoring Proposal). Of these, 10 wells will be monitored as GW-2 sentinel wells, 13 as GW-3 perimeter wells, one as a GW-3 source area sentinel well, and 22 as natural attenuation monitoring wells (note that some wells will be monitored under more than one category).

The GW-2 and GW-3 monitoring wells will be sampled on a semi-annual basis during the baseline period. The groundwater samples from the wells to be monitored solely as GW-2 sentinel wells will be analyzed initially for Appendix IX volatile organic compounds (VOCs) plus 2-chloroethylvinyl ether, as well as five compounds listed as SVOCs (1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, and naphthalene). The samples from the GW-3 perimeter and source area wells will be analyzed initially for all Appendix IX constituents plus 2-chloroethylvinyl ether, benzidine, and 1,2-diphenylhydrazine (Appendix IX+3). As the baseline monitoring program proceeds, GE may propose to reduce the analyte list at certain of these well locations if appropriate. The natural attenuation monitoring wells will be sampled on an annual basis (in spring) for Appendix IX VOCs (plus 2-chloroethylvinyl ether) and natural attenuation parameters.

The modified groundwater elevation/LNAPL monitoring program is summarized in Table 3. That table lists all existing and new wells that will be routinely monitored for groundwater elevations and the presence of LNAPL, and it specifies the frequency of such monitoring for each. In addition, GE will coordinate the quarterly groundwater elevation monitoring for GMA 3 with that for GMA 4 (located to the west of GMA 3), to the extent practicable, so as to allow the presentation of groundwater contour maps in future GMA 3 reports that utilize both the GMA 3 and GMA 4 groundwater elevation data. Further, as part of the quarterly GMA 3 groundwater elevation monitoring program, GE will continue to collect and report groundwater elevation measurements from existing monitoring wells that are located beyond but near the southwestern boundary of GMA 3 (i.e., beyond wells GMA3-7 and 111) and beyond but proximate to the GMA 3 boundary near the Housatonic River (i.e., beyond well 114).

Finally, in accordance with EPA's conditional approval letter, GE has installed four surface water staff gauges at the locations shown on Figure 1 to monitor surface water elevations in Unkamet Brook and the unnamed brook south of Building OP-3. These measurements will be made quarterly and reviewed in conjunction with the groundwater elevation data collected during GE's quarterly groundwater elevation monitoring program.

NAPL Sampling

In accordance with EPA's conditional approval letter, whenever NAPL is detected in a GW-2 sentinel/compliance well, GE will analyze that NAPL for the same constituents noted above for wells to be sampled solely for GW-2 compliance (i.e., VOCs plus five selected SVOCs), and the results will be compared to the applicable GW-2 standards. If NAPL is not detected in a given sampling round in a GW-2 well that has previously contained NAPL, the groundwater from that well will be analyzed for those constituents, and the results will be compared to the GW-2 standards.

As also required in EPA's conditional approval letter, GE will collect and analyze NAPL samples from the Building 51/59 area. Specifically, GE will collect and analyze NAPL samples from wells 51-15 and 59-3R for physical characteristics and chemical composition. This sampling will be conducted separately from and prior to the Spring 2002 sampling round for GMA 3, as discussed in the schedule section below. The NAPL samples collected will be analyzed for all Appendix IX+3 constituents and for the following physical parameters: specific gravity, dynamic viscosity, and interfacial tension.

Schedule

To facilitate performance of the spring 2002 baseline groundwater sampling event, GE has commenced well installation activities at locations where EPA has approved the new or replacement wells. To date, new or replacement wells GMA 3-2, GMA3-4, GMA3-6, 16B-R, and 78B-R have been installed. Of the remaining approved new wells, GE has been unable, to date, to install wells GMA3-1 and GMA3-3 due to the marshy nature of the ground in this area, and has been unable to install well GMA3-5 due to the lack of access permission from the property owner. GE plans to install wells GMA3-1 and GMA3-3 after the ground in this marshy area freezes sufficiently to support the drilling equipment, and to install well GMA3-5 upon obtaining an access agreement from the property owner. In addition, GE plans to install replacement wells 51-16R, 59-3R, and 39B-R within the next 3 weeks. Finally, the remaining proposed new wells (GMA3-7, GMA3-8, and GMA3-9) will be installed following EPA approval of this Addendum.

GE has completed supplemental surveying and well development activities at all locations on GE property, as well as on certain non-GE-owned parcels where access has been granted. However, GE is awaiting receipt of access agreements for three parcels that are included within the southern portion of GMA 3, and will complete the remaining activities upon receipt of signed access agreements for these parcels.

With respect to the NAPL sampling in the Building 51/59 area, GE will collect NAPL samples from wells 51-15 and 59-3R, as proposed above, within 2 weeks of EPA approval of this Addendum, and will provide the analytical results in the next monthly progress report for overall activities at the GE-Pittsfield/Housatonic River Site following receipt from the laboratory. An assessment of these analytical results will be included in the Baseline Groundwater Quality Interim Report to be prepared on the Spring 2002 sampling event.

GE plans to conduct the initial baseline (Spring 2002) groundwater sampling event at GMA 3 in April 2002, and submit a Baseline Groundwater Quality Interim Report on this event by August 31, 2002, as provided in the conditionally approved Baseline Monitoring Proposal.

GE will coordinate with EPA's field representatives prior to performing the activities discussed in this Addendum.

Please call Andrew Silfer or me if you have any questions regarding this Addendum.

Sincerely,

John F. Novotny/MA for

John F. Novotny, P.E.
Manager, Facilities and Brownfields Programs

Attachments

cc: M. Nalipinski, EPA
T. Conway, EPA (cover letter only)
H. Inglis, EPA
K.C. Mitkevicius, USACE
D. Jamros, Weston
A. Weinberg, MDEP (cover letter only)
R. Bell, MDEP (cover letter only)
J.L. Cutler, MDEP (2 copies)
S. Steenstrup, MDEP
S. Keydel, MDEP
T. Angus, MDEP (cover letter only)
Mayor S. Hathaway, City of Pittsfield
Pittsfield Commissioner of Public Health
T. Hickey, Director, PEDA
J. Bernstein, Bernstein, Cushner & Kimmel
T. Bowers, Gradient
N.E. Harper, MA AG
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M. Carroll, GE (cover letter only)
A. Silfer, GE (cover letter only)
R. McLaren, GE (cover letter only)
J. Bieke, Shea & Gardner
J. Nuss, BBL
J. Ciampa, SPECTRA
Public Information Repositories
GE Internal Repositories

Attachments

TABLE 1

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PLANT SITE 2 GROUNDWATER MANAGEMENT AREA

BASELINE GROUNDWATER MONITORING PROGRAM WELL INVENTORY RESULTS

WELL ID	DATE OF INVENTORY	GROUND ELEVATION (Feet AMSL)	MEASURING POINT ELEVATION (Feet AMSL)	LISTED WELL STICKUP (Feet AGS)	MEASURED WELL STICKUP (Feet AGS)	WELL DIAMETER (Inches)	LISTED TOTAL DEPTH (Feet BGS)	LISTED TOTAL DEPTH (Feet BMP)	MEASURED TOTAL DEPTH (Feet BMP)	OBSERVATIONS
2A	1/7/02	991.50	994.16	2.66	2.66	1.50	50	52.66	53.02	Well in usable condition.
6B	1/8/02	991.50	993.01	1.51	1.51	1.50	12	13.51	9.5	Well in usable condition, has no curb box or cover.
16A	1/8/02	991.50	991.77	0.27	0.27	2.00	50	50.27	50.86	Well in usable condition, cement pad is broken.
16C	1/8/02	991.40	991.47	0.07	0.07	1.50	96	96.07	82.87	Well in usable condition, cement pad is broken.
16E	1/8/02	991.40	992.14	0.74	0.74	1.50	150	150.74	47.52	Obstructed at 47.52 feet, cement pad is broken.
34B	1/8/02	1,000.50	1,000.56	0.06	0.06	2.00	25	25.06	25.16	Well in usable condition, has no cover and riser is cracked near surface.
35B	1/8/02	998.03	997.36	-0.67	-0.67	2.00	23	22.33	22.34	Well in usable condition.
39B	1/7/02	992.14	991.74	-0.40	-0.40	2.00	15	14.60	3.41	Obstructed at 3.41 feet, cement pad is missing. Well to be replaced.
39D	1/7/02	992.34	992.16	-0.18	-0.17	4.00	66	65.82	66.13	Well in usable condition, cement pad is missing.
39E	1/7/02	992.34	992.21	-0.13	-0.13	4.00	235	234.87	241.1	Well in usable condition, cement pad is missing.
43A	1/8/02	991.90	993.79	1.89	1.90	1.50	50	51.89	51.44	Well in usable condition, cement pad has heaved, but intact, cap will not fit under well cover.
43B	1/8/02	991.90	993.61	1.71	1.65	1.50	20	21.71	21.45	Well in usable condition, cement pad has heaved, but intact.
50A	1/9/02	989.82	992.02	2.20	2.36	1.00	49.5	51.70	46.09	Well in usable condition, cement pad is broken, cap is threaded and cannot be locked.
54B	1/9/02	N/A	N/A	0.55	0.63	2.00	13.5	14.05	14.58	Well in usable condition, has no curb box or cover.
74B	1/9/02	996.05	995.54	-0.51	-0.50	1.00	20	19.49	14.25	Well in usable condition.
82B	1/7/02	987.40	990.08	2.68	2.68	2.00	10	12.68	10.07	Well in usable condition, cement pad has heaved above grade, cap will not fit under well cover.
89A	1/8/02	983.60	985.76	2.16	2.16	1.50	48	50.16	47.51	Well in usable condition.
89B	1/8/02	983.10	986.03	2.93	2.93	2.00	7	9.93	N/A	Unable to measure well due to sampling tubing trapped in well at 1.01 feet.
89D	1/8/02	984.20	985.42	1.22	1.22	1.50	75	76.22	66.88	Well in usable condition.
90A	1/8/02	986.50	988.07	1.57	1.57	1.50	50	51.57	51.27	Well in usable condition.
90B	1/8/02	986.50	989.10	2.60	2.60	2.00	11	13.60	12.54	Well in usable condition.

TABLE 1

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PLANT SITE 2 GROUNDWATER MANAGEMENT AREA

BASELINE GROUNDWATER MONITORING PROGRAM WELL INVENTORY RESULTS

WELL ID	DATE OF INVENTORY	GROUND ELEVATION (Feet AMSL)	MEASURING POINT ELEVATION (Feet AMSL)	LISTED WELL STICKUP (Feet AGS)	MEASURED WELL STICKUP (Feet AGS)	WELL DIAMETER (Inches)	LISTED TOTAL DEPTH (Feet BGS)	LISTED TOTAL DEPTH (Feet BMP)	MEASURED TOTAL DEPTH (Feet BMP)	OBSERVATIONS
95A	1/9/02	985.30	987.18	1.88	1.88	1.50	50	51.88	43.95	Well in usable condition, cement pad is broken.
95B	1/9/02	985.40	988.72	3.32	3.32	2.00	11	14.32	12.47	Well in usable condition, cement pad is broken.
95C	1/9/02	985.30	988.16	2.86	2.86	4.00	100	102.86	N/A	Cement pad is missing, has no cap or cover. Unable to measure due to water frozen in well at 10 feet.
111A	1/8/02	995.00	997.57	2.57	2.57	1.50	50	52.57	48.45	Well in usable condition.
111B	1/8/02	994.90	996.75	1.85	1.85	2.00	15	16.85	16.53	Well in usable condition, well cover has broken hinge.
114A	1/9/02	983.20	986.16	2.96	2.96	1.50	50	52.96	52.04	Well in usable condition, cement pad is broken.
114B	1/9/02	983.70	984.98	1.28	1.28	2.00	10	11.28	10.71	Well in usable condition, cement pad is missing.
114C	1/9/02	983.70	986.68	2.98	2.98	1.50	93	95.98	90.02	Well in usable condition.
51-5	1/7/02	996.91	996.44	-0.47	-0.47	2.00	15	14.53	13.8	Well in usable condition, top of riser damaged, unable to apply cap.
51-6	1/7/02	997.57	997.36	-0.21	-0.21	2.00	15	14.79	14.57	Well in usable condition.
51-7	1/7/02	997.21	996.81	-0.40	-0.40	2.00	15	14.60	11.21	Well in usable condition, hole present through well cover.
51-8	1/7/02	997.39	997.08	-0.31	-0.31	2.00	15	14.69	14.62	Well in usable condition.
51-9	1/7/02	997.76	997.70	-0.06	-0.06	2.00	15	14.94	12.44	Well in usable condition, top of riser damaged, unable to apply cap.
51-11	1/7/02	994.67	994.66	-0.01	-0.01	2.00	15	14.99	13.75	Well in usable condition, has no cover.
51-12	1/7/02	996.82	996.75	-0.07	-0.07	2.00	15	14.93	8.58	Well in usable condition, has no cover.
51-13	1/7/02	997.68	997.65	-0.03	-0.03	2.00	15	14.97	10.26	Well in usable condition, top of riser damaged, unable to apply cap.
51-14	1/7/02	996.93	996.77	-0.16	-0.16	2.00	15	14.84	14.91	Well in usable condition.
51-15	1/8/02	996.68	996.43	-0.25	-0.25	2.00	15	14.75	14.43	Well in usable condition.
51-16	1/8/02	996.68	996.46	-0.22	-0.22	2.00	15	14.78	9.62	Well is obstructed, top of riser damaged, cover missing. Well to be replaced.
51-17	1/8/02	996.48	996.43	-0.05	-0.05	2.00	15	14.95	12.58	Well in usable condition, top of riser damaged, cover missing.
51-18	1/7/02	997.41	997.31	-0.10	-0.10	2.00	15	14.90	12.14	Well in usable condition, has no curb box or cover.
51-19	1/7/02	996.61	996.50	-0.11	-0.11	2.00	15	14.89	13.9	Well in usable condition.

TABLE 1

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PLANT SITE 2 GROUNDWATER MANAGEMENT AREA

BASELINE GROUNDWATER MONITORING PROGRAM WELL INVENTORY RESULTS

WELL ID	DATE OF INVENTORY	GROUND ELEVATION (Feet AMSL)	MEASURING POINT ELEVATION (Feet AMSL)	LISTED WELL STICKUP (Feet AGS)	MEASURED WELL STICKUP (Feet AGS)	WELL DIAMETER (Inches)	LISTED TOTAL DEPTH (Feet BGS)	LISTED TOTAL DEPTH (Feet BMP)	MEASURED TOTAL DEPTH (Feet BMP)	OBSERVATIONS
59-1	1/7/02	997.80	996.72	-1.08	-1.08	2.00	24	22.92	10.56	Well in usable condition, has no cover.
59-3	1/7/02	997.97	997.79	-0.18	-0.18	2.00	24	23.82	18.45	Well in semi-usable condition, cover is broken, and riser is cracked near surface. Well to be replaced.
59-7	1/7/02	998.27	997.96	-0.31	-0.31	2.00	24	23.69	21.85	Well in usable condition, cover is missing 3 bolts (threads are stripped).
OBG-2	1/7/02	992.36	992.26	-0.10	-0.10	2.00	14.4	14.30	15.32	Well in usable condition, unable to apply cap.
UB-MW-10	1/8/02	996.21	996.11	-0.10	-0.10	1.00	18	17.90	16	Well in usable condition, has no cover.
UB-PZ-1	1/7/02	999.00	999.70	0.70	0.7	1.00	14	14.70	13.26	Well in usable condition, has no curb box or cover.
UB-PZ-2	1/7/02	994.40	994.77	0.37	0.37	1.00	14	14.37	11.73	Well in usable condition, has no curb box or cover.
UB-PZ-3	1/7/02	998.55	998.15	-0.40	-0.40	1.50	16	15.6	13.38	Well in usable condition, appears to have been converted from stickup to flush mount completion.

Notes:

1. FEET AMSL: Feet above mean sea level
2. FEET AGS: Feet above ground surface
3. FEET BGS: Feet below ground surface
4. FEET BMP: Feet below measuring point
5. N/A: Information not available

TABLE 2

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PLANT SITE 2 GROUNDWATER MANAGEMENT AREA

BASELINE GROUNDWATER QUALITY MONITORING PROGRAM

WELL ID	MONITORING WELL TYPE	APPLICABLE GROUNDWATER PERFORMANCE STANDARD	SCREEN INTERVAL (Ft. BGS)	APPROX. DEPTH TO WATER (Ft. BGS)	RATIONALE
2A	Natural Attenuation	-	45-50	5.6	Near former waste stabilization basin
6B	Perimeter	GW-3	5-12	8.0	Near former waste stabilization basin and Unkamet Brook
16A	Natural Attenuation	-	44-50	8.9	Downgradient of former waste stabilization basin (deeper cluster well)
16B-R	GW-2 Sentinel/Nat. Atten.	GW-2	3.08-13.08	6.5	Downgradient of former waste stabilization basin near buildings south of Merrill Road
16C	Natural Attenuation	-	91-96	20.7	Downgradient of former waste stabilization basin (deeper cluster well)
16E	Natural Attenuation	-	145-150	17.2	Downgradient of former waste stabilization basin (deeper cluster well)
39B-R	Natural Attenuation	-	WATER TABLE	Not Installed Yet	Near former waste stabilization basin
39D	Natural Attenuation	-	56-66	7.4	Near former waste stabilization basin (deeper cluster well)
39E	Natural Attenuation	-	225-235	7.1	Near former waste stabilization basin (deeper cluster well)
43A	Natural Attenuation	-	45-50	9.1	Upgradient perimeter (deeper cluster well)
43B	Natural Attenuation	-	15-20	4.8	Upgradient perimeter (shallow cluster well)
51-14	GW-2 Sentinel	GW-2	5-15	11.8	Near Buildings 52 and 119 and downgradient from NAPL area
54B	Perimeter	GW-3	8.5-13.5	1.9	Upgradient perimeter
78B-R	Perimeter	GW-3	1.82-11.82	2.5	GW-3 perimeter well near former interior landfill and Unkamet Brook
82B	Perimeter	GW-3	7-10	3.4	Downgradient perimeter
89A	Natural Attenuation	-	43-48	2.4	Perimeter near Unkamet Brook (deeper cluster well)
89B	Perimeter/Nat. Atten.	GW-3	4-7	1.0	Perimeter near Unkamet Brook
89D	Natural Attenuation	-	70-75	6.7	Perimeter near Unkamet Brook (deeper cluster well)
90A	Natural Attenuation	-	45-50	4.8	Downgradient perimeter (deeper cluster well)
90B	Perimeter/Nat. Atten.	GW-3	8-11	5.1	Downgradient perimeter
95A	Natural Attenuation	-	45-50	5.5	Downgradient perimeter near Unkamet Brook (deeper cluster well)

TABLE 2

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PLANT SITE 2 GROUNDWATER MANAGEMENT AREA

BASELINE GROUNDWATER QUALITY MONITORING PROGRAM

WELL ID	MONITORING WELL TYPE	APPLICABLE GROUNDWATER PERFORMANCE STANDARD	SCREEN INTERVAL (Ft. BGS)	APPROX. DEPTH TO WATER (Ft. BGS)	RATIONALE
95B	Perimeter/Nat. Atten.	GW-3	8-11	7.0	Downgradient perimeter near Unkamet Brook
95C	Natural Attenuation	-	95-100	6.0	Downgradient perimeter near Unkamet Brook (deeper cluster well)
111A	Natural Attenuation	-	45-50	12.3	Downgradient perimeter (deeper cluster well)
111B	Perimeter/Nat. Atten.	GW-3	10-15	12.7	Downgradient perimeter
114A	Natural Attenuation	-	45-50	6.9	Downgradient perimeter (deeper cluster well)
114B	Perimeter/Nat. Atten.	GW-3	5-10	5.3	Downgradient perimeter
114C	Natural Attenuation	-	88-93	6.3	Downgradient perimeter (deeper cluster well)
OBG-2	GW-2 Sentinel	GW-2	3-14.4	5.7	Near Building OP-3 (replaces well OBG-1)
GMA3-1	Perimeter	GW-3	WATER TABLE	Not Installed Yet	Proposed downgradient well near former Interior Landfill and Unkamet Brook
GMA3-2	GW-2 Sentinel	GW-2	5.19-15.19	6.9	Sentinel well downgradient of Former Waste Stabilization Basin, near building south of Merrill Road.
GMA3-3	Perimeter	GW-3	WATER TABLE	Not Installed Yet	Upgradient perimeter well south of Dalton Avenue (replaces wells 43B and 50B)
GMA3-4	GW-2 Sentinel	GW-2	3.57-13.57	8.5	Sentinel well between Buildings 105 and 51 (replaces well 27B)
GMA3-5	GW-2 Sentinel/Perimeter	GW-2/GW-3	WATER TABLE	Not Installed Yet	Proposed downgradient well between Building OP-3 and Housatonic River
GMA3-6	GW-2 Sentinel/ Source Area Sentinel	GW-2/GW-3	8-18	10.5	GW-2 sentinel/general source area characterization well near Building 109 (replaces well 101B)
GMA3-7	GW-2 Sentinel/Perimeter	GW-2/GW-3	WATER TABLE	Not Installed Yet	Near Building 59 and downgradient from NAPL area (replaces well 34B)
GMA3-8	GW-2 Sentinel	GW-2	WATER TABLE	Not Installed Yet	Near building south of Merrill Road (replaces well 33B)
GMA3-9	GW-2 Sentinel	GW-2	WATER TABLE	Not Installed Yet	Near Buildings 105 and 125 and former interior landfill (replaces well 74B)

Notes:

1. Although several natural attenuation monitoring wells ("A-Series", "C-Series", "D-Series", and "E-Series" wells) are located along Unkamet Brook or the site perimeter, they are not included as perimeter compliance wells for GW-3 standards as the screen intervals in these wells are placed in the lower portion of the aquifer.
2. Well IDs listed in italics are new or replacement wells.

TABLE 3

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PLANT SITE 2 GROUNDWATER MANAGEMENT AREA

GROUNDWATER/ SURFACE WATER ELEVATION AND NAPL MONITORING PROGRAM

LOCATION ID	SCREEN INTERVAL (Ft. BGS)	APPROX. DEPTH TO WATER (Ft. BGS)	MONITORING INTERVAL		
			WEEKLY MONITORING	MONTHLY MONITORING	QUARTERLY MONITORING
Monitoring Wells					
2A	45-50	5.6			X
6B	5-12	8.0			X
16A	44-50	8.9			X
16B-R	3.08-13.08	6.5			X
16C	91-96	20.7			X
16E	145-150	17.2			X
39B-R	WATER TABLE	N/A			X
39D	56-66	7.4			X
39E	225-235	7.1			X
43A	45-50	9.1			X
43B	15-20	4.8			X
50B	8.5-13.5	1.8			X
51-05	5-15	12.0		X	
51-06	5-15	11.9		X	
51-07	5-15	11.7		X	
51-08	5-15	12.4	X		
51-09	5-15	11.0		X	
51-11	5-15	9.9			X
51-12	5-15	8.0			X
51-13	5-15	11.2			X
51-14	5-15	11.9		X	
51-15	5-15	11.6		X	
51-16R	WATER TABLE	N/A		X	
51-17	5-15	11.0		X	
51-18	5-15	12.2		X	
51-19	5-15	11.6		X	
51-21	5-15	13.2	X		
54B	8.5-13.5	1.9			X
59-01	4-24	12.7		X	
59-03R	WATER TABLE	N/A		X	
59-07	4-24	13.9		X	
78B-R	1.82-11.82	2.5			X
82B	7-10	3.4			X
89A	43-48	2.4			X
89B	4-7	1.0			X
89D	70-75	6.7			X
90A	45-50	4.8			X
90B	8-11	5.1			X

TABLE 3

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

PLANT SITE 2 GROUNDWATER MANAGEMENT AREA

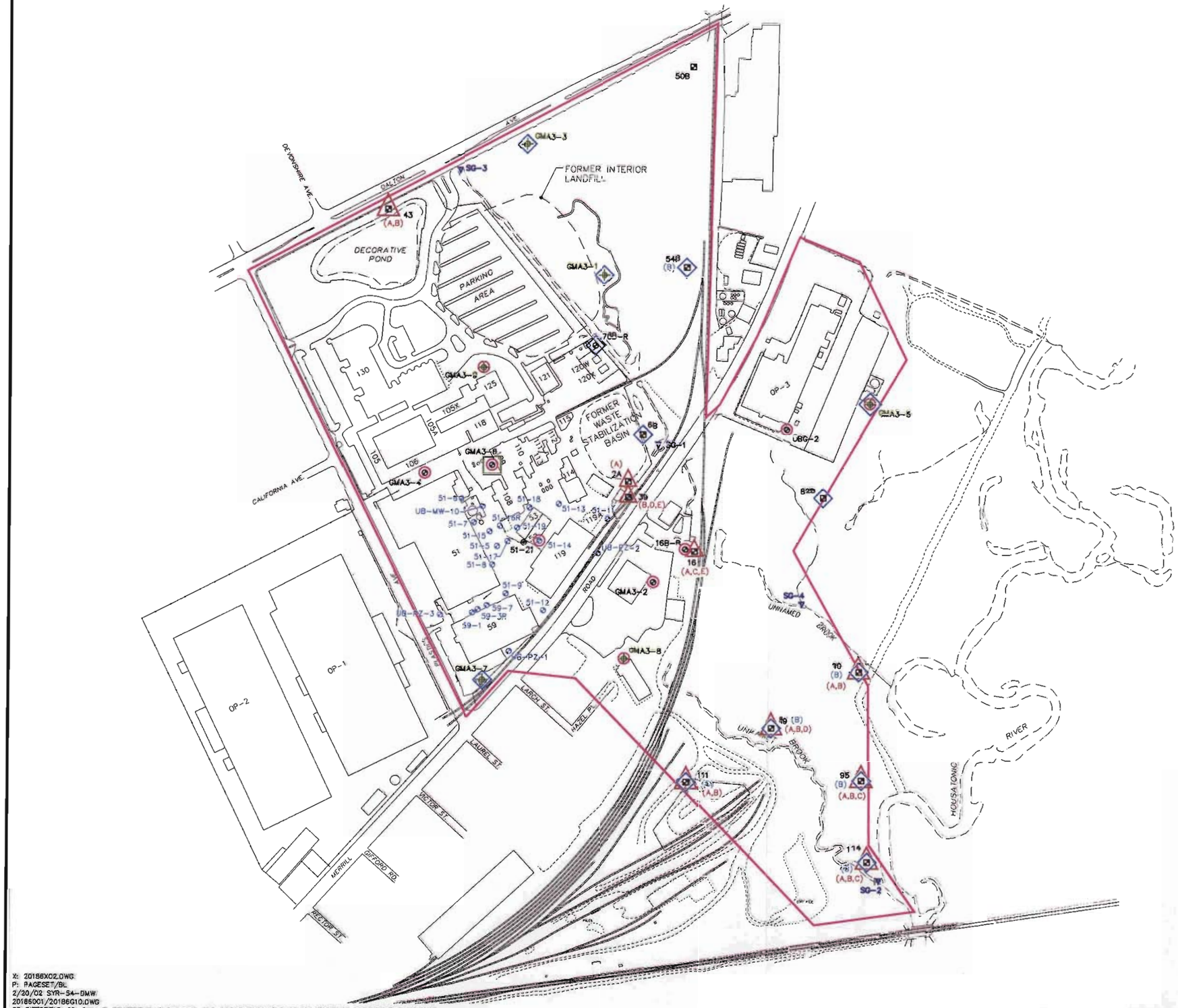
GROUNDWATER/ SURFACE WATER ELEVATION AND NAPL MONITORING PROGRAM

LOCATION ID	SCREEN INTERVAL (Ft. BGS)	APPROX. DEPTH TO WATER (Ft. BGS)	MONITORING INTERVAL		
			WEEKLY MONITORING	MONTHLY MONITORING	QUARTERLY MONITORING
95A	45-50	5.5			X
95B	8-11	7.0			X
95C	95-100	6.0			X
111A	45-50	12.3			X
111B	10-15	14.5			X
114A	45-50	6.9			X
114B	5-10	5.3			X
114C	88-93	6.3			X
GMA3-1	WATER TABLE	N/A			X
GMA3-2	5.19-15.19	6.9			X
GMA3-3	WATER TABLE	N/A			X
GMA3-4	3.57-13.57	8.5			X
GMA3-5	WATER TABLE	N/A			X
GMA3-6	8-18	10.5			X
GMA3-7	WATER TABLE	N/A			X
GMA3-8	WATER TABLE	N/A			X
GMA3-9	WATER TABLE	N/A			X
OBG-2	3-14.4	5.7			X
UB-MW-10	8-18	10.9		X	
UB-PZ-1	9-14	13.8			X
UB-PZ-2	4-14	10.0			X
UB-PZ-3	11-16	13.5		X	
Staff Gauges					
SG-1					X
SG-2					X
SG-3					X
SG-4					X

Notes:

1. Monitoring consists of periodic depth to water and NAPL thickness measurements, if present. NAPL will be removed from a well if a thickness of greater than 0.5 feet is observed during a monitoring event (except at well 51-21, which is equipped with an automated skimmer).

2. Well IDs listed in italics are new or replacement wells.
3. N/A: Information not available



LEGEND:

- SITE BOUNDARY
- FENCING
- 51-6 EXISTING MONITORING WELL
- 57 EXISTING MONITORING WELL CLUSTER
- 39 OR 51-6 ROUTINE NAPL MONITORING WELL
- 51-21 NAPL RECOVERY WELL (SKIMMER)
- GMA3-1 BASELINE GROUNDWATER MONITORING WELL LOCATION (PROPOSED WELL)
- SG-1 SURFACE WATER STAFF GAUGE
- PROPOSED GW-2 SENTINEL/ COMPLIANCE WELL
- PROPOSED GW-3 PERIMETER WELL
- PROPOSED NATURAL ATTENUATION MONITORING WELL
- PROPOSED GENERAL/SOURCE AREA SENTINEL WELL (GW-3)

NOTES:

1. FIGURE IS BASED ON PHOTOGRAPHIC MAPPING BY LOCKWOOD MAPPING, INC.–FLOWN IN APRIL 1990 AND DATA PROVIDED BY GENERAL ELECTRIC COMPANY.
2. NOT ALL PHYSICAL FEATURES SHOWN.
3. SITE BOUNDARIES, SAMPLE AND BUILDING LOCATIONS ARE APPROXIMATE.

0 400' 800'

APPROXIMATE SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

GMA 3 BASELINE MONITORING PROGRAM

REVISED BASELINE MONITORING PROGRAM

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

FIGURE 1

X: 20186X02.DWG
P: PAGESET/BL
2/20/02 SYR-S4-BMW
20186001/20186G10.DWG
GE_PITTSFIELD_CD_GMA_3_CONFIDENTIAL\REPORTS AND PRESENTATIONS\BASELINE PROGRAM ADDENDUM\FINAL\DWG\