GE
159 Plastics Avenue
Pittsfield, MA 01201
USA

Transmitted Via Overnight Courier

January 30, 2006

Mr. William P. Lovely, Jr. (MC HBO)
U.S. Environmental Protection Agency
EPA New England
One Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Re: **GE-Pittsfield/Housatonic River Site**
Groundwater Management Area 5 (GECD350)
Groundwater Quality Interim Monitoring Program

Dear Mr. Lovely:

In the *Groundwater Management Area 5 Baseline Groundwater Quality Interim Report for Fall 2003* (Fall 2003 GMA 5 Groundwater Quality Report) submitted in January 2004, the General Electric Company (GE) included proposals to the U.S. Environmental Protection Agency (EPA) to modify and extend baseline groundwater quality monitoring activities at GMA 5 (under a program referred to as the interim monitoring program) until such time as the soil-related Removal Actions at the Former Oxbow Areas A and C RAA associated with GMA 5 are completed and the needs for a long-term groundwater quality monitoring program may be determined. EPA conditionally approved the Fall 2003 GMA 5 Groundwater Quality Report by letter dated May 5, 2004.

Under the approved interim monitoring program, annual sampling (alternating between spring and fall) at selected GMA 5 wells was initiated in spring 2004. The results of that sampling event were provided in GE's *Groundwater Management Area 5 Groundwater Quality Interim Report for Spring 2004* (Spring 2004 GMA 5 Groundwater Quality Interim Report), submitted to EPA in July 2004. That report was conditionally approved by EPA in a letter dated November 10, 2004. However, in that letter, EPA stated that the presence of EPA's temporary dam across the Housatonic River adjacent to GMA 5 (which is utilized as part of EPA's remediation along the 1½-Mile Reach of the Housatonic River) may influence groundwater flow at the GMA and that future groundwater quality monitoring there should be postponed until it is demonstrated that groundwater flow is not being artificially influenced by the dam. In addition, EPA required that groundwater elevation monitoring should continue to be performed on a semi-annual basis. The postponement of the next scheduled groundwater sampling event at GMA 5 was confirmed during a technical meeting between GE, EPA, Massachusetts Department of Environmental Protection (MDEP), and their consultants held in Pittsfield on September 7, 2005.

GE subsequently conducted the fall 2005 groundwater elevation monitoring event at GMA 5 on November 8, 2005. This letter contains a summary of the data collected during that monitoring event, as well as the results of other semi-annual monitoring rounds conducted since the submittal of the Spring 2004 GMA 5 Groundwater Quality Interim Report. Finally, this letter contains a discussion of the variations in groundwater flow patterns observed at GMA 5 since the installation of the temporary dam in September 2003 and proposes a process to resume interim groundwater quality monitoring activities following the removal of the temporary dam and verification that groundwater flow has returned to baseline conditions.

I. Summary of Semi-Annual Groundwater Elevation Monitoring Activities

Three semi-annual groundwater elevation monitoring rounds have been performed at GMA 5 since the submittal of the last interim monitoring report. Specifically, these monitoring rounds were

- The fall 2004 monitoring event conducted on October 13, 2004;
- The spring 2005 monitoring event conducted on April 21, 2005; and
- The fall 2005 monitoring event conducted on November 8, 2005.

The groundwater elevation monitoring rounds involved measurement of groundwater levels at the wells listed in the attached Table 1. In addition, monitoring for the potential presence of NAPL was performed as part of these monitoring events. However, no NAPL was observed during these monitoring events or any of the previous monitoring events at GMA 5. The groundwater elevation data presented in Table 1 were used to prepare groundwater elevation contour maps for the respective monitoring events (see attached Figures 1, 2, and 3). As shown on those figures, the groundwater flow direction is generally north-northwest toward the Housatonic River. The hydraulic gradient is relatively flat in the central and eastern part of GMA 5, but increases slightly on the west side of the GMA and in the riverbank areas.

It should be noted that during these monitoring events, EPA was conducting removal activities within and along the banks of the Housatonic River at areas near GMA 5 as part of the 1½-Mile removal action. As mentioned above, and as shown on the figures, to assist in the continued 1½-Mile removal activities, EPA constructed a temporary dam across the river at a location between wells GMA5-7 and GMA5-4 during fall 2003. Dewatering on the downstream side of the dam resulted in a nearly dry river bed and a rise of river water levels upstream of the dam. Since installation of the dam, water levels measured in the GMA 5 wells on the downstream side of the dam were not appreciably lower than during prior monitoring events. However, increases in groundwater elevations of up to 3.5 feet have been recorded in wells upstream of the dam including GMA5-2, GMA5-4, GMA5-5, GMA5-6, GMA5-8, and C-2. Nonetheless, the general direction of groundwater flow remained similar to patterns observed before the temporary dam was constructed---i.e., groundwater flow remained generally to the north-northwest from the river banks and upland areas toward the river.

II. Historical Groundwater Flow Patterns at GMA 5

As mentioned above, groundwater elevation contours at GMA 5 generally reflect the topography of the site with flow towards the Housatonic River. However, the groundwater elevations measured in certain GMA 5 wells since fall 2003 were higher than those observed in earlier rounds of measurement obtained during the baseline program. These higher groundwater levels are likely attributed to the presence of the temporary dam constructed across the Housatonic River as part of EPA's 1½-Mile removal activities.

To assess the variations in groundwater flow patterns across GMA 5, GE has prepared the attached groundwater elevation hydrographs which illustrate the variation over time in groundwater elevations at selected pairs of wells (i.e., wells located along the riverbank and in upland areas within and near the Former Oxbow Areas A or C portions of the GMA) and, for wells located upstream of the temporary dam, river elevations (measured by EPA's datalogger located adjacent to the temporary dam and depicted as average river elevations on the dates when groundwater elevation data was collected). In addition, a hydrograph summarizing all available data from EPA's datalogger from 2003 to 2005 is attached. Those hydrographs illustrate the change in groundwater elevations after the installation of the temporary dam in summer 2003.

The hydrographs show a relatively consistent pattern of rising and lowering groundwater elevations in proportion to similar fluctuations in river elevations. However, the hydrographs of wells located upstream from the temporary dam (i.e., wells GMA5-4 v. GMA5-8, GMA5-5 v. C-1, GMA5-6 v. GMA5-2, and GMA5-6 v. C-2) indicate that periodic flow reversals away from the river have occurred in these areas. These flow reversals are likely short-term in nature due to rapidly rising river conditions following closure of the dam. The flow reversals appear to be limited to bank areas adjacent to the river, as the river elevations were occasionally noted at levels above the water level in wells installed along the riverbank, but rarely in upgradient wells located a greater distance from the river. Therefore, the overall groundwater flow direction in this portion of the GMA remains toward the river, even during times of elevated river conditions. No river elevation data is available downstream of the temporary dam, but the attached hydrographs from those wells (i.e., GMA5-3 v. GES-7 and GMA5-7 v. GMA5-1) indicate stabilized groundwater levels since installation of the dam and a consistent gradient toward the river.

Overall, the presence of the temporary dam may exert a localized influence on groundwater elevations in the immediate vicinity of the river, particularly in areas upstream from the dam. However, that influence appears to be limited in scope and duration such that the primary groundwater flow patterns at the GMA have remained consistent with those observed before the dam was constructed.

III. Proposed Future Activities and Schedule

Although the apparent influence of the temporary dam on groundwater flow patterns within GMA 5 appears to be minor, GE proposes to continue to postpone groundwater sampling activities until the temporary dam is removed by EPA after its completion of the 1½-Mile Reach removal activities. However, GE will continue semi-annual groundwater elevation monitoring while the dam is in place. Prior to conducting any further interim groundwater sampling activities at GMA 5, GE will submit the groundwater elevation results from the first monitoring round performed after removal of the temporary dam to EPA. If those results verify that groundwater flow patterns have returned to more stabilized/baseline conditions, GE will also provide a proposed schedule to resume interim sampling activities and will initiate those activities following EPA approval. Otherwise, GE will provide a proposal to continue to monitor groundwater elevations at GMA 5 until groundwater flow conditions stabilize and interim sampling activities can be initiated.

The temporary dam is tentatively scheduled to be removed in spring 2006, which is approximately when the next semi-annual groundwater elevation monitoring event is scheduled for GMA 5 (i.e., April 2006). If removal of the dam is completed prior to that monitoring event, GE will conduct the monitoring round and present the results and proposals discussed above to EPA by July 31, 2006, in accordance with the previously-approved schedule for GMA 5 reporting. However, if the dam is not removed prior to the spring monitoring event, GE will conduct the elevation monitoring round but postpone the submittal of the results and proposal to resume sampling until completion of a groundwater elevation monitoring round after removal of the dam. If removal of the dam is underway during the scheduled monitoring dates, GE will delay the monitoring round until removal is completed, to the extent practical. In either circumstance, GE will provide the monitoring results in its monthly reports on overall activities at the GE-Pittsfield/Housatonic River Site and have discussions with EPA regarding a schedule for resuming groundwater sampling. To ensure that all monitoring wells are monitored in the spring 2006 round, GE will attempt to locate well GMA5-5 (using surveyors if necessary) and open well GMA5-4 prior to the scheduled monitoring date. If feasible, these activities will be performed in conjunction with upcoming soil sampling activities related to Former Oxbow Areas A and C. Otherwise this preliminary work will be conducted once arrangements are made with the property owner.

Prior to performance of the spring 2006 field activities, GE will provide EPA with 7 days advance notice to confirm the schedule for removal of the temporary dam and to allow the assignment of oversight personnel.

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

Sincerely,

Richard W. Gates
Remediation Project Manager

Enclosure
V:\GE_Pittsfield_CD_GMA_5\Reports and Presentations\GW Rpt Fall 2005\04962196Rpt.doc

cc: Dean Tagliaferro, EPA
Rose Howell, EPA (CD-ROM)
Tim Conway, EPA (cover letter only)
Holly Inglis, EPA (CD-ROM)
K.C. Mitkevicius, USACE (CD-ROM)
Linda Palmieri, Weston (hard copy and CD-ROM)
Anna Symington, MDEP (cover letter only)
Robert Bell, MDEP (cover letter only)
Susan Steenstrup, MDEP
Thomas Angus, MDEP (cover letter only)
Mayor James Ruberto, City of Pittsfield
Pittsfield Commissioner of Public Health
Thomas Hickey, Director, PEDA
Jeffery Bernstein, Bernstein, Cushner & Kimmel
Theresa Bowers, Gradient
Nancy E. Harper, MA AG
Dale Young, MA EOEA
Michael Carroll, GE (cover letter only)
Andrew Silfer, GE (CD-ROM)
Rod McLaren, GE (cover letter only)
James Nuss, BBL
James Bieke, Goodwin Procter
John Ciampa, SPECTRA
Property Owner - Parcel I8-23-6/I9-5-1
Property Owner - Parcel I8-23-9
Property Owner - Parcel I8-23-10
Public Information Repositories
GE Internal Repositories

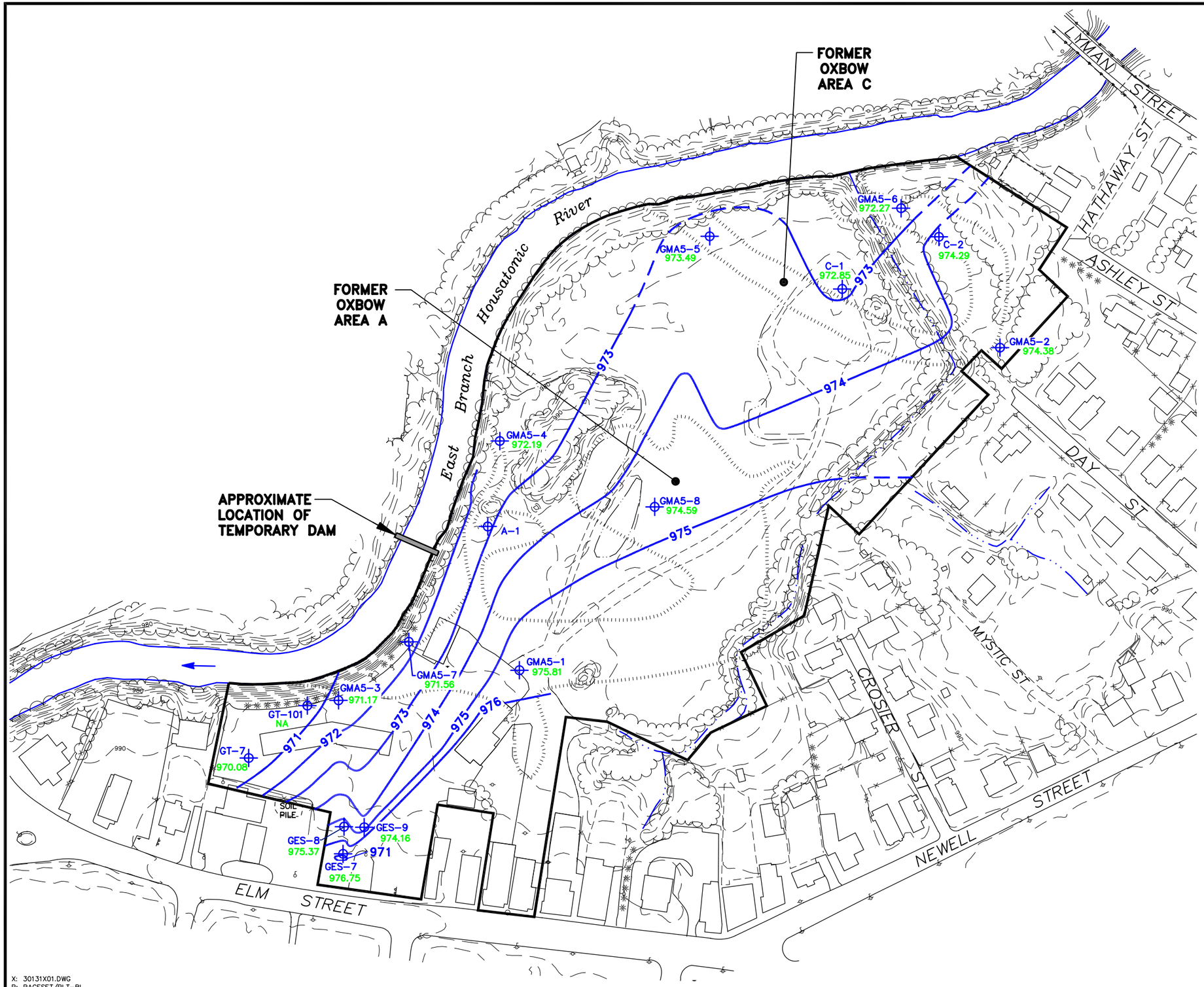
TABLE 1
FALL 2004-FALL 2005 GROUNDWATER ELEVATION MONITORING DATA

GROUNDWATER MANAGEMENT AREA 5
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

Well ID	Fall 2004 GW Elevation (feet) (10/13/2004)	Spring 2005 GW Elevation (feet) (4/21/2005)	Fall 2005 GW Elevation (feet) (11/8/2005)
Oxbow Area A Wells			
GES-7	976.75	977.90	976.89
GES-8	975.37	980.15	977.06
GES-9	974.16	976.12	974.84
GMA 5-1	975.81	976.69	975.68
GMA 5-3	971.17	972.46	972.39
GMA 5-4	972.19	973.62	NA[2]
GMA 5-7	971.56	972.54	971.95
GMA 5-8	974.59	975.44	973.08
GT-7	970.08	971.90	972.90
GT-101	NA[3]	NA[3]	NA[3]
GT-102	NA[3]	NA[3]	NA[3]
RW-2	NA[3]	NA[3]	NA[3]
Oxbow Area C Wells			
C-1	972.85	973.91	972.14
C-2	974.29	974.64	973.45
GMA 5-2	974.38	974.76	973.36
GMA 5-5	973.49	NA[4]	NA[4]
GMA 5-6	972.27	973.78	971.62

Notes:

1. NA indicates information not available.
2. Well was unable to be opened.
3. Well was monitored, but measuring point elevation not available.
4. Well was unable to be located.



LEGEND:

- GMA 5 BOUNDARY
- FORMER OXBOW/LOW-LYING AREA
- FENCE
- STREAMS WITH INTERMITTENT FLOW
- GROUNDWATER MONITORING WELL LOCATION
- 973.45 GROUNDWATER ELEVATION
- 974 GROUNDWATER ELEVATION CONTOUR (FT AMSL), DASHED WHERE INFERRED

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. CONSTRUCTION PLANS.
2. FORMER RIVER CHANNEL AND LOWLAND AREAS DELINEATED USING THE CITY OF PITTSFIELD'S RECHANNELIZATION MAPPING, 1940.
3. NOT ALL PHYSICAL FEATURES SHOWN.
4. SITE PROPERTY BOUNDARIES ARE APPROXIMATE.
5. ALL MONITORING WELL LOCATIONS ARE APPROXIMATE.
6. GROUNDWATER LEVEL MEASUREMENTS OBTAINED OCTOBER 13, 2004.
7. AVERAGE RIVER ELEVATION AT TEMPORARY DAM ON OCTOBER 13, 2004: 971.80 FT. AMSL.
8. NA = SURVEY INFORMATION NOT AVAILABLE.

0 150' 300'

GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD MASSACHUSETTS

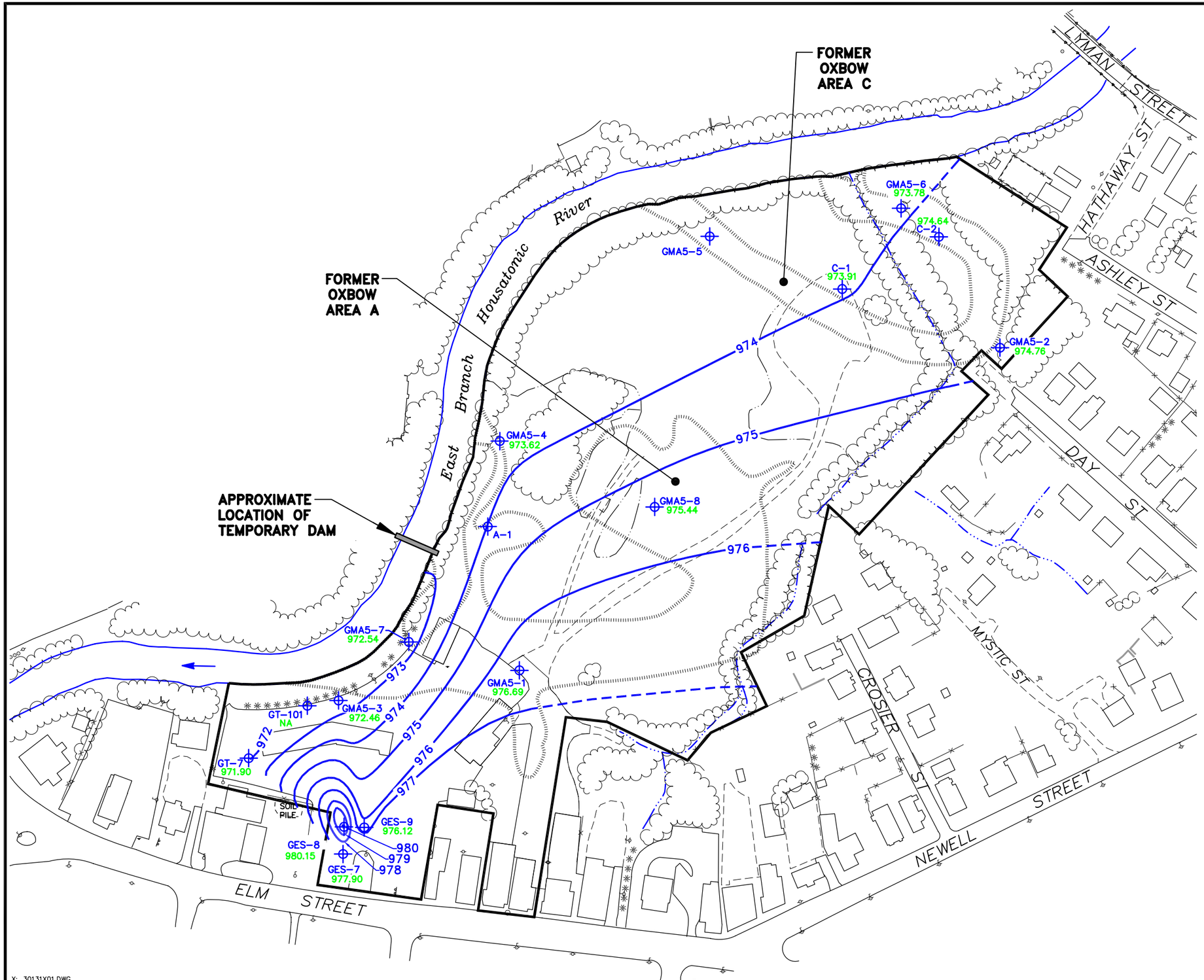
GMA 5 INTERIM MONITORING PROGRAM

WATER TABLE CONTOUR MAP - FALL 2004

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 1

X: 30131X01.DWG
P: PAGESET/PLT-BL
1/30/06 SYR-85-NES WLJ RCA
N/30131004/30131W01.DWG



LEGEND:

- GMA 5 BOUNDARY
- FORMER OXBOW/LOW-LYING AREA
- FENCE
- STREAMS WITH INTERMITTENT FLOW
- GROUNDWATER MONITORING WELL LOCATION
- 973.45 GROUNDWATER ELEVATION
- 974 GROUNDWATER ELEVATION CONTOUR (FT AMSL), DASHED WHERE INFERRED

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. CONSTRUCTION PLANS.
2. FORMER RIVER CHANNEL AND LOWLAND AREAS DELINEATED USING THE CITY OF PITTSFIELD'S RECHANNELIZATION MAPPING, 1940.
3. NOT ALL PHYSICAL FEATURES SHOWN.
4. SITE PROPERTY BOUNDARIES ARE APPROXIMATE.
5. ALL MONITORING WELL LOCATIONS ARE APPROXIMATE.
6. GROUNDWATER LEVEL MEASUREMENTS OBTAINED APRIL 21, 2005.
7. AVERAGE RIVER ELEVATION AT TEMPORARY DAM ON APRIL 21, 2005: 972.96 FT. AMSL.
8. NA = SURVEY INFORMATION NOT AVAILABLE.
9. WELL GMA5-5 WAS NOT ABLE TO BE LOCATED.

0 150' 300'

GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD MASSACHUSETTS

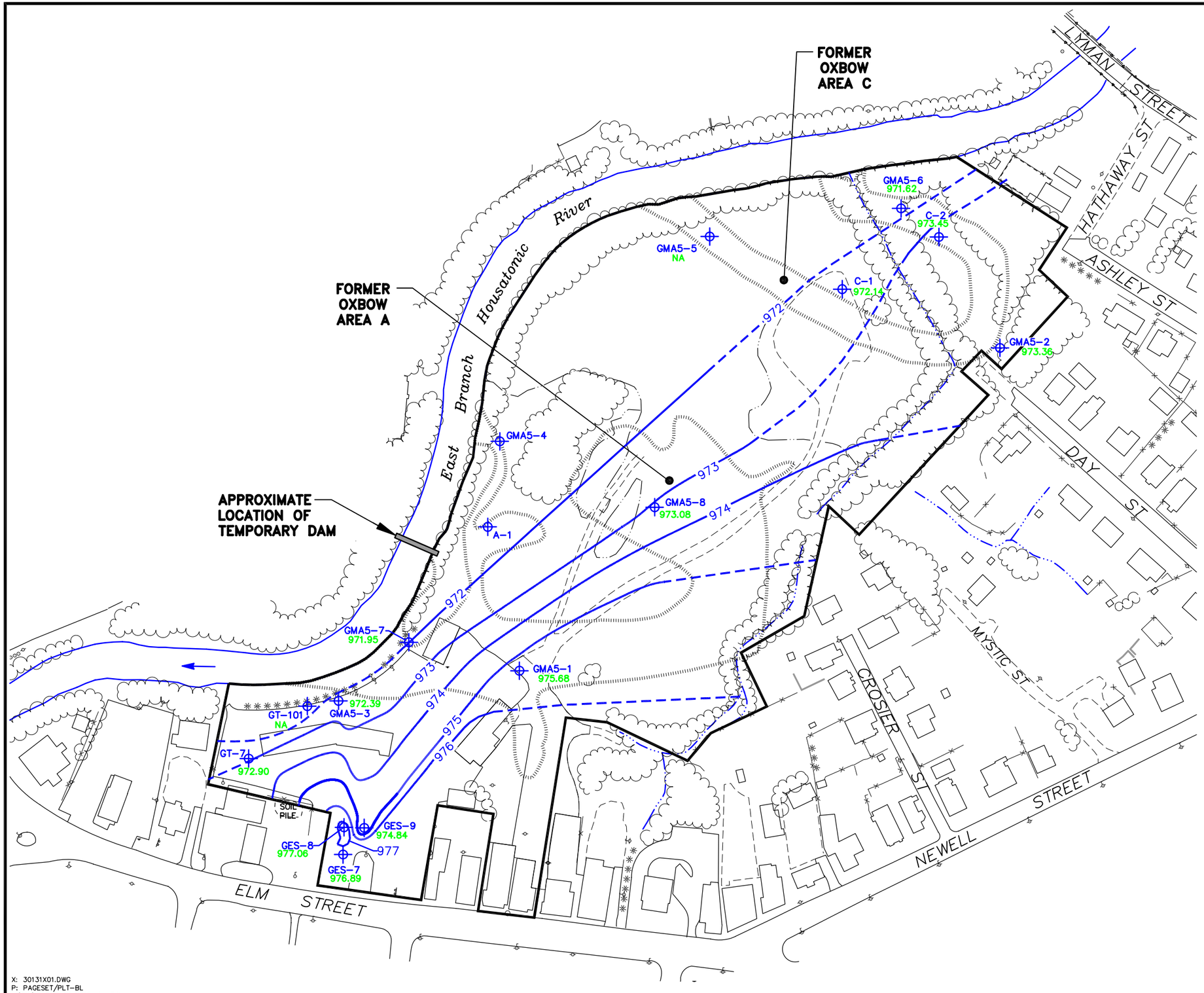
GMA 5 INTERIM MONITORING PROGRAM

WATER TABLE CONTOUR MAP - SPRING 2005

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 2

X: 30131X01.DWG
P: PAGESET/PLT-BL
1/30/06 SYR-85-NES WLJ RCA
N/30131004/30131W02.DWG



LEGEND:

- GMA 5 BOUNDARY
- FORMER OXBOW/LOW-LYING AREA
- FENCE
- STREAMS WITH INTERMITTENT FLOW
- GROUNDWATER MONITORING WELL LOCATION
- 973.45 GROUNDWATER ELEVATION
- 972 GROUNDWATER ELEVATION CONTOUR (FT AMSL), DASHED WHERE INFERRED

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. CONSTRUCTION PLANS.
2. FORMER RIVER CHANNEL AND LOWLAND AREAS DELINEATED USING THE CITY OF PITTSFIELD'S RECHANNELIZATION MAPPING, 1940.
3. NOT ALL PHYSICAL FEATURES SHOWN.
4. SITE PROPERTY BOUNDARIES ARE APPROXIMATE.
5. ALL MONITORING WELL LOCATIONS ARE APPROXIMATE.
6. GROUNDWATER LEVEL MEASUREMENTS OBTAINED NOVEMBER 8, 2005.
7. RIVER ELEVATION AT LYMAN STREET BRIDGE ON NOVEMBER 9, 2005: 971.01 FT. AMSL, NO DATA AVAILABLE FROM TEMPORARY DAM ON THIS DATE.
8. NA = SURVEY INFORMATION NOT AVAILABLE
9. WELL GMA5-5 WAS NOT ABLE TO BE LOCATED.

0 150' 300'

GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
PITTSFIELD MASSACHUSETTS

GMA 5 INTERIM MONITORING PROGRAM

WATER TABLE CONTOUR MAP - FALL 2005

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 3

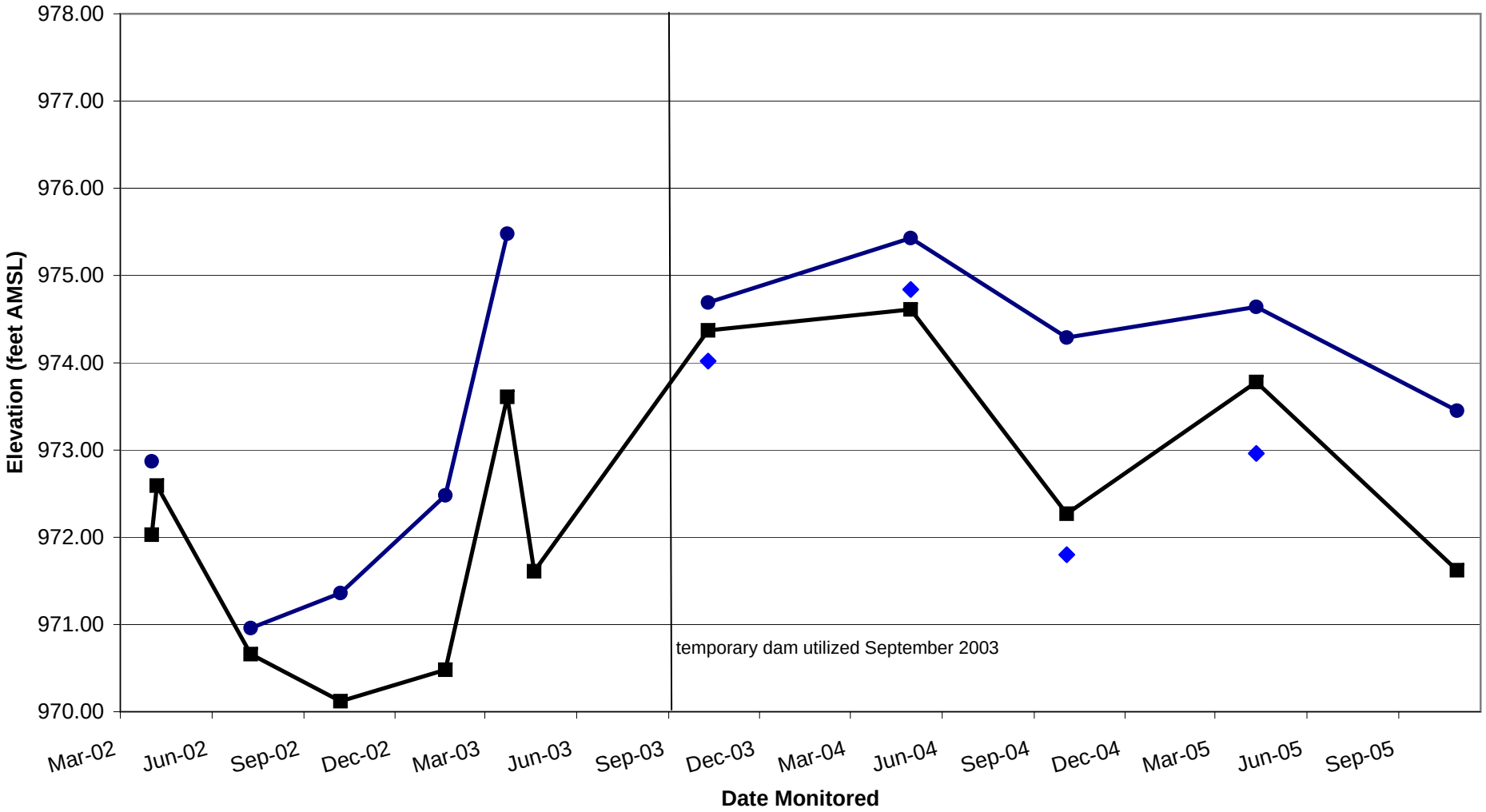
X: 30131X01.DWG
P: PAGESET/PLT-BL
1/30/06 SYR-85-NES WLJ RCA
N/30131004/30131W03.DWG

Attachments

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

Groundwater Management Area 5
Former Oxbow Area C
General Electric Company - Pittsfield, Massachusetts

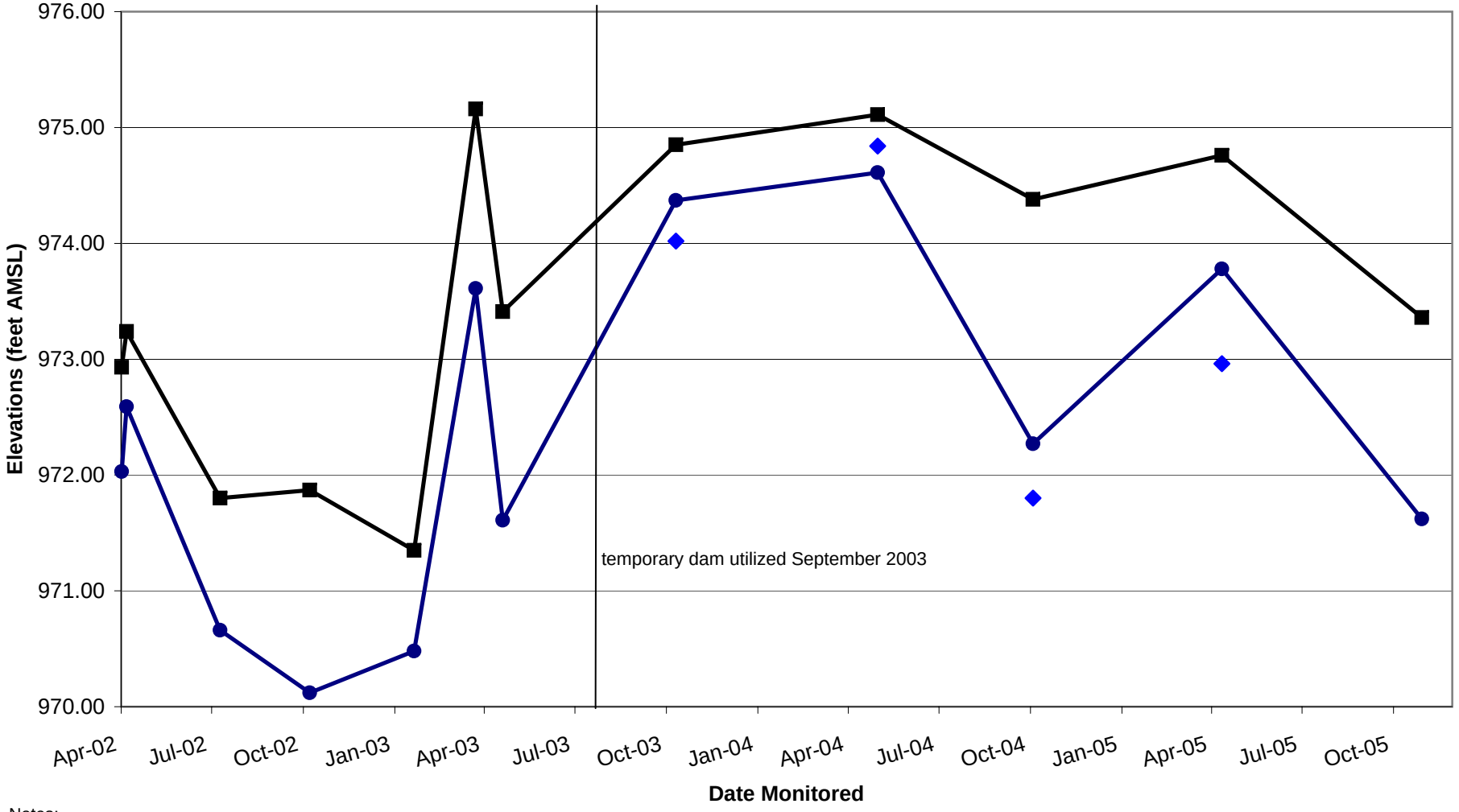
Historical Groundwater Elevations
Wells GMA5-6 (R)[1] v. C-2



Notes:
[1] R = well located in the vicinity of the Housatonic River.
Temporary dam installation completed in September 2003.

Groundwater Management Area 5
Former Oxbow Area C
General Electric Company - Pittsfield, Massachusetts

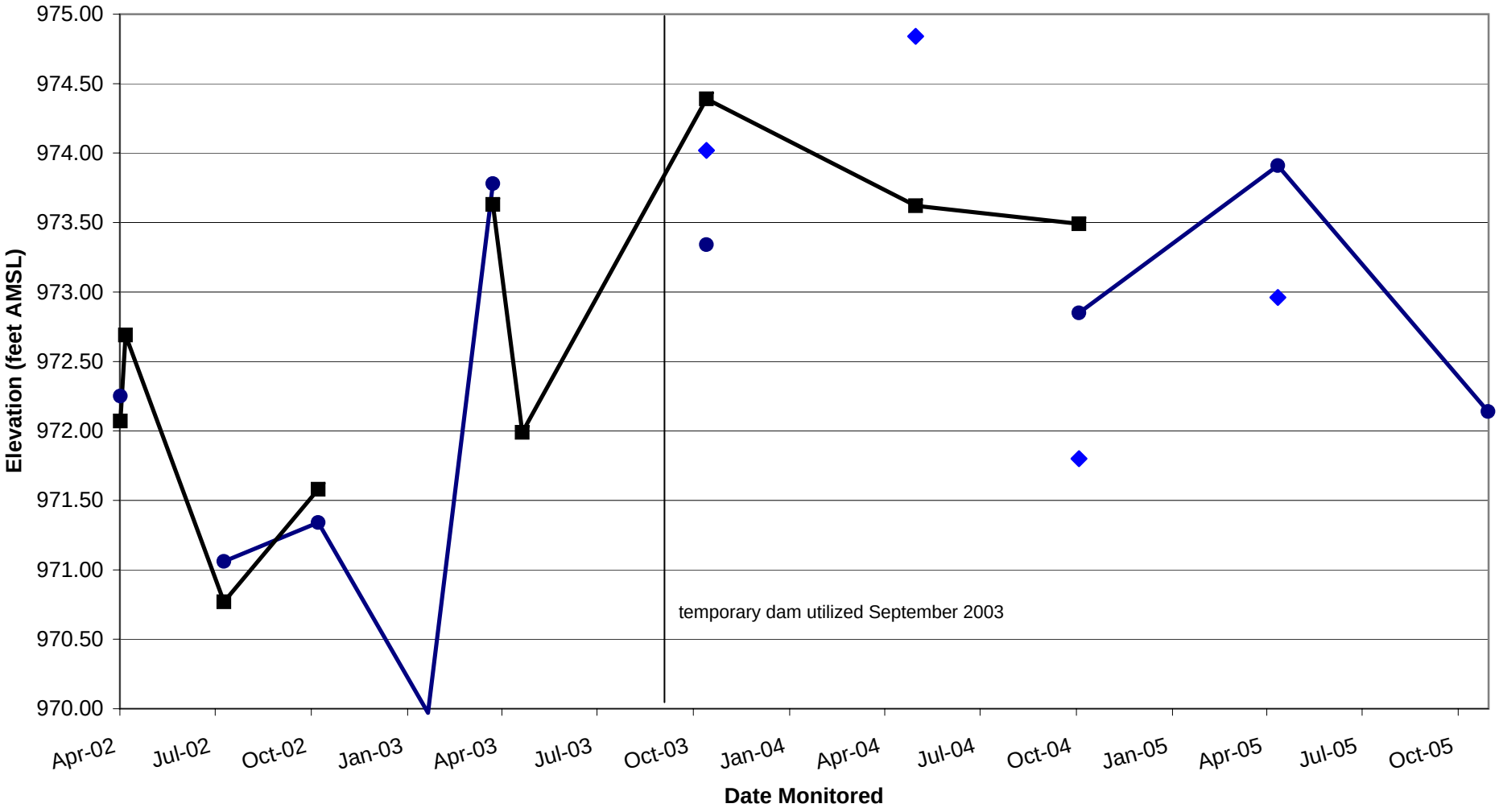
Historical Groundwater Elevations
Wells GMA5-6 (R)[1] v. GMA5-2



Notes:
[1] R = well located in the vicinity of the Housatonic River.
Temporary dam installation completed in September 2003.

Groundwater Management Area 5
Former Oxbow Area C
General Electric Company - Pittsfield, Massachusetts

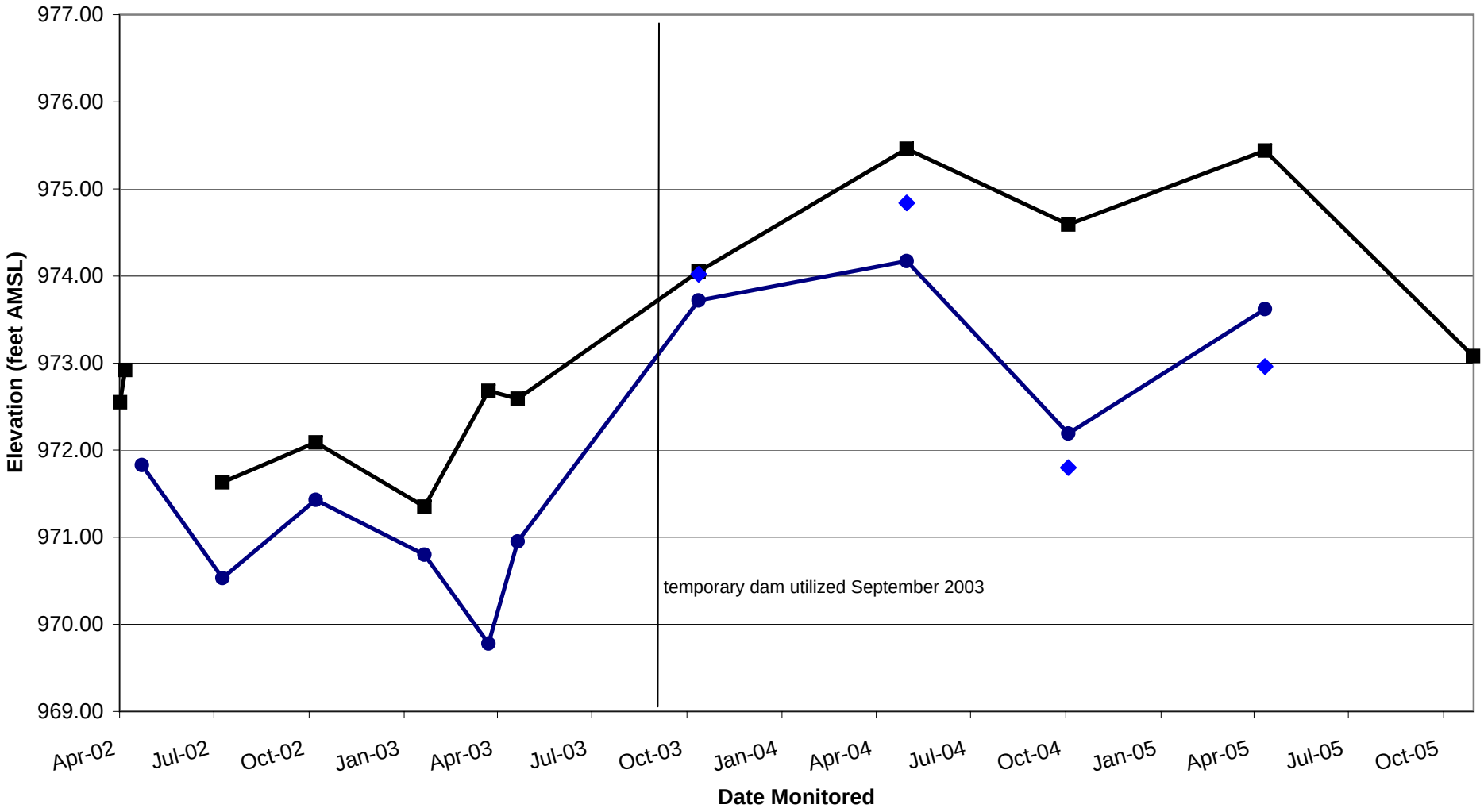
Historical Groundwater Elevations
Wells GMA5-5 (R)[1] v. C-1



Notes:
[1] R = well located in the vicinity of the Housatonic River.
Temporary dam installation completed in September 2003.

Groundwater Management Area 5
Former Oxbow Area C
General Electric Company - Pittsfield, Massachusetts

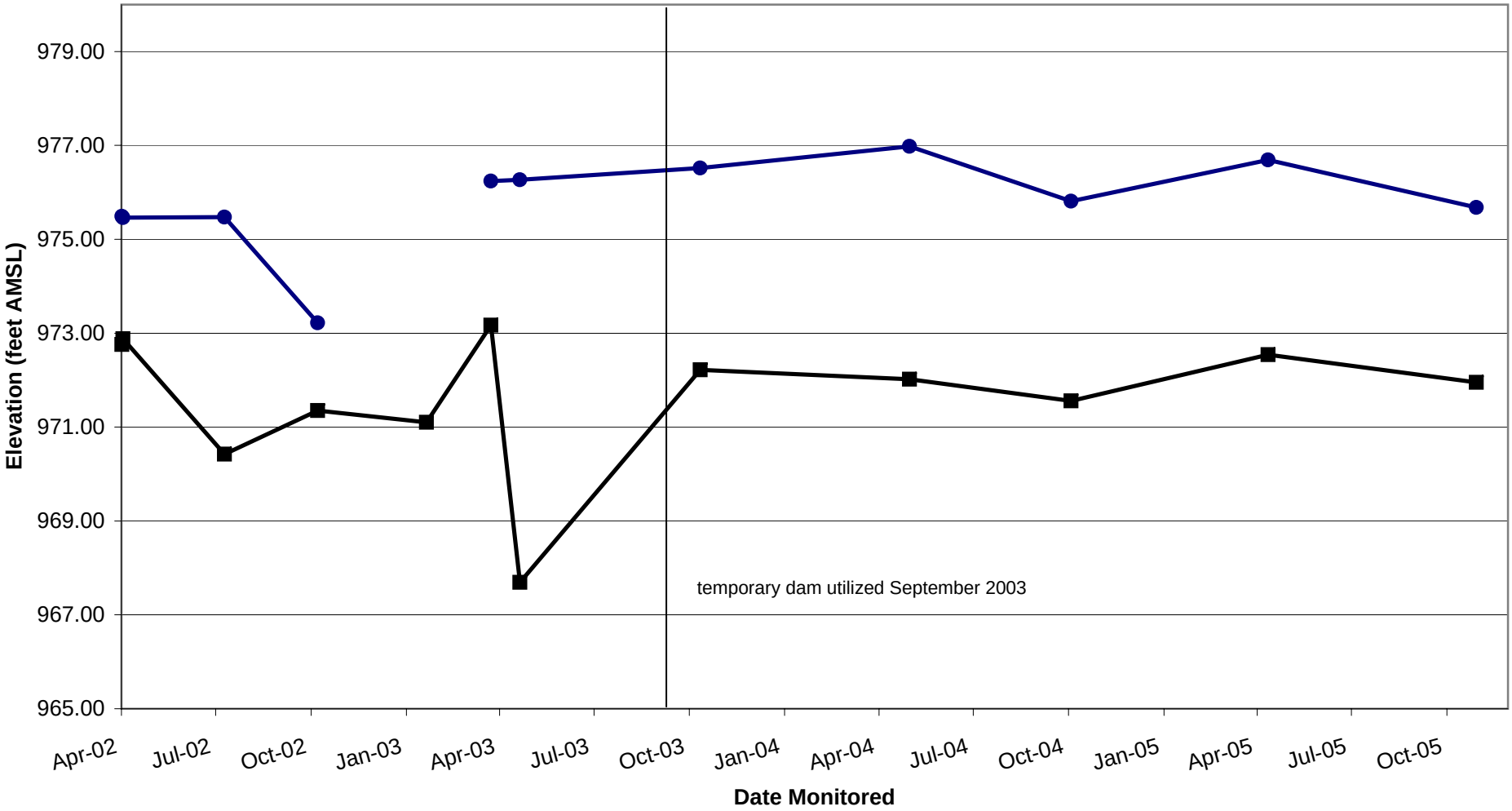
Historical Groundwater Elevations
Wells GMA5-4 (R)[1] v. GMA5-8



Notes:
[1] R = well located in the vicinity of the Housatonic River.
Temporary dam installation completed in September 2003.

Groundwater Management Area 5
Former Oxbow Area C
General Electric Company - Pittsfield, Massachusetts

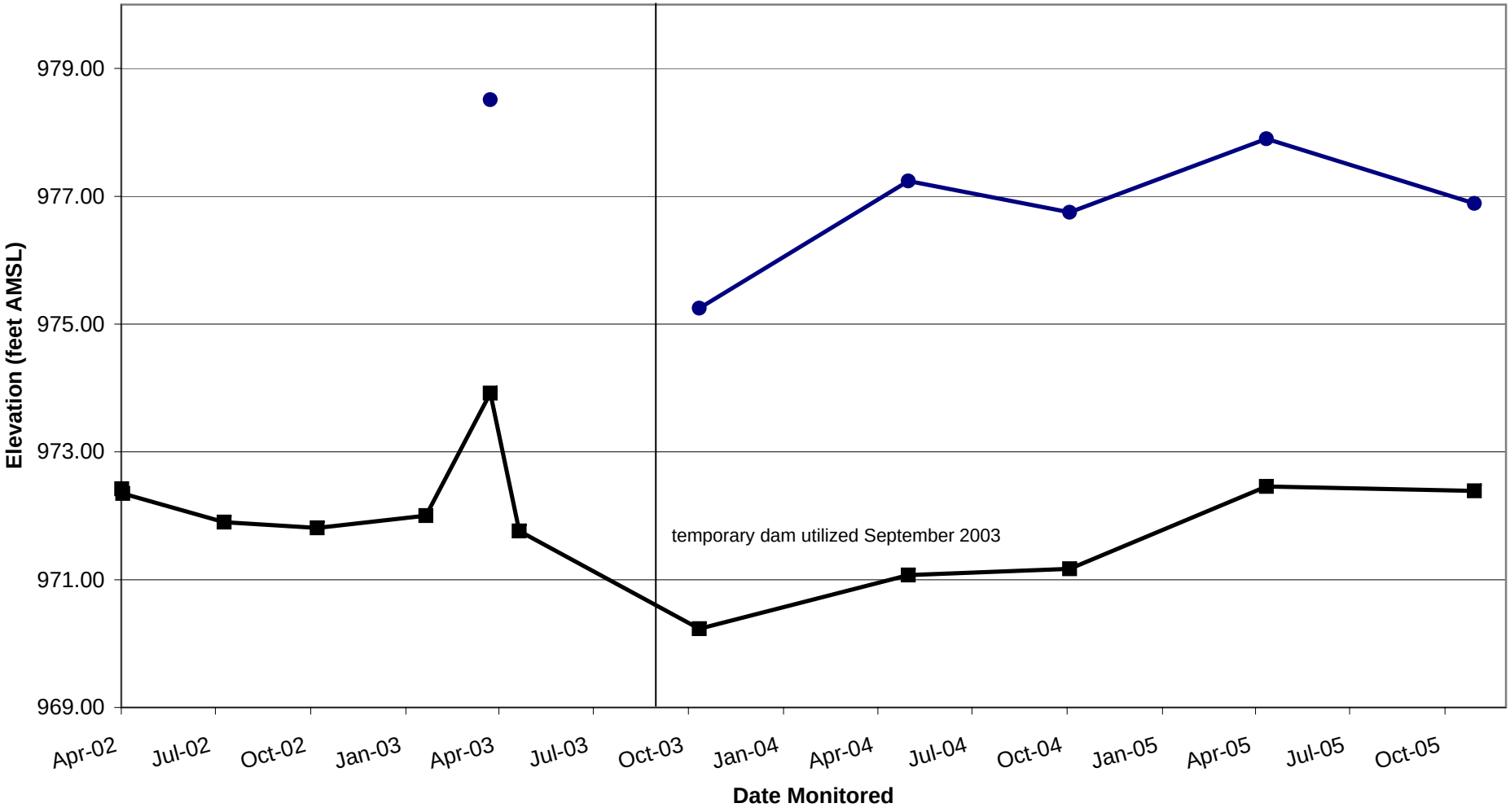
Historical Groundwater Elevations
Wells GMA5-7 (R)[1] v. GMA5-1



Notes:
[1] R = well located in the vicinity of the Housatonic River.
Temporary dam installation completed in September 2003.

Groundwater Management Area 5
Former Oxbow Area C
General Electric Company - Pittsfield, Massachusetts

Historical Groundwater Elevations
Wells GMA5-3 (R)[1] v. GES-7



Notes:
[1] R = well located in the vicinity of the Housatonic River.
Temporary dam installation completed in September 2003.