May 19, 2007

Docket No. 030-03754
License No. 06-00217-06
Mail Control No. 141686

Mr. James Schmidt
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Subject: **NRC Request for Additional Information – April 7, 2008**

References: (A) Letter, J. Schmidt (NRC) to J. Conant (ABB), dated April 7, 2008

Dear Mr. Schmidt:

ABB Inc. ("ABB") is providing additional information to facilitate NRC's review of Revision 1 of the site-wide Decommissioning Plan for the CE Windsor Site at 2000 Day Hill Road in Windsor, Connecticut. NRC requested additional information in your letter of April 7, 2008 (Reference A). ABB and our decommissioning contractor (MACTEC, Inc.) discussed the RA1 with you in a telephone conference on April 30, 2008. This submittal provides the requested information, which was discussed and clarified during the conference call.

If there are any questions or comments regarding this submittal, please contact ABB's Radiation Safety Officer, Heath Downey, at (207) 939-5560 or me at (860) 285-5002 or by e-mail at john.conant@us.abb.com.

Sincerely,

ABB INC.

John F. Conant
Senior Project Manager

Enclosure

xc: Laurie Kauffman (NRC Region I)
Charles Petrillo (Town of Windsor)
Edward Wilds (CTDEP)

Response to NRC Request for Additional Information
Dated April 7, 2008

CE Windsor Site
Windsor, Connecticut

NRC License Number 06-00217-06
Docket Number 030-03754

May 19, 2008

Request for Additional Information Question 1:
The revised DP includes provisions to allow for unconditional release of the southern part of Building 3. While section 1.5 of the revised DP references the approved site-specific soil derived concentration guideline levels (DCGLs), it does not specify the dose-based surface contamination DCGLs that will be used for this structure and other remaining surfaces following remediation.

Please provide the surface contamination DCGLs that will be used to support unconditional release of the facility. If you intend to use the screening DCGLs described in section 6.6.5 of NUREG 1757, Volume 1, Rev. 2., please provide justification why the basis for use of the screening DCGLs is applicable for use at your site. If you intend to use site-specific surface contamination DCGLs, please provide the dose modeling information used to derive the values as described in NUREG-1757.

Response:
ABB is currently evaluating both the NRC screening values for building surface contamination and deriving site-specific building surface contamination DCGLs. Since Final Status Surveys of the southern part of Building 3 will not be performed until after other decommissioning activities are complete in the area, this is not seen as a critical activity for approval of the DP. Therefore ABB will commit to providing dose-based building surface contamination DCGLs in a separate or future revision to the Decommissioning Plan. This approach will allow the currently planned decommissioning activities to commence in a timely manner while building surface contamination DCGLs are being evaluated. They will be submitted at the earliest opportunity to allow sufficient time for State and NRC review.

Request for Additional Information Question 2:
The revised DP includes provisions for the supplemental remediation of the Burning Grounds previously released by the NRC in 1989. Instead of calculating site-specific DCGLs for the Ra-226 and Th-232 identified at this location, you specified that you will use the NRC screening values as the remediation criteria for this area.

Please specify the values for the screening values that you intend to use for this location and confirm that you understand that all of the radiological contaminants remaining at this location will be assessed using the unity rule considering both the site specific and screening DCGLs as applicable.

Response:
The Burning Grounds area has residual radioactivity resulting from past operations involving the burning of zirconium and thorium metals for disposal. These materials were processed more than 30 years ago. As such, the residual materials are stable and localized in surficial soils as evidenced by the characterization data.

Furthermore, the Burning Grounds area is relatively small with respect to the remaining areas for remediation and the Site as a whole. The NRC screening values for surface soil contamination release levels were published in Federal Register on December 7, 1999 (64 FR 68395) in Table 3. Dose modeling for the NRC screening values utilized a residential exposure pathway that included ingestion of plants and animals grown on the property. This is similar to the exposure pathway for the approved site-specific DCGLs (residential farmer scenario). The default parameters for dose modeling of the NRC screening values have been established to be highly conservative. The combination of these factors indicates that it would be acceptable to use the NRC screening values as DCGLs for the Burning Grounds.

Due to the period of time since these materials were last processed (more than 30 years ago) and the short half-life of decay progeny for both Th-232 and Ra-226, it is assumed that decay progeny will have achieved secular equilibrium. Consequently the NRC screening values selected are those indicated in Table 3 with a "+C" which denotes that contributions from the complete chain of progeny in equilibrium with the parent radionuclide are included in the screening value. Therefore the DCGLs for the Burning Grounds will include Th-232 (+C) 1.1 pCi/g and Ra-226 (+C) 0.6 pCi/g in addition to the existing site-specific DCGLs (total uranium 557 pCi/g and Co-60 5pCi/g). Since this area has a mixture of radionuclides, the sum-of-the fractions' rule will be used for determining compliance with license termination criteria.

Request for Additional Information Question 3:
On September 13, 2007, ABB submitted a final status survey (FSS) report of the Windsor site, excluding the FUSRAP areas, to the NRC and requested that the surveys be used to support removal of these areas from the NRC license. This request was amended on December 27, 2007, to effectively exclude those areas of the Windsor site that immediately surround the FUSRAP areas yet to be remediated. As a result, many of the areas which have already been remediated and were included in the September 13, 2007, submission will not be removed from the NRC license until the FUSRAP remediation is complete. These surveys may not be relevant in the future since they may be negatively impacted by the activities described in the revised DP.

Please provide a description of the mechanism(s) that will be used to assure the FSS reports submitted to the NRC for these areas accurately reflect the impact of the proposed revised DP activities. Any proposed mechanisms must include the collection of detailed records of decommissioning activities in and around these areas that can be used to demonstrate that the

original FSSs are still valid. Conversely, you can agree to conduct new FSSs for these areas after site remediation is complete.

Response:
Due to the uncertainty of how some of the buffer areas may be utilized during the currently planned decommissioning activities (equipment storage, waste processing, etc.), it may be impractical to maintain necessary and sufficient records demonstrating that the original FSSs are still valid. Therefore new FSSs for these areas are expected to be performed after decommissioning activities are complete.

Request for Additional Information Question 4:
Section 4.5 of the revised DP provides a description of a post-remediation radiological groundwater monitoring program expected to be used at the site. Based upon a December 27, 2007, letter, ABB has requested a partial site release for about half of the Windsor site. Since the potential exists for the revised DP activities to impact groundwater in some of the areas being considered for partial site release, which is expected to be completed before the completion of the remaining remediation activities, implementation of this radiological groundwater monitoring program is considered prudent.

Please provide a radiological groundwater monitoring plan that will be used to demonstrate that activities described in the revised DP do not impact those areas expected to be released from the NRC license as requested. This plan should include the proposed monitoring sites, frequency of monitoring, a potentiometric map of the selected monitoring wells, and nuclides to be assessed.

Response:
Groundwater flow conditions vary across the Windsor Site. Recent interpreted groundwater contours (October 2007) and a potentiometric map are shown on attached Figure 1. In general, groundwater associated with the proposed remediation areas in the southern portion of the Site flows to the east-northeast. Groundwater associated with the central and northern portions of the Site flows to the northeast towards Goodwin Pond and to the northwest towards the Farmington River.

Groundwater associated with the Woods Area, Drum Burial Pit, Clamshell Pile, Burning Grounds, Debris Piles, and Site Brook flows to the northwest towards the Farmington River. The portions of the Windsor Site proposed for partial site release are located cross-gradient or upgradient of these remediation areas. Therefore, remediation of these areas of the Site will not impact groundwater conditions in the portions of the Windsor Site proposed for partial site release.

Groundwater associated with the Industrial and Radiological Waste Lines flows to the east and northeast towards Small Pond, Goodwin Pond, and the unnamed tributary that connects these two ponds. Portions of the Windsor Site proposed for partial site release are downgradient of this remediation area, with the partial release boundary located approximately 600 to 1,000 feet beyond the proposed limits of remediation in this area.

Groundwater associated with the Equipment Storage Yard flows to the east and northeast towards Small Pond. Portions of the Windsor Site proposed for partial site release are downgradient of this remediation area, with the partial release boundary located approximately 300 feet beyond the proposed limits of remediation in this area.

Groundwater associated with the Buildings 3 and 6 areas flows primarily to northeast towards Small Pond. Portions of the Windsor Site proposed for partial site release are upgradient, cross-gradient, and downgradient of this remediation area. The closest downgradient location of the partial release boundary is approximately 1,000 feet beyond the proposed limits of remediation in this area.

Proposed Groundwater Monitoring Plan

Radiological groundwater monitoring is proposed for areas of the Site where remediation is proposed. The proposed monitoring locations, frequency of monitoring, and constituents of concern that will be monitored for in each area of the Site are provided below.

Currently, five monitoring wells located downgradient of the previous remediation areas are being monitored for radiological constituents to meet the requirements of the Connecticut Department of Environmental Protection (CTDEP) Remediation Standard Regulations (RSRs). This includes monitoring wells MW-0608, MW-0610R, MW-1203, MW-1507, and MW-1509 as shown on the attached Figure 2. Groundwater monitoring at these locations for total uranium will continue until adequate data have been collected to meet the requirements specified in the CTDEP RSRs to allow groundwater monitoring to be discontinued.

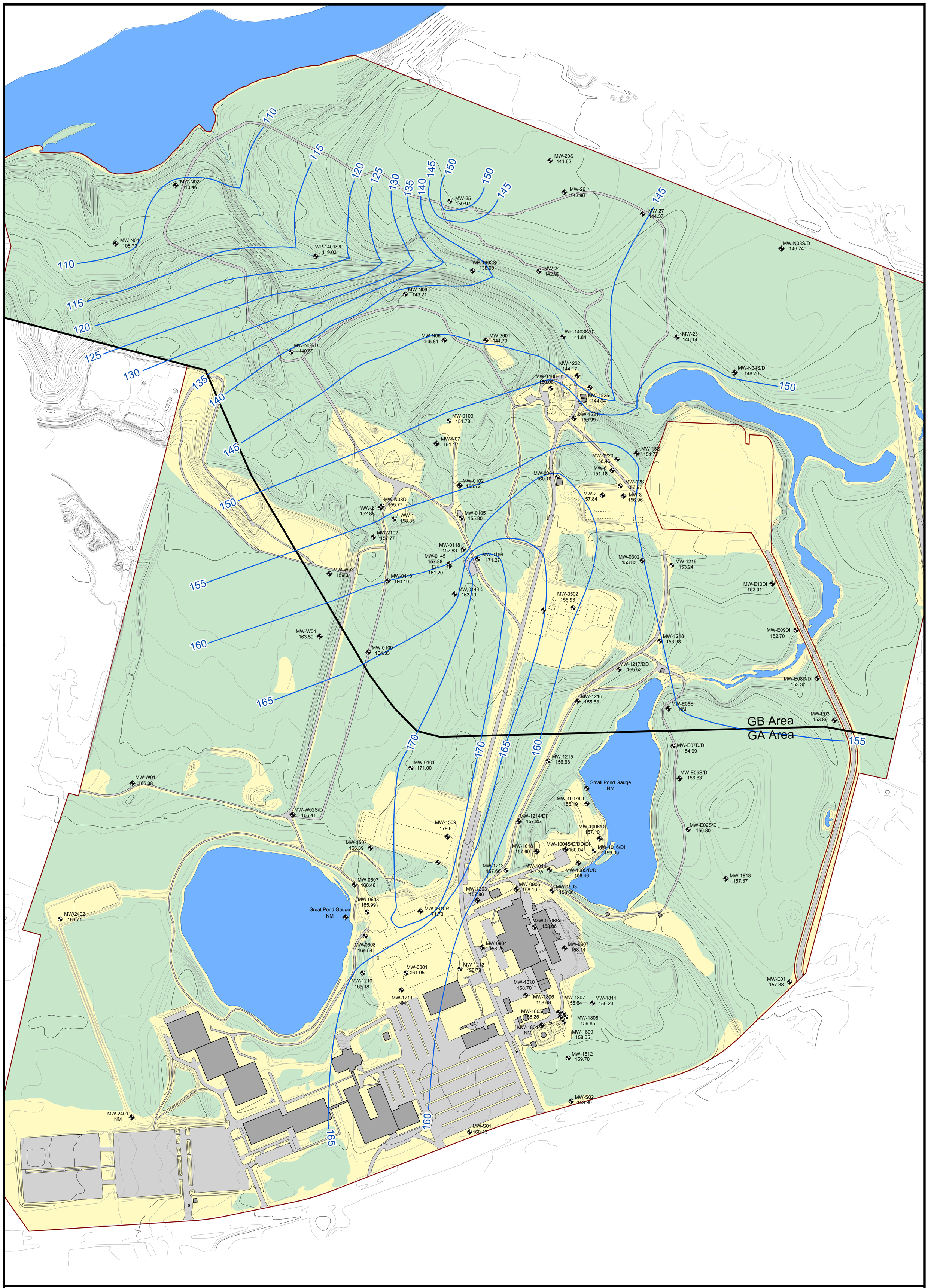
Additional monitoring wells have been selected to evaluate groundwater conditions in support of the partial site release. The proposed monitoring locations are shown on Figure 3-8. The following provides a summary of the monitoring locations and rationale for the location.

MW-1603	Downgradient of Building Complexes 3 and 6
MW-1016	Downgradient of the Equipment Storage Yard
MW-E09DI	Downgradient of the Waste Lines
MW-E10DI	Downgradient of the Waste Lines
MW-13S	Downgradient of the Waste Lines
WW-2	Downgradient of the Drum Burial Pit
MW-0102	Downgradient of the Woods Area
MW-0103	Downgradient of the Burning Grounds

The above-listed monitoring wells are located downgradient of the respective remediation areas, between the excavation areas and the Partial Site Release Boundary. Monitoring locations have not been identified for the Debris Piles, Site Brook, and the Clamshell Pile because groundwater associated with these remediation areas does not flow towards portions of the Site associated with partial site release.

Monitoring of the above-listed (additional) locations is scheduled to commence in July 2008, and will be conducted on a semi-annual basis (at a minimum). Groundwater samples collected from MW-0103 (downgradient of the Burning Grounds) will be monitored for radium-226 and thorium-232. Groundwater samples collected from the other monitoring locations (MW-1603, MW-1016, MW-E09DI, MW-E10DI, MW-13S, WW-2, and MW-0102) will be monitored for total uranium. These are the radiological constituents that will be addressed during soil remediation in these areas of the Site.

The data collected will be used to establish "baseline" groundwater conditions associated with these areas of the Site prior to initiating remediation activities. Data collected during remediation activities will serve to assess possible effects of soil disturbances on groundwater.



Legend

- Monitoring Well
- 158.25 Groundwater Elevation FT (MSL) October 8, 2007
- 145 Interpreted Groundwater Surface Contour
- Index Contour (10')
- Intermediate Contour (2')
- Former Building
- Existing Building
- Site Boundary
- Water
- Road
- Forest
- Open
- Water
- Road

N

0 125 250 Feet

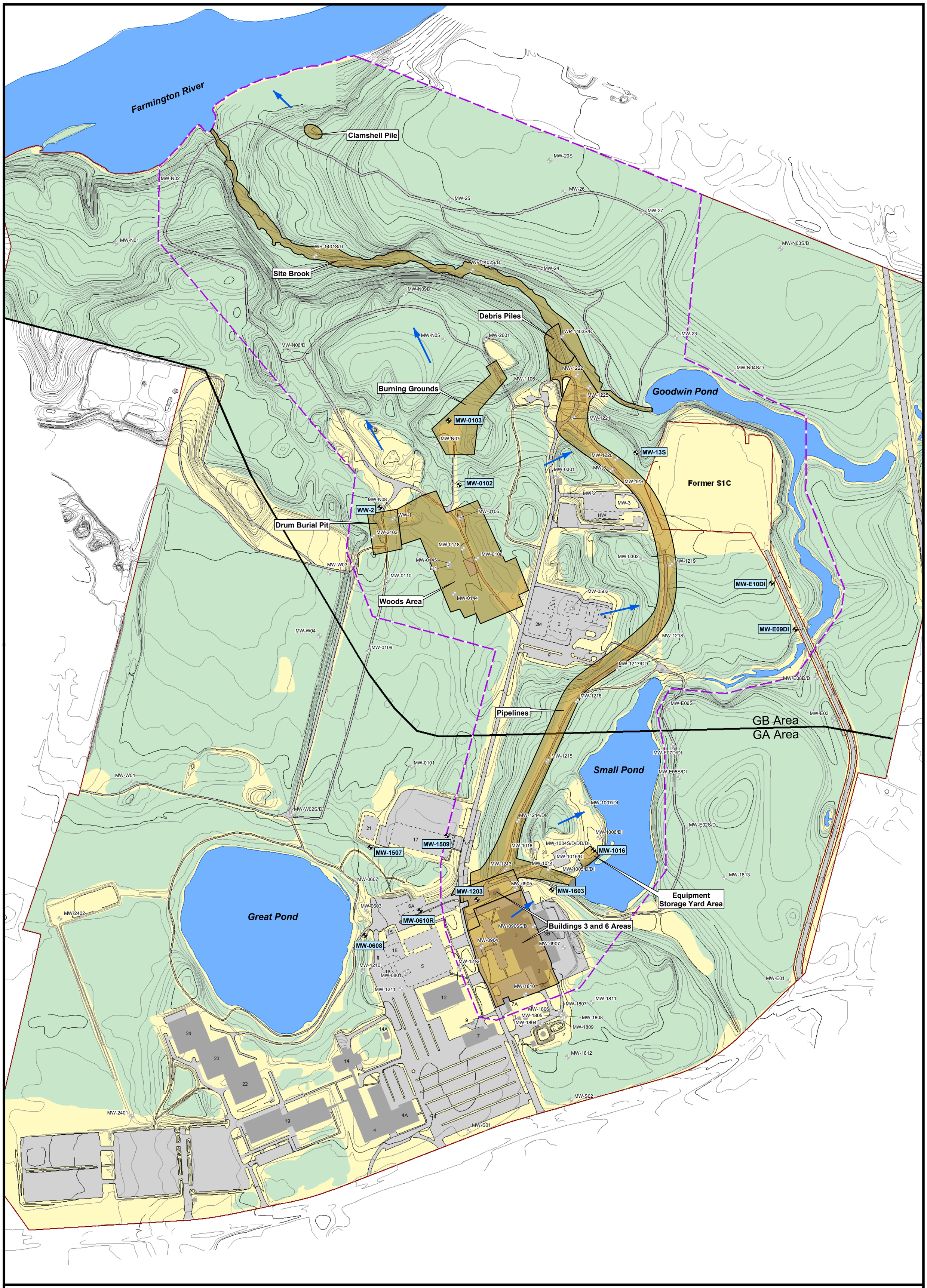
Prepared/Date: BRP 05/16/08 | Checked/Date: HTD 05/16/08

Figure 1
Interpreted Groundwater Contours
Potentiometric Map
October 2007

CE Windsor Site
Windsor, Connecticut

MACTEC

Document: P:\Projects\ABBWIN\GIS-Av8\MapDocuments\Decommissioning Plan\DP_22x34_P.mxd PDF: P:\Projects\ABBWIN\GIS-Av8\Figures\DecommissioningPlan\Response_to_Comments\Figure1.pdf 05/16/2008 1:35 PM brpeters



Legend

- MW-1507 — Existing Wells for Radiological Groundwater Monitoring
- Not Sampled
- Remaining Remediation Areas
- Partial Site Release Boundary Line
- Groundwater Flow Direction
- Property Outline
- Water
- Roads
- Index Contour (10')
- Intermediate Contour (2')
- Forest
- Open
- Water
- Road
- Berm
- Existing Building
- Demolished Building

N

0 125 250 Feet

Prepared/Date: BRP 05/16/08 | Checked/Date: HTD 05/16/08

Figure 2
Radiological Groundwater Monitoring Program

CE Windsor Site
Windsor, Connecticut

MACTEC

Document: P:\Projects\ABBWIN\GIS-Av8\MapDocuments\Decommissioning Plan\DP_RAD_GW_Monitoring_22x34P.mxd PDF: P:\Projects\abbwin\GIS-Av8\Figures\DecommissioningPlan\Response_to_Comments\Figure2.pdf 05/16/2008 1:40 PM brpeters