EXPLANATION OF SIGNIFICANT DIFFERENCES

SHEPLEY'S HILL LANDFILL SUPERFUND SITE
FORMER FORT DEVENS ARMY INSTALLATION

LAND USE CONTROLS TO RESTRICT GROUNDWATER USE

DEVENS, MASSACHUSETTS
DECEMBER 2013

Prepared for:
DEPARTMENT OF THE ARMY

U.S. Army Corps of Engineers
New England District

Base Realignment and Closure Division
Fort Devens, Massachusetts

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LIST OF ACRONYMS

AOC	Area of Contamination
ATP	Arsenic Treatment Plant
BOH	Board of Health
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSM	Conceptual Site Model
DRMO	Defense Reutilization and Marketing Office
ESD	Explanation of Significant Differences
ESI	Expanded Site Investigation
FOST	Finding of Suitability to Transfer
LIFOC	Lease in Furtherance of Conveyance
LRA	Land Redevelopment Authority
LUCs	Land Use Controls
LUCIP	Land Use Controls Implementation Plan
MassDEP	Massachusetts Department of Environmental Protection
NCP	National Contingency Plan
NIA	Northern Impact Area
NPL	National Priorities List
OPS	Operating Properly and Successfully
OU	Operable Unit
POTW	Public Operated Treatment Works
RAOs	Remedial Action Objectives
RAB	Restoration Advisory Board

RI	Remedial Investigation
ROD	Record of Decision
SHL	Shepley's Hill Landfill Operable Unit
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

This document presents the second Explanation of Significant Differences (ESD) for the Shepley's Hill Landfill Operable Unit, inclusive of Areas of Contamination (AOC) 4, 5, and 18, at the former Fort Devens. The ESD represents a significant change in remediation approach subsequent to the issuance of the Shepley's Hill Landfill Operable Unit Record of Decision (ROD), dated September, 1995[1] and the first ESD dated April 2005.[2]

Site Name and Location	
Site Name:	Shepley's Hill Landfill Operable Unit. The Shepley's Hill Landfill includes three AOCs: AOC 4, the sanitary landfill incinerator, AOC 5, sanitary landfill No. 1, and AOC 18, the asbestos cell.
Location:	Fort Devens is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL) site located in the towns of Ayer and Shirley (Middlesex County) and Harvard and Lancaster (Worcester County), approximately 35 miles northwest of Boston, Massachusetts.
Lead and Support Agencies	
Lead Agency:	Department of the Army Office of the Assistant Chief of Staff for Installation Management Base Realignment and Closure (BRAC) Division
Contacts:	Robert Simeone, BRAC Environmental Coordinator, Fort Devens, MA, (978) 796-2205
Support Agencies:	United States Environmental Protection Agency (USEPA) and Massachusetts Department of Environmental Protection (MassDEP)
Contacts:	Carol Keating, Remedial Project Manager, USEPA Region One, (617) 918-1393 David Chaffin, Remedial Project Manager, MassDEP Boston HQ Office (617)-348-4005

[1] US Army Environmental Center (USAEC), 1995. Record of Decision, Shepley's Hill Landfill Operable Unit, Fort Devens, Massachusetts. September. Signed by EPA New England (Region 1) and by Department of the Army BRAC Division on September 26th 1995 and September 28th 1995, respectively.

[2] US Army Base Realignment and Closure (BRAC) Atlanta Field Office (AFO), 2005. Explanation of Significant Differences, Groundwater Extraction, Treatment, and Discharge Contingency Remedy, Shepley's Hill Landfill, Fort Devens, Massachusetts. April. Signed by USEPA New England (Region 1) and by Department of the Army BRAC Division on November 2nd , 2005 and November 29th 2005, respectively.

Under Section 117(c) of CERCLA, and promulgated in 40 CFR Sections 300.435(c)(2)(i) and 300.825(a)(2), if the Army determines that the remedial action at the Shepley's Hill Landfill Operable Unit (SHL) differs significantly in scope, performance, or cost from the ROD for the site, the Army shall publish an ESD between the remedial action being undertaken and the remedial action set forth in the ROD and the reasons such changes are being made. This ESD includes a brief history of the site, a description of the remedy selected in the ROD, the contingency remedy specified in the ROD as implemented in the first ESD, and the remedy changes being implemented under this ESD. Specifically, the Lead and Support agencies have decided to enhance remedy Land Use Controls[3] (LUCs) by modifying the LUCs in the decision record for SHL via this ESD in order to further ensure protection of human health and the environment.

In accordance with the National Contingency Plan (NCP), Section 300.825(a)(2), the ESD will become part of the Administrative Record for the Shepley's Hill Landfill Operable Unit. The Administrative Record contains the ESD and other supporting documents considered by the Army and the regulatory agencies in developing the ROD for the Shepley's Hill Landfill Operable Unit. The Administrative Record may be viewed at the Ft. Devens BRAC Environmental Office (Building 666, 30 Quebec St., Devens, MA 01432) between the hours of 8:30 AM and 5:00 PM, Monday through Friday.

[3] Land Use Controls as defined by EPA guidance document (Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites, EPA-540-R-09-001, December 2012):

> *EPA defines (Institutional Controls) ICs as non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for exposure to contamination and/or protect the integrity of a response action. ICs typically are designed to work by limiting land and/or resource use or by providing information that helps modify or guide human behavior at a site. ICs are a subset of Land Use Controls (LUCs). LUCs include engineering and physical barriers, such as fences and security guards, as well as ICs.*

2. SUMMARY OF SITE HISTORY AND SELECTED REMEDY

The following sections contain a brief history of the site, an overview of site contamination and risks, a description of the remedy selected in the ROD, and the contingency remedy specified in the ROD as implemented in the first ESD.

2.1 SITE HISTORY

2.1.1. General

The former Fort Devens is located 35 miles west of Boston in north-central Massachusetts within the towns of Ayer and Shirley in Middlesex County, and the towns of Harvard and Lancaster in Worcester County. Prior to realignment and closure in 1996, Fort Devens included 9,280 acres divided into North Post, Main Post, and South Post. Figure 1 depicts the location of the various areas of the former base. The North and Main Posts are separated from the South Post by Massachusetts Route 2. The Nashua River runs through the North, Main and South Posts and the area around the former Fort Devens is primarily rural/residential. Currently, the U.S. Army Garrison Fort Devens (formerly the Devens Reserve Forces Training Area) consists of 5,196 acres primarily on South Post.

Camp Devens was created as a temporary cantonment in 1917 for training soldiers from the New England area. In 1932, the camp was formerly dedicated as Fort Devens and trained active duty personnel for World War II, the Korean and Vietnam Wars. In July of 1991, the North and Main Posts of Fort Devens were slated for closure and the South Post for realignment, for tactical training of Army Reserves, under the Defense Base Realignment and Closure Act of 1990. The installation ceased to be Fort Devens on March 31, 1996 at which time the remaining Army mission was assimilated as the Devens Reserve Forces Training Area.

The EPA placed the former Fort Devens on its NPL on November 21, 1989. Since listing, investigation and cleanup activities have been occurring to protect human health and the environment and facilitate property redevelopment.

2.1.2. Shepley's Hill Landfill Operable Unit

SHL encompasses approximately 84 acres in the northeast corner of the former Main Post at Fort Devens (Figure 2). It is situated between the bedrock outcrop of Shepley's Hill on the west and Plow Shop Pond on the east. Nonacoicus Brook drains Plow Shop Pond and flows through a low-lying wooded area at the north end of the landfill. The southern end of the landfill borders an area formerly occupied by the Defense Reutilization and Marketing Office (DRMO) yard, motor repair shops, and a warehouse. Areas previously mapped as wetlands have been filled by

waste materials. The landfill waste material was placed over peat deposits and a sandy aquifer that overlie bedrock and/or till[4].

SHL includes three AOCs: AOC 4, the sanitary landfill incinerator; AOC 5, sanitary landfill No. 1 or Shepley's Hill Landfill; and AOC 18, the asbestos cell. AOCs 4, 5, and 18 are all located within the capped area at SHL. The three AOCs are collectively referred to as Shepley's Hill Landfill Operable Unit. In an effort to mitigate the potential for off-site contaminant migration, Fort Devens initiated the Fort Devens Sanitary Landfill Closure Plan in 1984 in accordance with Massachusetts regulations (310CMR 19.00, April 21, 1971). The MassDEP (then the Department of Environmental Quality Engineering) approved the plan in 1985. Closure plan approval was consistent with 310 CMR 19.00. The capping was completed in four phases. In Phase I, 50 acres were capped in October 1986; in Phase II, 15 acres were capped in November 1987; and in Phase III, 9.2 acres were capped in March 1989. The Phase IV closure of the last 10 acres was accomplished in two steps: Phase IV-A was closed in 1991, and Phase IV-B was closed as of July 1, 1992, although the geomembrane cap was not installed over Phase IV-B until May 1993.

Because of the large area and shallow surface slope of the existing landfill, early phases of the landfill closure were completed with a 2 or 3 percent surface slope. Slopes were increased to 5 percent in Phase IV-B. Phases I through IV-A were capped with a 30-mil polyvinyl chloride (PVC) geomembrane overlain with a 12-inch drainage layer and 6-inch topsoil layer. At the request of MassDEP, the Phase IV-B cap design was modified to include a 40-mil PVC geomembrane, a 6-inch drainage layer, and a 12-inch topsoil layer. A landfill-gas collection system consisting of 3-inch diameter gas-collection pipes bedded in a minimum 6-inch thick gas-venting layer was installed beneath the PVC geomembrane in all closure phases. Gas vents were installed through the PVC geomembrane at 400-foot centers. A minimum 6-inch cushion/protection layer was maintained between the geomembrane and underlying waste. The Army submitted a draft closure plan to MassDEP on July 21, 1995 to document that SHL was closed in accordance with plans and applicable MassDEP requirements. The MassDEP issued a Capping Compliance Letter on February 8, 1996, concurring in the closure and establishing conditions for Monitoring and Maintenance of the Landfill Post Closure.

The Army performed a remedial investigation (RI) and a supplemental RI at SHL in accordance with CERCLA between 1991 and 1993. The RI and RI Addendum reports identified potential human exposure to arsenic in groundwater as the primary risk at SHL. Currently, based on available survey records, there is no significant risk to human health, but such a risk would exist if groundwater was a source of drinking water. Arsenic levels are above acceptable human health risk levels for potential future exposure pathways that include drinking water. A

[4] Shepley's Hill Landfill Supplemental Groundwater and Landfill Cap Assessment for Long-term Monitoring and Maintenance – Addendum Report, August 2011.

Feasibility Study was performed in 1995 to evaluate alternatives to reduce potential exposure risks, and in September 1995, the ROD was finalized.

2.2 SELECTED REMEDY (INCLUDING CONTINGENCY REMEDY)

2.2.1. Remedial Action Objectives

Remedial action objectives (RAOs) are project objectives identified to ensure the protection of public health or welfare and the environment. The following RAOs were stipulated in the 1995 ROD:

1) Protect potential residential receptors from exposure to contaminated groundwater migrating from the landfill having chemicals in excess of Maximum Contaminant Levels (MCLs).

2) Prevent contaminated groundwater from contributing to the contamination of Plow Shop Pond sediments in excess of human health and ecological risk-based concentrations.

The ROD did not identify remedial objectives for surface soil, landfill gas, or leachate because the risk assessments did not identify potential risks from exposure to surface soil and ambient air. Leachate was not identified during the RI or supplemental RI activities.

The Plow Shop Pond Operable Unit (OU) was established under AOC 72 to evaluate additional actions that may be necessary to manage potential risks from exposure to Plow Shop Pond surface water and sediment. The Army and USEPA performed surface water and sediment characterization as well as sediment toxicity characterization in Plow Shop Pond and Grove Pond from 1992 through 2010. Results of these studies were reported in the RI Addendum Report (ABB-ES, 1993); the Draft Plow Shop Pond and Grove Pond Sediment Evaluation (ABB-ED, 1995c); the Final Expanded Site Investigation (ESI): Remedial Oversight of Activities at Fort Devens, Plow Shop Pond and Grove Pond (USEPA, 2006); Final SA 71 Sediment Risk Characterization (MACTEC, 2008); and the Draft Final Remedial Investigation for AOC 72, Plow Shop Pond (AMEC, 2011).

2.2.2. Summary of Existing Remedy

The ROD describes two alternatives, Alternative SHL-2 (Limited Action) and Alternative SHL-9 (Groundwater Pump and Discharge to the Ayer Public Operated Treatment Works (POTW)), which became the primary and contingency elements of the selected remedy for the SHL remedial action. The ROD required the Army to perform groundwater monitoring and five-year reviews to evaluate the effectiveness of the selected remedial action (Alternative SHL-2), which

relied on the previously installed landfill cap to attain groundwater cleanup goals by 2008 and to reduce potential exposure risks. The ROD and the Long Term Monitoring and Maintenance Plan established incremental reduction of risk rather than incremental reduction in concentration of individual contaminants as a measure of progress toward attainment of cleanup levels to focus on the cleanup of arsenic, which is the primary contributor to potential risk. The required incremental reduction in risk was not achieved and the Army decided to implement the contingent element of the selected remedy as documented in the first ROD ESD.

Alternative SHL-2 contains components to maintain and potentially improve the effectiveness of the existing landfill cover system and to satisfy the Landfill Post-Closure Requirements of 310 CMR 19.142 to reduce potential future exposure to contaminated groundwater. Key components of this alternative include:

- landfill closure in accordance with applicable requirements of 310 CMR 19.000;
- survey of Shepley's Hill Landfill;
- evaluation/improvement of storm water diversion and drainage;
- landfill cover maintenance;
- landfill gas collection system maintenance;
- long-term groundwater monitoring;
- long-term landfill gas monitoring;
- institutional controls;
- educational programs;
- 60 percent design of a groundwater extraction system;
- annual reporting to MassDEP and USEPA; and
- five-year site reviews

Alternative SHL-9, involving active extraction of groundwater, was selected as a contingency or supplement to SHL-2, should it not prove to be effective at controlling site risk.

The following selected remedy components related to this ESD and how they were implemented are described in greater detail below.

<u>Existing SHL Remedy Institutional Controls (ICs):</u>

From the SHL ROD;

> *Institutional controls are proposed in the form of zoning and deed restrictions for any property released by the Army at Shepley's Hill Landfill during Fort Devens base-closure activities. The Fort Devens Preliminary Reuse Plan, Main and North*

Posts has proposed that Army land bordering Plow Shop Pond be zoned for open space and rail-related uses. By pre-empting residential use, these controls would help limit human exposure. In addition, the Army would place deed restrictions on landfill area property to prohibit installation of drinking water wells. This, in combination with landfill capping and long-term groundwater monitoring, would protect potential human receptors from risks resulting from exposure to contaminated groundwater. There are no current human receptors for groundwater exposure. Institutional controls would be drafted, implemented, and enforced in cooperation with state and local governments.

These ROD remedy requirements were implemented by Army as follows:

Land Use Zoning:

Land use for the SHL and surrounding Army property is governed by the Devens Reuse Plan[5]which was approved by the towns of Ayer, Harvard and Shirley on December 7, 1994. The zoning or permitted land use for SHL and surrounding Army property per this plan is Open Space/Recreation which is further defined in the Devens Open Space and Recreation Plan[6] . As stated in the SHL ROD, this IC component restricts residential use of the SHL and surrounding Army property, and therefore limits human exposure. The Army's long-term monitoring and periodic inspections of the SHL and surrounding Army property ensure that this zoning layer is being enforced by MassDevelopment, the Land Redevelopment Authority (LRA).

Deed Restrictions:

The SHL property remains in Army ownership and is under a Lease in Furtherance of Conveyance (LIFOC) Agreement[7] with the LRA, pursuant to BRAC policy requirements. A Finding of Suitability to Transfer (FOST) has not been executed by the Army for this lease premise known as Parcel A.1 (SHL) (See Figure 3) since the SHL remedy has not been determined to be Operating Properly and Successfully (OPS). The SHL ROD requirement for the ICs to "*protect potential human receptors from risks resulting from exposure to contaminated groundwater*" is implemented and enforced by the Army through the LIFOC agreement. Specifically, Article 16.05 states "*No groundwater will be extracted for any purpose*." The Army long-term monitoring and periodic inspections of the SHL and surrounding Army property ensure that this use restriction is in compliance per the LIFOC agreement. Once the SHL remedy is determined to be OPS, the Army will execute a FOST and the property will

[5] *Devens Reuse Plan.* Prepared by VHB 1994.
[6] *Devens Open Space and Recreation Plan.* Prepared for Massachusetts Development by Cicil and Rizvi, Inc. 1996.
[7] Department of the Army Lease in Furtherance of Conveyance of Real Property and Facilities on the Fort Devens, Massachusetts, Military Reservation, dated May 9, 1996.

be transferred by deed to the LRA. This deed will include similar provisions as the LIFOC agreement to ensure the SHL remedy remains protective of human health and environment.

Alternative SHL-9, (active extraction of groundwater) or the Contingency Remedy:

Post-ROD groundwater monitoring results indicated that the selected remedy, Alternative SHL-2, would not meet risk-based arsenic performance standards. Therefore, the Army issued an ESD, Groundwater Extraction, Treatment, and Discharge Contingency Remedy for SHL (CH2M Hill, 2005), and implemented the contingency remedy, Alternative SHL-9. The Army installed and started full time operation of a groundwater extraction and treatment system, generally referred to as the Arsenic Treatment Plant (ATP), in March 2006 to address groundwater contamination emanating from beneath the northern portion of the landfill. As anticipated in the ROD and ESD, the objective of the ATP was to provide for aquifer restoration in the area down gradient of the landfill, now generally referred to as the northern impacted area or NIA. In July 2007 the ATP flow rate was increased from 25 to 50 gpm. The ATP system treated and discharged approximately 22 million gallons of groundwater during 2011, bringing the cumulative treatment total to approximately 101 million gallons and 2,696 pounds of arsenic removed through 2011[8].

Since the time of the ROD, a more comprehensive understanding of the remedy Conceptual Site Model (CSM), groundwater chemistry in particular, has developed which indicates that a large amount of arsenic is being mobilized by natural as well as landfill-induced conditions. This CSM and the complex groundwater contamination problems have increased the uncertainty that the remedy will meet the aquifer restoration goals.

3. SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

This ESD documents a modification to the SHL ROD for a remedy component that significantly changes, but does not fundamentally alter, the selected remedy. The only significant differences in the remedy as detailed in the ROD are the incorporation of additional LUC language as an enforceable component of the ROD that will further protect potential receptors from exposure to contaminated groundwater migrating from the landfill having chemicals in excess of MCLs. A summary of the LUCs to be implemented at the Site are specified below.

3.1 LAND USE CONTROLS TO RESTRICT GROUNDWATER USE OFF-SITE

The current ROD does not specifically address LUCs for any non-Army property located north of the landfill (i.e., the groundwater impacted off-site that includes properties in Ayer along West

[8] *Shepley's Hill Landfill and Treatment Plant Long Term Monitoring and O&M, 2011 Annual Report.*

Main Street, north of the landfill, or the "north impacted area" or NIA), because the extent of the impact was not defined at the time (See Figure 3). Post-ROD investigations have established that the SHL has impacted groundwater within the NIA as documented in the *Supplemental Groundwater Investigation Report*[9]*;* the *Supplemental Groundwater & Landfill Cap Assessment for Long-Term Monitoring & Maintenance*[10] and the *Supplemental Groundwater & Landfill Cap Assessment for Long-Term Monitoring & Maintenance Addendum Report*[11].

The LUCs implemented pursuant to this ESD address the RAO to protect potential residential receptors from exposure to contaminated groundwater in excess of MCLs, until remedial goals have been met, as stipulated in the ROD. In addition, the LUCs will also protect any commercial receptors from exposure to contaminated groundwater.

3.1.1. Land Use Control Performance Objectives

Groundwater in the NIA would pose an unacceptable risk to human health if used for drinking water and may cause unacceptable risk to human health if used for irrigation purposes. Therefore, administrative and/or legal land use controls known as "LUCs" are being incorporated as a component of the selected groundwater remedy for the Site.

The performance objectives of the LUCs shall be to:

- Restrict access to groundwater so the potential exposure pathway to the contaminants would remain incomplete.
- Prohibit the withdrawal and/or future use of water, except for monitoring, from the aquifer within the identified groundwater LUC boundary (Figure 3).
- Maintain the integrity of any current or future monitoring system.

To meet these objectives, the Army has established the Area of Land Use Controls where the use of groundwater will be restricted via this ESD (See Figure 3). This area is based on the defined limits of groundwater contamination as documented by the site investigations referenced in Section 3.1. The LUC boundary limits were then set approximately 400 feet from the horizontal limits of groundwater contamination in order to conservatively establish the restricted area.

[9] *Revised Draft Shepley's Hill Landfill Supplemental Groundwater Investigation, Devens Reserve Forces Training Area. Devens, MA*. Harding ESE, 2002.
[10] *Draft final Supplemental Groundwater and Landfill Cap Assessment for Long-Term Monitoring and Maintenance, Shepley's Hill Landfill, Devens, MA.* AMEC, 2009.
[11] *Final Shepley's Hill Landfill Supplemental Groundwater and Landfill Cap Assessment for Long-term Monitoring and Maintenance - Addendum Report*. Sovereign, August 2011.

The SHL and surrounding Army controlled property, also shown on Figure 3, are ***not*** addressed under these additional LUCs since this property is addressed in the initial ROD as described in Section 2.2.2. Also, it is noted that the Army property is within the Devens Regional Enterprise Zone (under jurisdiction of Devens) and the NIA is within the Town of Ayer jurisdiction.

This ESD documents decisions and provides notification relating to implementation of the LUCs restricting use of groundwater within the area defined herein – the area potentially impacted by SHL.

3.1.2 Land Use Controls

To meet the LUC performance objectives, the following institutional controls in the form of governmental permitting, zoning, public advisories, prohibitive directives (e.g., no drilling of drinking water wells) and other 'legal' restrictions will be utilized within the NIA.

- The Zoning By-Laws of the Town of Ayer, Town of Ayer Subdivision Control Regulations and Town of Ayer Building Department Permitting Requirements[12]. Town of Ayer zoning, permitting and building requirements to which the use of all new or existing buildings, other structures or land must comply.

  This LUC layer ensures that any new building or structure and any land use comply with town regulations, by-laws and requirements. Site Plan Review requires that new developments have approved site plans that comply with the Ayer Zoning By-laws and the Subdivision Control Regulations including a Utility Plan that identifies all municipal water and sewer and the requirement to connect to the public utilities when located within 400 feet of the property. This requirement is also specified in the Ayer Building Department's minimum documentation and drawings required for Residential Building Permits.

- Moratorium on Groundwater Use within the Area of Land Use Controls - The Ayer BOH has issued a Moratorium on Groundwater Use (Attached as Appendix A).

[12] Town of Ayer Zoning By-law:
http://www.ayer.ma.us/pages/AyerMA_About/zoningbylaws/zoning_bylaws_2009.pdf
Article 10 – Site Plan Review and Article 7 – Special Development Regulations
Town of Ayer Subdivision Control Regulations:
http://www.ayer.ma.us/Pages/AyerMA_Bcomm/Planning/Subdivision%20Regulations.pdf
Section IV. Design Standards, Town of Ayer Building Department – New House Permit Requirements:
http://www.ayer.ma.us/Pages/AyerMA_Building/house

This LUC will provide additional controls or restrictions on access to groundwater for the purpose of potable use or irrigation within documented or anticipated areas of groundwater contamination as defined by the Ayer Board of Health in consultation with the Army. This measure prohibits any and all uses of groundwater use in the defined area.

- The Ayer Board of Health (BOH) Well Regulations (Adopted January 10, 2001) – Town of Ayer permitting requirements for the installation and use of new drinking water wells (Attached as Appendix B).

  The Area of Land Use Controls has been serviced by public water since approximately the 1930s and therefore, the installation of new private wells is not allowed per town zoning by-laws and building permitting requirements. In the unlikely event that an application for a private well construction permit were submitted to the Ayer BOH for approval, this LUC layer would ensure that a private well would not be permitted within the Area of Land Use Controls. Specifically, the requirement to identify any and all sources of potential contamination within 400 feet of the proposed well site as part of the permitting process would prevent the installation of any new private wells in this area.

- The Massachusetts Drinking Water Regulation 310 CMR 22.00 – the state regulatory permitting and approval process for any new drinking water supply wells in Massachusetts that propose to service more than 25 customers or exceed a withdrawal rate of 100,000 gallons per day.

  This LUC layer ensures that the locating of a new or expanding source of public water supply will follow a rigorous screening, evaluation and approval process. For example, the screening process requires the identification of potential environmental threats within one-half mile of the proposed site. Based on this process, the Area of Land Use Controls would likely not meet the criteria for locating a public water supply. It is also noted that areas along West Main Street are already defined as a Non-Potential Drinking Water Source Area per MassDEP.

In addition, the Army will implement the following affirmative measures to further ensure that the LUC performance objectives are being met.

- Public education and outreach via ongoing periodic distribution of educational materials and groundwater use surveys to be distributed to all property owners and residents with the stated goal of confirming that no groundwater wells are in use within the entire Area of LUCs.

The Army will contact land owners and residents in the Area of LUCs to explain the groundwater contamination distribution in the aquifer and the health impacts that may result from drinking contaminated groundwater, using contaminated groundwater for irrigation or otherwise contacting contaminated groundwater and that installation of wells that draw groundwater from the contaminated aquifer is prohibited. Private property owners have an independent obligation to comply with the applicable statutes, regulations, and zoning requirements. In the unlikely event that these affirmative measures discover an existing private well (active or abandoned), the Army, with permission of the landowner, will properly decommission the well to ensure remedy integrity.

- Meet with the Ayer BOH on an annual basis, or more frequently if needed, to discuss the implementation of LUCs and provide an updated Area of Land Use Control map(s) that document the current and projected location of groundwater contamination within the Town of Ayer. While Figure 3 shows the current area of the NIA where the LUCs apply, the Ayer BOH or the Army may modify the areas based on new information, and all LUCs will apply to such areas based on revisions to Figure 3.

All LUCs will be maintained until the concentrations of contaminants of concerns in the groundwater are at such levels as to allow unrestricted use and exposure.

The Army is responsible for ensuring that adequate LUCs are established and maintained through monitoring and reporting on the implementation, maintenance, and enforcement of land use controls, and coordination with federal, state, and local governments and owners and occupants of properties subject to land use controls. Although the Army may later transfer these procedural responsibilities to another party by contract or through other means, the Army shall retain ultimate responsibility for remedy integrity. The Army will provide notice of the groundwater contamination and any land use restrictions referenced in the ESD. The Army will send these notices to the federal, state and local governments involved at this site and the owners and occupants of the properties subject to those use restrictions and land use controls. The Army shall provide the initial notice within 3 months of ESD signature. The frequency of subsequent notifications will be described in the LUCIP for the ESD. The Army remains responsible for ensuring that the remedy remains protective of human health and the environment. The Army will fulfill its responsibility and obligations under CERCLA and the NCP as it implements, maintains, and reviews the selected remedy.

A Land Use Control Implementation Plan (LUCIP) will be prepared to describe the actions for all LUCs described in this ESD, including implementation, maintenance and periodic inspections. The Army shall prepare a draft LUCIP within 3 months of ESD signature.

4. SUPPORT AGENCY COMMENTS

The USEPA and the MassDEP have worked with the U.S. Army in developing the SHL remedy changes described in this ESD document. All comments received on the draft ESD have been addressed by the Army and incorporated into this document.

5. AFFIRMATION OF THE STATUTORY DETERMINATIONS

The proposed change to the selected remedy described in the ROD continues to satisfy all of the statutory requirements of CERCLA and the NCP. Considering the new information that has been developed and the proposed change to the selected remedy, the Army believes that the remedy remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective

6. PUBLIC PARTICIPATION ACTIVITIES

The Army meets regularly with stakeholders through BRAC clean-up team (BCT) meetings and quarterly Restoration Advisory Board (RAB) meetings to discuss clean up status at the former Fort Devens and, more specifically, monitoring and other data relating to the Shepley's Hill Landfill Operable Unit. These meetings have involved discussions of monitoring data relating to groundwater investigations and compliance monitoring, annual reports, and five year reviews evaluating performance of the selected alternative. At the RAB meeting on November 15, 2012, the ESD remedy component (LUCs to restrict access to groundwater) were presented and discussed.

In accordance with 40 CFR Section 300.435(c)(2)(i) of the National Contingency Plan, this ESD and other supporting documents are available in the Administrative Record maintained by the Army. The Administrative Record may be viewed at the Ft. Devens BRAC Environmental Office (Building 666, 30 Quebec St., Devens, MA 01434) between the hours of 8:30 AM and 5:00 PM, Monday through Friday, by calling (978) 796-2205.

Public notice relating to the availability of the ESD for review was made in the Nashoba Publishing papers, Lowell Sun, and Fitchburg Sentinel on November 15, 2012. A voluntary 30 day public comment period beginning November 16, 2012 and ending December 17, 2012 was held by the Army to solicit public comment on this Explanation of Significant Differences. At the request of the Town of Ayer the public comment period was extended to April 4, 2013 and a Public Hearing held in Ayer on March 20, 2013.

AUTHORIZING SIGNATURES

The forgoing Explanation of Significant Differences has been prepared to document changes in the selected and contingency remedies from the Record of Decision as required by Section 117(a) of CERCLA. The forgoing represents the selection of a remedial action by the U.S. Department of the Army and U. S. Environmental Protection Agency, with review and comment by the Massachusetts Department of Environmental Protection.

Concur and recommend for immediate implementation.

U.S. DEPARTMENT OF THE ARMY

3 DEC 13

William J. O'Donnell, II
Chief, Reserve, Industrial and Medical Branch
Department of the Army Assistant Chief of Staff for Installation Management

Date

U.S. ENVIRONMENTAL PROTECTION AGENCY

1/15/14

James T. Owens III
Chief, Office of Site Remediation and Restoration
U.S. EPA Region I

Date

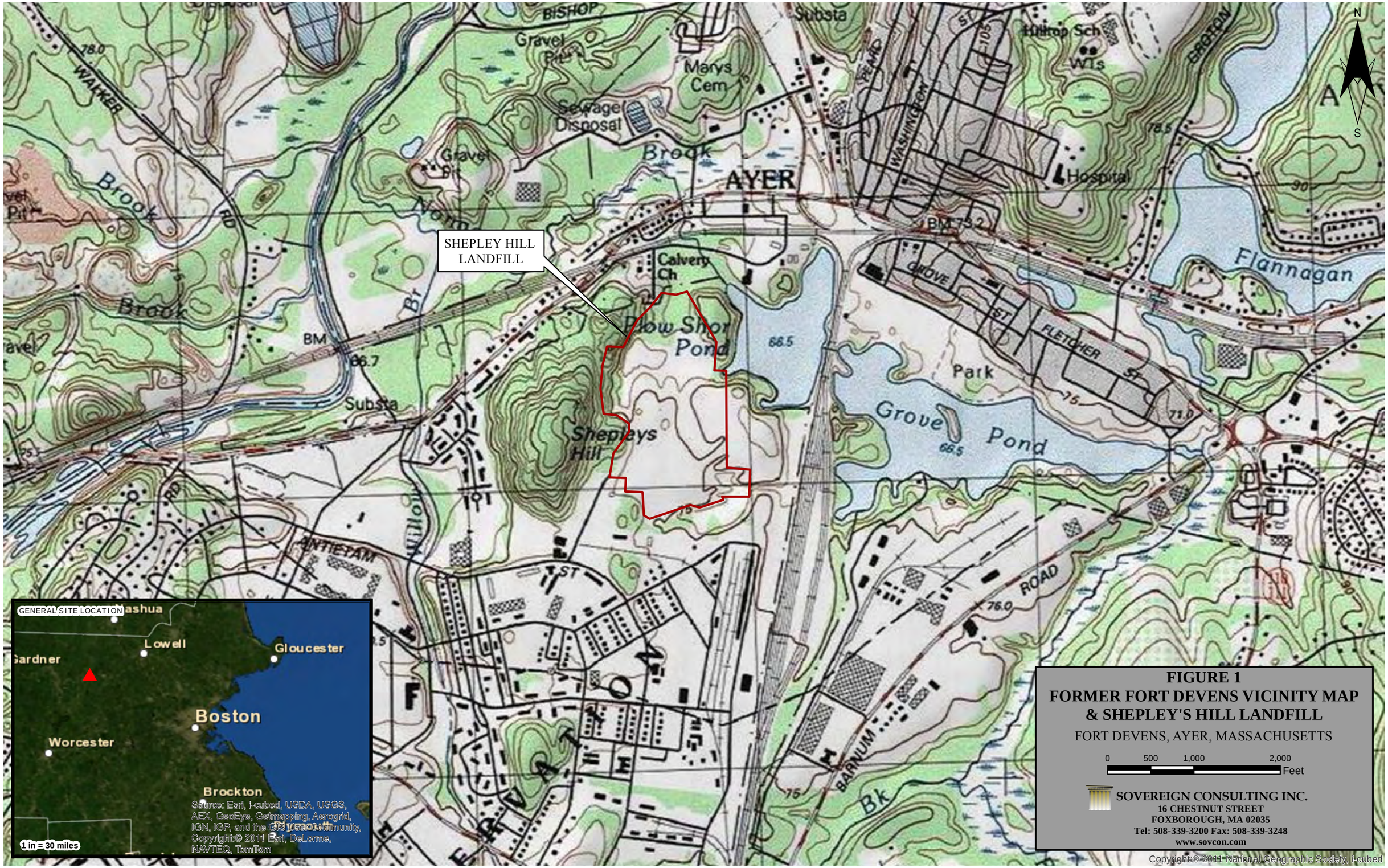

FIGURE 1
FORMER FORT DEVENS VICINITY MAP & SHEPLEY'S HILL LANDFILL
FORT DEVENS, AYER, MASSACHUSETTS

0 500 1,000 2,000 Feet

SOVEREIGN CONSULTING INC.
16 CHESTNUT STREET
FOXBOROUGH, MA 02035
Tel: 508-339-3200 Fax: 508-339-3248
www.sovcon.com

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Dec 2010 ROV Updated Aug 6, 2012 ROV

FIGURE 2
SHEPLEY'S HILL LANDFILL
SITE LOCATION MAP

SHEPLEY'S LANDFILL
FORT DEVENS, AYER, MASSACHUSETTS

SOVEREIGN CONSULTING INC.
16 Chestnut Street, Foxborough, MA 02035
Tel: 508-339-3200 www.sovcon.com

07/27/2012 ROV

Figure 3
Area of Land Use Controls: North Impacted Area

Source: 2000 TIGER Towns. US Census and Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs.
2001 Devens Regional Enterprise Zone: Devens Zoning District Key Map. Accessed August 1, 2010. www.devensec.com.
2010 Public Water Supplies. Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs.
2010 Legacy Level 0 and Level 2 Assessor's Parcels. Office of Geographic Information (MassGIS), Commonwealth of Massachusetts Executive Office of Environmental Affairs.

06/01/2012 ROV Updated 08/03/2012 ROV

APPENDIX A

Ayer Board of Health Groundwater Use Moratorium

TOWN OF AYER
BOARD OF HEALTH
TOWN HALL – 1 MAIN STREET – AYER, MASSACHUSETTS 01432 – (978) 772-8213

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TOWN OF AYER

MORATORIUM ON GROUNDWATER WELLS IN THE TOWN OF AYER

Under the authority of Massachusetts General Laws Chapter 111, Section 31, the Ayer Board of Health adopts the following regulation in an effort to better protect the public health and welfare of the citizens of Ayer:

Purpose

This regulation seeks to prevent any exposure to contaminated groundwater from the Shepley's Hill Landfill on the former Fort Devens military base, which may present a potential health risk to the residents of the Town of Ayer. Any well waters in documented or potentially affected areas of groundwater pollution pose a possibility of exposure pathways to humans. Ingestion, inhalation, and dermal exposure are potential pathways. This potential risk necessitates this regulation.

Regulation

Existing and future residential and commercial wells located in documented or anticipated areas of groundwater contamination as defined by the Ayer Board of Health are herewith restricted from use for any purpose, including drinking; any agricultural use (lawn watering, gardening, livestock watering, irrigation of crop land, etc.); washing vehicles; pool filling; etc. This moratorium includes groundwater wells owned by the residents currently connected to a public water supply.

A Massachusetts Licensed Well Driller must decommission the affected wells, and written evidence thereof must be submitted to the Ayer Board of Health, 1 Main Street, Ayer, MA 01432.

Adoption

This Moratorium on Groundwater Wells in the Town of Ayer approved and adopted by the Ayer Board of Health on the 6th day of May, 2013. This regulation will become effective upon the date of publication in the press.

Ayer Board of Health

Mary Spinner, Chair | Heather Hasz, Member | Pamela Papineau, Member

AMENDED

TOWN OF AYER
BOARD OF HEALTH
TOWN HALL – 1 MAIN STREET – AYER, MASSACHUSETTS 01432 – (978) 772-8213

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TOWN OF AYER

MORATORIUM ON GROUNDWATER WELLS IN THE TOWN OF AYER

Under the authority of Massachusetts General Laws Chapter 111, Section 31, the Ayer Board of Health adopts the following regulation in an effort to better protect the public health and welfare of the citizens of Ayer:

Purpose

This regulation is intended to prevent any exposure to contaminated groundwater from the Shepley's Hill Landfill, located on the property of the former Fort Devens military base, which may present a potential health risk. Any well waters in documented or potentially affected areas of groundwater pollution constitute possible exposure pathways to humans. Ingestion, inhalation, and dermal exposure are potential pathways. This potential risk necessitates this regulation.

Regulation

Existing and future residential and commercial wells located in documented or anticipated areas of groundwater contamination as defined by the Ayer Board of Health are hereby prohibited from use for any purpose, including but not limited to drinking; agricultural (lawn watering, gardening, livestock watering, irrigation of crop land, etc.); washing vehicles; pool filling; etc. This moratorium includes groundwater wells located on properties currently connected to a public water supply.

A Massachusetts Licensed Well Driller must decommission the affected wells, and written evidence thereof must be submitted to the Ayer Board of Health, 1 Main Street, Ayer, MA 01432.

Please refer to the Ayer Board of Health Private Well Regulations for further information.

Adoption

This Moratorium on Groundwater Wells in the Town of Ayer approved and adopted on May 6, 2013, is amended by the Ayer Board of Health this 20 day of May, 2013. This amendment will become effective upon the date of publication.

Ayer Board of Health

Mary Spinner, Chair | Heather Hasz, Member | Pamela Papineau, Member

APPENDIX B

Ayer Board of Health Private Well Regulations

Ayer Board of Health
Well Regulations

1.0 Purpose and Authority

The regulations are intended to promote the public health and general welfare by ensuring that private wells are constructed in a manner which will protect the quality of the groundwater derived from private wells. These regulations are adopted by the authority of Chapter 111, Section 31, M. G. L.

1.1 Definitions

As used in these regulations, the following terms shall be defined and interpreted as follows:

(1) Abandoned water well. A private well that has not been used for a water supply for a period of one (1) year or more and which the owner does not intend to use again.

(2) Agent. The Nashoba Associated Boards of Health (hereinafter referred to as Nashoba) serving as the agent for the Ayer Board of Health, as provided by Chapter 111, Section 27A.

(3) Aquifer. A water bearing geologic formation that contains water in sufficient quantites to potentially supply a well for drinking water or other purposes.

(4) Person. An individual, corporation, company, association, trust, or partnership.

(5) Portable water. Water that is satisfactory for drinking and for culinary and domestic purposes.

(6) Private well. A water supply well which will not serve either a number of service connections or a number of individuals sufficient to qualify as a public water system as defined in 310CMR22.02.

(7) Pumps and pumping equipment. Any equipment or materials used or intended for use in withdrawing or obtaining groundwater. Including, without limitation, seals and tanks, together with fittings and controls.

(8) Regulating agency. The Ayer Board of Health through its agent, the Nashoba Associated Board of Health.

(9) Well. An excavation or opening into the ground made by digging, boring, drilling, driving, or other methods, for the purpose of providing a potable drinking water supply.

(10) Well driller and/or digger. Any person who is licensed by the Water Resources Commission (as defined by Chapter 620 of the Acts of 1956, as amended) to construct wells.

(11) Well Seal. An approved arrangement or device used to cap a well or to establish and maintain a junction between the casing or curbing of a well and the piping or equipment installed therein, the purpose or function of which is to prevent pollutants from entering the well at the upper terminal.

2.0 Requirements for Private Wells

(1) No private well shall be deemed a source of potable water unless it is constructed in accordance with these regulations. No well shall be constructed or destroyed except in accordance with these regulations.

(2) For each private well constructed after the effective dates of these regulations, there shall be:
- (a.) a well construction permit application;
- (b.) a well construction permit;
- (c.) a water quality analysis;
- (d.) a certificate of compliance with the terms of the permit;
- (e.) a well driller's or digger's report

(3) For each private well destroyed after the effective date of these regulations, there shall be:
- (a.) a well destruction permit application;
- (b.) a statement of well abandonment from the owner;
- (c.) a well destruction permit;
- (d.) a well driller's or digger's, or contractor's report of destruction.

(4) The Ayer Board of Health or its agent shall investigate violations of these regulations or of any permit issued and may take such actions as it may deem necessary for the protection of the public health and to restrain violations of these regulations.

(5) Whosoever violates these regulations shall be punished by a fine of not more than $500.00 dollars to, and for the use of, the Town in which the well is located.

3.0 Well Construction or Destruction Permits

(1) No person shall engage in the business of constructing or destroying private wells within the Town under these regulations unless registered as a well driller/digger with the Water Resources Commission, pursuant to 313CMR3.00.

(2) An application for a well construction or destruction permit shall be submitted by the property owner, the well driller/digger or his agent to Nashoba on a form furnished by Nashoba.

(3) A well construction or destruction permit shall be obtained from Nashoba prior to the construction or destruction of any private well. Nashoba shall charge a fee for each well construction or destruction permit and said fee shall be paid to the Nashoba Associated Boards of Health prior to the permits issue.

4.0 Well Construction Permit Requirements

The following information shall be submitted by the property owner or the well driller/digger or their agent with the well construction application, prior to the issuance of a permit:

(a.) general location of the proposed well to include the location of at least one road intersection for reference;
(b.) a sketch of the expected construction of the well to include an approximation of the expected well depth;
(c.) a description of any possible source(s) of contamination within 400 feet of the proposed well location (see sect. 4.1(1);
(d.) The well driller's/digger's name and certification number as it appears on the Water Resources commission certificate;
(e.) description of the prior/current land use in the vicinity of the proposed well location (i.e. agricultural, industrial, etc.).

For emergency repair, alteration, or replacement of an existing well the Ayer Board of Health or Nashoba may waive the requirements of these regulations for dwellings which were in existence prior to the effective date of this regulation.

4.1 Well Location Requirements

(1) In establishing the location of a well, the well owner and/or the driller/digger, shall identify any and all sources of potential contamination (agricultural fields, animal feed lots, beauty salon, dry cleaner, funeral home, furniture stripper/refinisher, gasoline/service station, fuel depot, automotive junk yard, railroad line or yard, etc.) which exist within 400 feet of the proposed well site.

The following minimum lateral distances from contamination shall apply with the granting of a variance under special conditions:

Source of Contamination	Minimum Distance (feet)
Leaching facility (310CMR15.00)	100
Leaching facility (in soils with percolation rates 2 minutes per inch or less)	150
Cesspool	100
Septic tank	50
Sewer line	50
Property line	50
Public or private way, common drive, easement	50
Active or closed landfill	400
Hazardous waste spill site	400
Any type of surface water	100

(2) Where, in the opinion of the Ayer Board of Health or Nashoba, adverse conditions exist, the above minimum distances may be increased or special means of protection may be required.

These special requirements shall be added to the well construction permit by Nashoba.

(3) The well shall be up gradient of sources of contamination when ever possible. The top of the well shall be higher than any surface of contamination and above any conditions of flooding by drainage or runoff from the surrounding land, unless otherwise adequately protected.

4.2 Well Construction Standards

(1) Wells shall be constructed in compliance with the recommendations of the latest edition of the Manual of Individual Water Supply, U. S. Environmental Protection Agency (U.S. EPA), Water Supply Division (exception: springs shall not be used for the purpose of a potable water supply).

(2) The annular space between the protective well casing and the wall of the drilled hole or surface casing shall be effectively sealed. The seal is to protect against contamination by surface and/or shallow, subsurface waters.

(3) The well casing shall be capped or covered with a sanitary well seal. Casings shall extend a minimum of 24 inches above the highest known flood levels or 18 inches above the ground surface in areas which are not subject to flooding. In addition all non-vent openings shall be sealed to exclude the intrusion of contaminants. Vent openings shall be of an approved type, complete with screening.

(4) Any well that is finished in bedrock or penetrates any confining layers (impervious formations) and therefore a potentially different aquifer(s) shall require the sealing off of each aquifer from the other(s). A minimum of ten feet of an appropriate sealing material shall be used to seal one aquifer or formation from another.

(5) When well screens are used, the screen length and opening size should be selected to ensure that the water supply will be free from silts and sands and other suspended solids.

(6) Well pumps and water storage equipment shall be selected to ensure that the water supply is to be adequate (a minimum of five gallons per minute (GPM) is recommended) over a sustained period of pumping. NOTE: The proper selection of the pump is important to protect against unnecessary wear on the equipment and to maintain a safe and adequate supply of water.

(7) Pump suction lines (if used) shall not be closer than 100 feet from underground sewage leaching facilities or 50 feet from a septic system (310CMR15.03).

(8) Well pits to house the pumping equipment or to permit accessibility to the top of a well shall not be permitted.

4.3 Disinfection and Other Sanitary Requirements

All private wells shall be disinfected following construction, rehabilitation, and well or pump

repair, before the well is placed into service. The well shall be pumped to waste (not to the septic system) until the water is as clear as possible. Thereafter the well and the pumping equipment (and plumbing, if installed) shall be disinfected with a solution containing at least 50 parts per million (ppm) of chlorine. The well shall remain in contact with the chlorine solution for a minimum of 24 hours before the well is pumped to waste (not the septic system) and the water found to be free of chlorine. (Information and instructions for the disinfection procedure is available from Nashoba)

4.4 Water Sampling Procedure

(1) Water sample(s) shall be collected by Nashoba. All water sample(s) shall be collected in an appropriate manner as to maintain the integrity of the sample collected. Collection of the sample(s) shall occur following the well development and the disinfection process for the well (see section 4.3). The water sample may be taken to a laboratory of Nashoba's choice unless the owner selects a specific laboratory, at which time the sample container may be sealed with the custody tag and delivered to the owner selected testing laboratory by him/herself. The laboratory shall be required to notify Nashoba should the sample be received with a broken custody seal.

(2) A representative water sample for laboratory analysis shall be collected at the pump discharge or from a tap in the pump discharge line. A representative sample shall constitute a sample collected after the removal of at least three standing volumes of water from the well or a minimum of 10-15 minutes of pumping from the well.

(3) The sample(s) shall be analyzed for the following parameters at a minimum: coliform bacteria, arsenic, lead, sodium, iron, manganese, copper, magnesium, color, sulfate, turbidity, alkalinity, chlorine, chloride, hardness, ammonia, nitrite, nitrate, pH, conductivity, odor and potassium. All analyses shall be performed in accordance with U. S. EPA methods or other approved methods for drinking water analysis.

(4) Analytical tests such as volatile organics (VOCs), pesticides, PCBs and inorganics (metals) other than those specified in 4.4(3), can be added or deleted, as public knowledge increases or at the request of the Ayer Board of Health or Nashoba, when conditions may indicate the need (i.e. prior land use) for such testing. Samples which are to be analyzed for volatile organic compounds shall not contain air bubbles of any size.

4.5 Water Quality

(1) All analytical results shall be reviewed by Nashoba and an assessment of the suitability of that well for drinking water will be made. Nashoba will adhere to the current and applicable drinking water standards as detailed by the U. S. EPA and the State of Massachusetts Department of Environmental Quality Engineering (DEQE). Approval of the results, by Nashoba, must be obtained in writing before the well shall be placed into service as a drinking water supply.

(2) The water sample(s) shall be analyzed by a laboratory certified to perform drinking water analysis by the DEQE for each parameter analyzed. A copy of the results shall be sent to both the Ayer Board of Health and Nashoba. All fees for the water testing are the responsibility of the applicant and all fees shall be paid in full prior to the approval of the well permit.

(3) As stated in section 4.4, Nashoba or the Ayer Board of Health may require that additional chemical analysis be performed on the well water. Any such additional requirement shall specify which chemical constituents or chemical fractions (pesticide/PCB, extractables, etc.) shall be tested for.

(4) No result shall exceed the current and applicable drinking water standards for a public water supply, as detailed by the U. S. EPA and/or DEQE (40CFR141 and 310CMR32). Nashoba may also use professional judgement when assessing the results of the water well prior to approval of that well. When the results indicate a potential health hazard (i.e. possible gasoline contamination) Nashoba may at its discretion disapprove the well for use as a water supply.

4.6 Well Completion Requirements

(1) Within 30 days after the completion of the construction of any well, the well driller/digger shall submit to Nashoba a report containing the following information:

(a.) The name of the owner of the well;
(b.) The address of the property served and/or the lot number as assigned by the Assessor's office;
(c.) The depth, size and method of construction of the well;
(d.) The location of the well which shall show the distance from two permanent landmarks;
(e.) The static water level;
(f.) The yield of the well after eight hours of pumping;
(g.) The recovery after draw down and yield tests (for at least a 24 hour period);
(h.) The well driller's/digger's log information.

The well driller's/digger's report shall be signed by an authorized representative and shall constitute a statement of compliance with all requirements of these regulations. This will satisfy the requirement of the certificate of compliance.

5.0 Well Destruction

A well that is abandoned shall be destroyed to protect the groundwater supply and to eliminate potential physical hazards. Wells shall be sealed with non-hazardous, impervious materials which shall be permanently in place. All exposed casing materials, pumping equipment, and distribution lines shall be removed. The excavation shall be returned the existing grade of the surrounding land. A record of abandonment shall be kept in accordance with Section 2.01(5).

5.1 Well Destruction Requirements

The following information shall be submitted with each well destruction application, prior to the issuance of a permit:

(a.) The specific location of the well to be destroyed;
(b.) The design and construction of the well to be destroyed;
(c.) A written statement from the owner that the well is abandoned.

Within 30 days after the destruction of any well, the well driller/digger, or contractor shall submit to Nashoba a report containing the following:

(a.) The name of the owner of the well;
(b.) The address of the property served;
(c.) Method of sealing, including materials used;
(d.) Person or persons sealing the well and date of the sealing of the well.

The well driller's/digger's report shall be signed by an authorized representative and shall constitute a statement of compliance with all requirements of these regulations. This will satisfy the requirement of the certificate of compliance.

6.0 Variances

(1) Variances may be granted only as follows: The Ayer Board of Health may vary the application of these regulations with respect to any particular case when, in its opinion, the enforcement thereof would do manifest injustice, and the applicant has proven that the same degree of public health and environmental protection required under these regulations can be achieved without strict application of a particular provision(s).

(2) Variance requests shall be in writing to the Ayer Board of Health and include all the information/reasons and proposed measures necessary to assure the protection of the public health and environment. The Ayer Board of Health shall grant, modify, or deny a variance in writing, and state the reasons for any denial.

7.0 Substantive Procedures

Substantive Procedures shall be performed as specified in 105CMR400.1

The above **Well Regulation** approved and adopted by the Ayer Board of Health on the 10 day of January, 2001.

Margaret Kidder — Margaret Kidder, Chairman

C. Jane Witherow — C. Jane Witherow, Clerk

Laurie Rosas — Laurie Rosas, Member

APPENDIX C

Response to Comments

MassDEP COMMENTS ON
EXPLANATION OF SIGNIFICANT DIFFERENCES
SHEPLEY'S HILL LANDFILL
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
JANUARY 7, 2013

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1. Section 2.2.2: The final paragraph, an apparent reference to the Army's controversial position on the performance of the groundwater extraction system, should be deleted from the ESD because the regulatory agencies have not accepted the Army's position on the performance of the extraction system, and the subsequently described rationale (incomplete delineation at time ROD was signed, Section 3.l) has been accepted and is sufficient to justify the ESD.

   The text has been revised as follows: "Since the time of the ROD, a more comprehensive understanding of the remedy Conceptual Site Model (CSM) has been developed which indicates a more complex groundwater contamination problem with greater uncertainty that the remedy will meet the aquifer restoration goals."

2. Section 3.l: LUCs cannot be used as a surrogate for necessary groundwater remediation. Consequently, the ESD should be clarified to indicate that the LUCs are intended to provide interim control of exposure to contaminated groundwater until unacceptable risks are eliminated by other remedial action that will be implemented as a component of the coming remedy update.

   The intent of this statement was not to imply that LUCs can be used as a surrogate for necessary groundwater remediation, but rather that LUCs are required to protect potential residential receptors from exposure to contaminated groundwater. Therefore lines 325-327 will be replaced with the following text: "The LUCs implemented pursuant to this ESD address the *RAO to protect potential residential receptors from exposure to contaminated groundwater in excess of MCLs, until remedial goals have been met, as stipulated in the ROD."*

3. Section 3.l.2: Copies of the cited BOH well regulations and zoning by-laws should be attached to the ESD for current review and future reference.

   This information will be provided as an appendix to the Draft Final ESD.

4. Section 3.1.2: The second and third affirmative measures will not be effective if the BOH is not able or willing to participate; consequently, these measures should not be included in the ESD until the Army has confirmed the board's ability and willingness to participate.

   The Town Of Ayer's Well Regulations and Zoning By-laws are already in-place. Without amendment, these existing regulations and standard practices will prevent any future groundwater use in the area of proposed Land Use Controls. The roles and responsibilities of how the LUCs will be

implemented will be specified in the LUCIP. The Army will work with the Town of Ayer under the LUCIP to specify how the LUCs will be implemented maintained and enforced.

5. Section 4: To document that all comments received on the draft ESD were addressed, copies of the comment letters received should be attached to the ESD and cited here.

   All Response to Comments will be included in the Draft Final ESD.

6. Section "AUTHORIZING SIGNATURES": The ESD should not indicate that MassDEP concurred with the ESD. Instead, the ESD should indicate that MassDEP reviewed and commented on the ESD, in accordance with CERCLA, and a copy of MassDEP's comment letter should be attached to the ESD.

   The suggested change will be made in the text on Page 15, line 526.

EPA Comments on
Draft Explanation of Significant Differences
Land Use Controls to Restrict Use of Groundwater
For Shepley's Hill Landfill Superfund Site
Former Fort Devens, MA
October 2012

General Comment:

1. If the local Board of Health (BOH) regulations will be the primary land use control (LUC) as presented in the Draft ESD, the Army must ensure that the Town's well regulations provide clear requirements to prevent the use and installation of groundwater wells in the NIA. Army and EPA have had initial discussions with the Town of Ayer regarding the Draft ESD and particularly the request for a moratorium on groundwater wells in the LUC area. Town representatives have indicated that they are willing to enact a moratorium, but further discussions and coordination are required to ensure that the Town will agree to partner with the Army and EPA to implement and enforce the proposed moratorium.

   As an example, the Town of Mashpee, MA BOH, as a result of off-site groundwater contamination from the Mass Military Reservation, adopted a moratorium on residential wells, restricting any and all uses of groundwater, and defining the areas where well use is prohibited based on the documented groundwater plume areas. The moratorium applies to existing and potential future wells. As another example, the Town of North Smithfield, RI enacted a similar ordinance to prohibit groundwater use within the area impacted by the Stamina Mill Superfund Site. Copies of these moratoriums are attached. This type of moratorium provides for a strong LUC, since the groundwater plume map and specific restrictions for the area are incorporated directly into the well regulations, and as it applies to both existing and new wells. EPA believes that this type of LUC is necessary to address potential gaps in the existing local regulatory controls cited by the Army as LUC layers in the Draft ESD.

   If a moratorium is not enacted by the Town, or if the Town's by-laws remain inadequate to prevent exposure to contaminated groundwater from existing or potential future groundwater wells, the ESD as proposed will not meet statutory requirements for protectiveness. Other alternatives, including proprietary controls (for example, easements that restrict groundwater use for each of the affected properties) must then be considered.

   Please see response to MassDEP Comment No. 4. With respect to the need for a moratorium on the use of groundwater within the impacted area, the use of LUCs/ICs are effective given the existing town regulations, the well documented site conditions and local BOH legal responsibilities, it is difficult to envision a scenario whereby a private well construction permit application for property along West Main Street would ever be submitted let alone be approved.

However, if the Town and EPA consider issuing a moratorium on groundwater use is necessary, then the Army will work with both agencies to ensure it is implemented under the LUCIP.

2. In order to support the reliance on governmental controls, such as a groundwater use moratorium implemented through the local BOH well regulations, the Army will need to demonstrate that the Town has the ability and capacity to assist with IC implementation, maintenance, and enforcement. A "common understanding" regarding the respective IC roles, responsibilities, and legal authorities of the parties should be memorialized through mechanisms available under state law (e.g., an MOU, Administrative Order on Consent, contract, or enforceable agreement). Refer to Sections 3.8, 6.0, 8.4, and 9.3 of "A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites" for further guidance on establishing a "common understanding" and the use of governmental controls as ICs. A discussion of the "common understanding" arrangements will need to be discussed in the ESD and detailed in the LUCIP.

   Please see response to MassDEP Comment No. 4 and EPA General Comment No. 1.

   The roles and responsibilities of how the LUCs will be implemented will be specified in the LUCIP. The Army will work with the Town of Ayer under the LUCIP to specify how the LUCs will be implemented, maintained and enforced.

   The Army should add language to the ESD to address the disposition of any groundwater wells found within the LUC area (e.g., if a property owner in the LUC area reports an existing well). The ESD should identify actions that the Army will take to ensure that the well is not used (e.g., Army should provide for the safe and permanent decommissioning of any wells found to exist within the LUC area).

   The Army will incorporate the abandonment and/or decommissioning of any groundwater wells that are identified within the area of Land Use Controls into the LUCIP, for any wells installed prior to implementation of the ESD. The LUCIP will provide details on this task including that there is not a time limit on the Army's responsibility for this.

Specific Comments:

1. Page 2, line 69: The CERCLA citation is in error. The correct citation for "Explanation of Significant Differences" is CERCLA § 117(c).

   The reference will be corrected.

2. Page 2, line 78 and footnote 3: Replace the LUC definition footnote with the most recent EPA Guidance reference for the definition of ICs and LUCs. See Section 2 of EPA's "A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites."

   The reference will be updated.

3. Page 3, line 93: Revise to read: "The following sections contain a brief history of the site, *an overview of site contamination and risks,* a description of the remedy selected in the ROD, and..."

   The text will be added as noted above.

4. Page 4, line 165: Additional discussion regarding the levels of arsenic found at the site driving the risk of human exposure should be included in this summary.

   Additional language will be added to this line as indicated below.

   "The RI and RI Addendum reports identified potential human exposure to arsenic in groundwater as the primary risk at SHL. *Currently, there is no significant risk to human health, but such a risk could exist if groundwater was a source of drinking water. Arsenic levels are above acceptable human health risk levels for potential future exposure pathways that include drinking water."*

5. Page 8, line 311: Revise to read: "...enforceable component of the ROD *to address the migration of arsenic contamination from Shepley's Hill Landfill groundwater to groundwater under public, residential and commercial areas of Ayer and the potential risk of human exposure to that contamination."*

   The above text will be added as noted with the following addition.

   "...enforceable component of the ROD *that will further protect potential receptors from exposure to contaminated groundwater migrating from the landfill having chemicals in excess of MCLs."*

6. Page 9, line 331: "Groundwater in the NIA poses an unacceptable risk to human health if used for drinking water..."

   The above sentence will be corrected as shown below.

   "Groundwater in the NIA *would pose* an unacceptable risk to human health if used for drinking water..."

7. Page 9, lines 359-361: Omit this sentence: "Since natural sources of arsenic and natural conditions resulting in arsenic mobilization are prevalent throughout the region surrounding SHL, this ESD nor the LUC's implemented, are not by any means intended to infer groundwater outside the restricted area is suitable for any use." This does not relate to the objectives of this ESD.

   The subject text will be deleted.

8. Page 10, lines 368-373: The ESD does not clearly address how the regulatory citation supports the LUC performance objectives identified in Section 3.1.1 of prohibiting use of

groundwater. How does the well application procedure of requiring the applicant to "identify any and all sources of potential contamination within 400 feet of the proposed well site" support prohibiting groundwater wells in the NIA? Where does the applicant obtain the information on potential sources of contamination? Would the applicant obtain information on the location of SHL and the SHL plume through the process of gathering the information on sources of potential contamination? Would all areas of the plume be considered within the 400 foot designation? Does Ayer BOH prohibit installation of groundwater wells if the location is proposed within 400 feet of a potential source of contamination and, if so, where is that stated? Copies of the regulations should be provided as an Appendix to the ESD. If the regulations only apply to certain areas of the LUC Area, this should be depicted on a figure. The LUC Area depicted in Figure 3 shows that this area extends up to approximately 2000 feet beyond the Fort Devens property boundary.

The comment and questions posed all presuppose that private wells in this area of town could be allowed pending the processing of a well permit application. However, based on the Town of Ayer zoning, building and permitting requirements referenced in the ESD, a well permitting process would never be implemented for a property in this area because it is serviced by public water. In fact, private well permits in Ayer are rare (95% of Ayer is serviced by Town water) given these requirements and the fact that most areas have access to public water. A review of the MassDEP "search well" database indicates only 25 new well records from 1971-2009 all of which are located in more rural areas outside the town center not serviced by public water. Finally, in the unlikely event that a private well permit application is submitted for review by the BOH, it is the duty of the local BOH to monitor local conditions and create necessary regulations which address those conditions in order to protect public health (per MGL CH. 111, Section 31). Therefore, under the existing town regulations, the well documented site conditions and local BOH legal responsibilities, it is difficult to envision a scenario whereby a private well construction permit application for property along West Main Street would ever be submitted let alone be approved.

The LUC boundary is approximately 400 feet from the edge of the northern impact area, not the Fort Devens' property boundary. Any institutional controls will refer to the LUC boundary on a map (Figure 3) not distances from property boundaries. Therefore this extended boundary will create an additional buffer from the impacted groundwater. Figure 3 of the ESD depicts the area to be restricted under the LUCs and will be included in the moratorium developed with the Town of Ayer.

9. Page 10, lines 375-384: To support the relevance of the cited by-laws, a copy of the Town of Ayer utility plan showing the location of municipal water supply pipelines in the LUC Area should be provided. Further, consistent with Section 6.2 of "A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites," the Army should have discussions with the Town to address whether any anticipated changes to the ordinance are likely, whether zoning variances are allowed that could compromise the value of these requirements as an IC layer, and whether procedures are in place to assure compliance with the zoning requirements.

As part of the preparation of the LUCIP the Army will work with the Town of Ayer to define and develop what procedures are required to assure compliance with the zoning requirements. A Town Utility Map will included as an Appendix to the LUCIP.

10. Page 11, lines 410-412: As noted in the General Comment above, EPA believes a groundwater use moratorium must be implemented for the LUC discussed here. EPA has determined that the existing regulations and proposed education and outreach in the Draft ESD are not capable of meeting the LUC performance objective of prohibiting the withdrawal and/or use of groundwater from the LUC Area without a moratorium.

    Please refer to the response to EPA General Comment No.1 and 2.

11. Page 11, lines 421-423: Please revise. Because the LUCs identified on page 10 are governmental controls under State and local authority, Army would not modify or terminate them. Rather, Army should indicate that they will coordinate with local and State authorities, as appropriate, when LUCs are no longer required for protectiveness of the Shepley's Hill Remedy. At that time, the Town of Ayer may choose to terminate the groundwater use moratorium.

    The following language will be added to line 423 "coordination/concurrence of the *Town of Ayer,* EPA and MassDEP, *that the LUCs are no longer required or the LUCs should be modified.*

Follow-up to Army's Draft RTCs
March 26, 2013

EPA has the following follow-up comments on the Army's RTCs:

- During our telephone discussion on March 15th, we discussed the response to General Comment 2 and EPA's request for a document to memorialize a "common understanding" between Army and the Town of Ayer. During the call, you indicated that Army believed that the planned Land Use Control Implementation Plan (LUCIP) should satisfy the requirements for Army's documentation of its roles, responsibilities and legal authorities related to the implementation of the proposed LUCs and that Army did not agree that a separate document was necessary. EPA is willing to consider using the LUCIP as the document to support the Army and Town's "common understanding", since the Army intends to retain responsibility for much of the long-term responsibility for LUC oversight. Possibly, Army could ensure that the LUCIP adequately documents the Town's roles and responsibilities for LUC implementation and enforcement and Army/Town coordination efforts going forward. The Town could then issue a letter following review of the draft LUCIP acknowledging the LUCIP requirements and agreeing to work with the Army to ensure implementation and enforcement of the

LUCs. EPA would also want the Town's letter to state that the Town would notify Army, EPA and DEP if there was any change in their ability to maintain and enforce the LUCs relied upon in the ESD and LUCIP. This letter could be incorporated into the Final LUCIP. Let's discuss this option further with the Town as we move forward with finalizing the ESD and drafting the LUCIP.

The Army will work with the Town of Ayer and the EPA to incorporate the above points into the LUCIP.

- With respect to RTC to Specific Comment 4, EPA recommends the revised text be updated to state: "*Currently,* ***based on available survey records,*** *there is no significant risk to human health, but such a risk could exist if groundwater was a source of drinking water.*"

  The text will be revised to reflect the above recommendation.

Ayer BOH Comments on
Draft Explanation of Significant Differences
Land Use Controls to Restrict Use of Groundwater
For Shepley's Hill Landfill Superfund Site
Former Fort Devens, MA
April 5, 2013

The Ayer Board of Health offers the following comments on the Draft ESD:

1. The Ayer Board of Health would like to go on record that the Army will be responsible and provide for any abandonment and/or decommissioning of wells that may be identified within the plume of contamination Area of Land Use Controls, including covering the costs of doing so. This should be noted as being open ended, meaning that should a well be found, for example, five years from now, the Army will still be responsible for taking care of it.

   Please refer to the response to EPA General Comment No.2.

2. The report is very difficult for the average person to understand. It would be helpful in the future if information produced by you was put forth in less technical language.

   Although we understand your frustration, the documents that are produced under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) are technical in nature, in order to meet the requirements of the EPA's regulations. The Explanation of Significant Differences (ESDs) is a legal document that is intended to spell out the changes to the site remedial action objectives (RAOs) from the current of the Record of Decision (ROD) for the site. Therefore this document requires a concise technical summary of the differences noted and changes required.

   As part of the LUCIP there will be newsletters and public forums to provided, written in less technical language that will be distributed to the public.

3. We wish to reiterate that all costs associated with any implementation of land use controls by Ayer Board of Health must be borne by the Army.

   The Army's responsibility with respect to implementation of LUCs and the Town of Ayer's responsibility related to the enforcement of the LUCs will be specified in the LUCIP. The Army will work with the BOH to ensure effective implementation and enforcement of the LUCs. The Army believes that these LUCs will have a minimal financial impact on the Ayer BOH or the town in general.

4. We feel it would be helpful if the Army maintained a database of all landowners in the affected area and continued to update it annually. Contents of this database should be worked out in consultation with the Town of Ayer.

   In the LUCIP, the Army will outline the tasks that will be completed as part of the plans execution. The Army will be updating its database of landowners with the area of LUCs.

5. Public education and outreach is important and must be defined clearly.

   The Army will include the details of "public education and outreach" *in the LUCIP. Public education and outreach will likely include but limited to the following:*

   i. *Updated survey of affected landowners and residents*

   ii. *Distribution is literature regarding the restriction of ground water use in the area of Land Use Controls*

   iii. *Participation in annual or as needed meetings with the Board of Health to update them on any changes in the groundwater use restrictions or to the area of LUCs*

6. Please define how the Army will contact landowners and residents to ensure the greatest outreach to impacted residents' areas. We would suggest using a combination of certified mail, inclusion of notices in water bills, and door-to-door outreach if necessary.

   The Army will contact the landowners and residents of properties located within the LUCs via certified mail, door to door survey or other means agreed to by the Town Ayer. The LUCIP will include the details of these notifications.

7. Please consider posting the land with signs indicating the Ayer Board of Health does not allow wells in this area.

   The Army will work with the Town of Ayer to determine the best means of continuing to inform the public that groundwater should not be accessed or used in the area of LUCs. The installation of groundwater wells in any part of Ayer requires approval by the BOH. The administrative controls on groundwater use implemented in the LUCs and that are currently in place under the Town of Ayer's by-laws may be the best means to protect the public.

Laurie Nehring Comments on
Draft Explanation of Significant Differences
Land Use Controls to Restrict Use of Groundwater
For Shepley's Hill Landfill Superfund Site
Former Fort Devens, MA
April 5, 2013

General Comments:

I am concerned that this report is very difficult for the average person to understand, and to grasp the potential impact on his/her property if they reside in the designated areas along West Main Street in Ayer. The town of Ayer is not even mentioned in this report, as it relates to the need for LUCs until we get to page 9 (out of 14 pages).

The report appears to me to be cryptic in avoiding language that makes it clear why the ESD is important, and how the LUCs may impact the residents in the affected area and burden town officials. I ask that Army to remove acronyms that have little meaning to residents (such as NIA), and replace them with words that have meaning, such as "town of Ayer".

Specifically, I suggest:

-The title of this report should be reworded as: "Explanation of Significant Differences Land Use Controls to Restrict Use of Groundwater in portion of the town of Ayer as a result of the for Shepley's Hill Landfill Superfund Site"

-Remove the acronym NIA and replace it with "the properties in Ayer along W. Main Street that is north of the landfill."

-Include a clear statement about the problem and need for the LUC in the introduction that clearly defines the location of the impact area.

Please see the answer to the BOH's comment No. 2. In addition the requested revisions would cause confusion with other documents that refer to the area as the NIA as well as the previous ROD, and therefore is not recommended, however we can define the NIA acronym to state that this area includes properties in Ayer along W. Main Street that is north of the landfill.

Specific Comments:

1. I agree with the comment from EPA, that the LUC defined in the footnote 3 should be replaced with the updated regulation.

   The reference will be updated. Please see the response to EPA's Specific Comment No 2.

2. Line 131. Please provide evidence that the landfill waste was placed over peat deposits and how much of it is "sandy aquifer that overlie bedrock or till. "

   The characterization of the landfill's geology can be found in the several historic SHL site investigation reports but is most recently summarized in the Shepley's Hill Landfill Supplemental Groundwater and Landfill Cap Assessment for Long-term Monitoring and maintenance – Addendum Report, dated August 2011. A reference to this report will be added to the document.

3. Line 178. In the RAO, please include "Protect potential residential receptors <u>in Ayer and possibly Devens</u> from exposure..

   The RAO is a direct quote from the ROD and cannot be changed in this document.

4. Line 244-250. A question: Do the deed restrictions described here which border Plow Shop Pond also apply to Grove Pond drinking water wells, owned by the Army or by Mass Development? It is my understanding that these wells are shallow wells, and still used sporadically to keep them from rusting. Please explain.

   The Grove Pond drinking water wells are owned and operated by the Devens Enterprise Commission (DEC) and are located outside the area proposed to be under the LUCs.

5. Line 251. Suggest rewording "There <u>currently are no known human receptors</u> for groundwater exposure.

   The language in line 251 will be updated to reflect the above suggested change.

6. Line 300-304. The statement that "large amount of arsenic is being mobilized by natural as well as landfill-induced conditions" has not been proven. While it is a complex problem, this statement should be removed unless is it supported with scientific evidence.

   The Army believes that this statement is supported by scientific evidence as summarized in the SAR, 2011 and other investigative reports and those data and conclusions are also supported by similar peer-reviewed scientific studies at sites with similar conditions/history therefore the Army will retain the text in lines 300-304.

7. Line 309. Please remove the word "only". It diminishes the importance of the impact of property owners, and I find it belittling.

   The word "only" here is used in a specific reference to the existing ROD, not the SHL project as a whole. The addition of the LUC language as an enforceable component of the ROD is the only significant change; therefore keeping the word "only" in line 309 appropriate. There is no other intention of the use of the word.

8. Line 317 – 319. I adamantly request the Army NOT use the vague term "NIA" to mean, "Properties in Ayer impacted by the north plume." Please replace NIA throughout this document with a clear statement that defines the location.

   The term NIA has been used in several of the previous documents as an abbreviation to define the area where elevated arsenic levels have been detected in groundwater beyond the SHL boundary. The term NIA has come to define the area in earlier submittals and has become a term that defines this area for the regulatory groups involved. The Army will try to minimize its use where it's appropriate; especially in the LUCIP. As per our response to the General Comment, the Army will use the phrase "the properties in Ayer along W. Main Street that is north of the landfill" as suggested.

9. Line 331. Rewording suggested to state "Groundwater in the <u>areas in Ayer impacted by the north plume poses</u> an unacceptable risk.. (remove the work 'would').

   The language in line 331 is being updated at with additional language at the EPA's request. Please refer to the response to EPA's comment No. 5.

10. Line 359-362. Please remove the final sentence in this paragraph.

    The Army believes that this statement is supported by scientific evidence and will retain the text in lines 359-362.

11. All costs associated with the implementation of these LUC's by the Ayer Board of Health, Building Commissioner, legal fees and any other town official or individual responsible for this implementation should be fully funded by the Army. This would include but not be limited to clerical time, technology support, management, hiring of any experts, materials & supplies needed, postage, costs for public hearings, etc.

    Please see the response to the BOH's comment No. 3.

12. A database of the impacted properties in Ayer should be maintained and updated at least annually, along with a map overlay, clearly showing the impacted properties. The contents of the database should be worked out in consultation with the Town of Ayer.

    Please see the response to the BOH's comment No. 4.

13. Line 399. The Public Education and outreach is important, and must be defined clearly. "Periodic distribution" should be replaced with "annual" or "biannual" as per the Board of Health requirements.

    Please see the response to the BOH's comment No. 5.

14. Line 403. Please define how the Army will contact landowners and residents to ensure the greatest outreach to impacted residents possible, as close to 100% as possible. I

suggest using a combination of certified mail, inclusion of notices in water bills, and if necessary, door to door outreach for those who have not been reached via certified mail.

Please see the response to the BOH's comment No. 6.

15. Consider posting the land with signs indicating, "The Ayer Board of Health does not allow wells in this area" or something like that, with contact information on the sign.

    Please see the response to the BOH's comment No. 7.

16. Line 460. While it is helpful to have meetings with 'stakeholders' through the BRAC cleanup team & the RAB, as stated here, it should also be stated that these are not adequate in reaching out and educating the general public. RABs are offered only quarterly, and are not well attended, nor understood by the average person. In addition, the public (including the Technical Advisor for PACE & PACE representatives) is not generally allowed to attend the BRAC Cleanup Team meetings, which is the best way stay updated on current events and activities.
    I believe that the RAB meetings, by themselves, barely function in serving the purpose of keeping citizens involved and informed.

    In accordance with the CERCLA process, the Army is fulfilling its requirement to provide a forum through the RAB meetings to involve and inform the public in the site remedial investigations and actions taking place at Fort Devens. If additional outreach is required we suggest that this be discussed with PACE.

TOWN OF AYER BOARD OF SELECTMEN COMMENTS ON
EXPLANATION OF SIGNIFICANT DIFFERENCES
SHEPLEY'S HILL LANDFILL
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
APRIL 2, 2013

Of specific comment and concern, the Ayer Board of Selectmen offers the following with respect to the DRAFT ESD

1. The Town of Ayer would like the U.S. Army to conduct additional testing to accurately delineated the extent of the arsenic plume with respect to its apparent north-west expansion toward the Nonacoicus Brook (Similar requests have been stated by PACE in their comments to you on the DRAFT ESD).

   The Army is in the middle of additional delineation drilling in this area. Please refer to the "Draft Final Work Plan for Long-Term Monitoring and Maintenance Plan Update," dated April 2013 for the details of this additional investigation. This investigation is being conducted with input from the EPA and MassDEP. The data will be available in the Annual Long Term Maintenance and Monitoring Plan in September 2013 which will also be submitted in draft form for public review and comment.

2. The Town of Ayer through its Board of Health will implement the mandatory drinking and irrigation water well moratorium and other local regulatory controls, but the Town remains concerned over the level of technical support for the monitoring and enforcement of these controls. As you are aware, the Town of Ayer has a three-member, elected, all-volunteer Board of Health and we share a Health Inspector through the Nashoba Valley Board of Health with 16 other communities. Hence, the Town of Ayer is requesting that the U.S. Army provide the Town of Ayer's Board of Health with **permanent,** dedicated technical support for the monitoring and enforcement of the land use controls with all costs (including employment and post-employment benefits) to be incurred by the U.S. Army.

   The Army is responsible for implementation all LUCs to be specified in the LUCIP. The BOH currently has a technical grant from the EPA for a third party consultant to assist them in writing the requested moratorium on groundwater use in the area of proposed LUCs. Once the moratorium is in place there will not be any extra duties the BOH is required to perform that is outside their routine review and enforcement duties which the board already performs. Under the Town's current zoning by-laws, building and permitting requirements, the use of private wells along West Main Street is already prohibited given the availability of public water. Therefore, an application for a private well construction permit submitted through the Board of Health is very unlikely. For this reason, the Army believes that a groundwater moratorium is not necessary to meet the stated LUC objectives.

   However, if the Town and EPA consider issuing a moratorium on groundwater use is necessary, then the Army will work with both agencies to ensure it is implemented under the LUCIP.

3. On March 20, 2013, through the support of a TASC Grant from the EPA, the Town of Ayer held a successful Public Hearing in Ayer on the issue(s) of Shepley's Hill Landfill Superfund Site and its impact(s) to the Town of Ayer. Part of this Public Hearing included the direct mailing to all known addresses in the affected arsenic plume. However, the Town remains concerned as to the level of public awareness of this issue at the affected properties because there is a high level of transient residents in this area in addition to non-resident property owners. We would respectfully request a dedicated public outreach and public education program initiated by the U.S. Army in cooperation with the Town of Ayer, EPA, and DEP.

   Please see the response to the BOH's comment No. 5.

4. As stated by our Town Administrator at the November 2012 RAB Meeting as well as by other Town officials at the March 20, 2013 Public Hearing, the Town has incurred and will continue to incur legal costs with respect to the drafting, implementation, administration, and periodic update/revision of the Town's land-use controls. Therefore, the Town of Ayer respectfully requests a meeting with the U.S. Army to negotiate a fair and equitable financial amount for Town incurred legal costs to effectively address this problem which was created by the U.S Army and not the Town of Ayer.

   Please see the response to Board of Selectmen Comment No. 2.

5. The Town of Ayer as well as PACE (people of Ayer Concerned about the Environment) believes that there is significant value to improving the ongoing operation of the arsenic pumping station on the Shepley's Hill Landfill. It is our opinion, that the pumping station has and is slowing the expansion of the arsenic plume across the north western portion of the Town of Ayer. However, we are concerned that the area of influence of the system is not sufficient. We are respectfully requesting written reassurance from the U.S. Army that the arsenic pumping station will remain operational on the Shepley's Hill Landfill for the foreseeable future and that every effort will be made to evaluate and upgrade the system as needed to prevent further migration of arsenic form the landfill and further contamination of ground water under the properties within the Town of Ayer. Furthermore, we request that the Army periodically look for and evaluate any emerging technologies that could possibly resolve the arsenic contamination of groundwater more quickly than the pumping station is able to do.

   The Army respectfully disagrees with the Town of Ayer's assessment of the SHL remedy effectiveness and refers to the Army's position stated in Memorandum by Mr. William J. O'Donnell II, BRAC Division to Mr. Bryan Olson, USEPA Region I, dated August 9, 2012.

6. With respect to the public participation activities as outlined in the U. S. Army's DRAFT "Explanation of Significant Differences" (ESD), the Town of Ayer requests that the U.S. Army at its cost in conjunction with the Town of Ayer, PACE, EPA, and DEP hold an annual public forum in Ayer regarding the ongoing status of the Shepley's Hill Landfill Superfund

Site with specific emphasis on an update pertaining to the arsenic plume in the Town of Ayer until the arsenic contamination in the ground water under the Town is below EPA's Maximum Contaminant Levels for drinking water and the Town can lift the moratorium on private water wells.

As part of the LUCIP, the Army will include providing an annual public meeting to update the Town and its residents on the status of the arsenic plume and the area of proposed LUCs.

TOWN OF AYER DPW's COMMENTS ON
EXPLANATION OF SIGNIFICANT DIFFERENCES
SHEPLEY'S HILL LANDFILL
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
APRIL 4, 2013

I have reviewed the Draft Explanation of Significant Differences- Land Use Controls to Restrict the Use of Groundwater, dated October 2012 Prepared by Sovereign Consulting Inc. My review and comments are based on my engineering education and experience and are beyond comments directly related to the Department of Public Works. These comments should be reviewed and if the Town feels they are valid, should be forwarded to the Department of Army.

1. Line 410 - " Request that the Ayer BOH consider implementing additional controls or restrictions....". The existing controls are related to drinking water wells. Provide more guidance on how to monitor or restrict the installation of irrigation and geothermal wells.

   The BOH currently has a technical grant from the EPA for a third party consultant to assist them in writing the requested moratorium on groundwater use in the area of proposed LUCs. An example of a moratorium (a one page letter) from the Town of Mashpee was provided to the Board of Health by the EPA.

2. Line 422 - refers to "such levels". Levels or basis for establishing acceptable levels should be detailed.

   "Such levels" will be defined as below Massachusetts DEP Maximum Contaminant Levels (MCLs).

3. The LUCIP should detail the specific responsibilities, level of effort and related costs to the Town to implement and oversee the controls.

   Please see the Response to the Board of Health's Comment Nos.3, 4 and 5.

4. All costs to the Town for monitoring and enforcing the local controls should be paid by the Army.

   The Army will be responsible for the implementation of the LUCIP. The Army cannot enforce local regulations. The Army does not believe that there are any additional expenses that the town will bare as a result of the LUC implementation or the enforcement of any new or existing local regulations that restrict groundwater use within the area of LUCs.

5. The Ayer DPW will need to repair, replace and extend buried utilities in the impacted area. Other utility companies (gas & electric) also have buried utilities in the area that will need excavation. This may impact the contaminated groundwater. The ESD needs to address in detail and specific requirements for material, excavation, dewatering, disposal of excavated

material and groundwater and worker protection. In addition, the additional costs related to these requirements need to be paid for by the Army.

The depths of arsenic impacts is greater than 20 feet below grade and are not at the typical depths where utility lines are lain.

MassDEP COMMENTS ON
REVISED EXPLANATION OF SIGNIFICANT DIFFERENCES
SHEPLEY'S HILL LANDFILL
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
JULY 3, 2013

Specific Comments:

1) Section 2.2.2: The final paragraph, an apparent reference to the Army's controversial position on the performance of the groundwater extraction system, should be deleted from' the ESD because the regulatory agencies have not accepted the Army's position on the performance of the extraction system, and the subsequently described rationale (incomplete delineation at time ROD was signed, Section 3.1) has been accepted and is sufficient to justify the ESD.

   Comment Noted. The Army intends to keep this text in the document as it appropriate to document the concern that that remedy cannot achieve the RAO.

2) Section 3.1.2, First Bullet: Please identify the page number, subsection, and paragraph where the requirement to connect to public utilities located within 400 feet of a property can be found.

   A foot note has been added to this section of text to provide a more specific reference.

3) Section 3.1.2, Second Bullet: The ESD should include a copy of the cited Moratorium on Groundwater Use.

   Now that the Moratorium has been issued by the Ayer Board of Health, it will be included as Appendix A.

4) Section 3.1.2, Fourth Bullet: New text concerning conditions that meet public water supply criteria and consequences of a non-potential drinking water source area should be deleted; the outcome from the source approval process cannot be known without a case-specific determination by MassDEP.

   The text is prefixed as an example, based on observed site characteristics and not making a determination of behalf of the DEP. The Army intends to keep this text in the document as it relates to the definition of the Land Use Controls for the restricted area. The word "likely" has been inserted in line 475 of the attached redline version to help clarify an example is being made.

EPA Comments on
Draft Final Explanation of Significant Differences
Land Use Controls to Restrict Use of Groundwater
For Shepley's Hill Landfill Superfund Site
Former Fort Devens, MA
18 July 2013

General Comment:

The Draft Final ESD was submitted in order to amend the Shepley's Hill Landfill (SHL) Record of Decision (ROD) to incorporate institutional controls (ICs) prohibiting the use of groundwater in the area within the Town of Ayer where the groundwater plume from SHL has traveled beyond the former Fort Devens boundaries (referred to as the "impacted area," "North Impact Area," or "NIA"). As EPA has stated in past correspondence, robust and reliable institutional controls are necessary because of the extremely high levels of arsenic under SHL and private properties in the North Impact Area.

Through the Draft Final ESD, Army has proposed reliance on governmental controls, in the form of local land use control (LUC) ordinances, along with informational devices, including regular surveys and communications with property owners in the impacted area, to meet the LUC objectives of restricting access to groundwater and prohibiting use of groundwater within the NIA.

EPA reiterates its position that a groundwater moratorium specifically prohibiting use of groundwater within the impacted area is a critical component of the Army's LUC layers. EPA believes that this type of LUC is necessary to address potential gaps in the existing local regulatory controls cited by the Army as LUC layers in the Draft ESD. A moratorium provides for a strong LUC, since the groundwater plume map and specific restrictions for the area are incorporated directly into the Town's well regulations and as it applies to both existing and new wells.

As noted in the Draft Final ESD, the Ayer Board of Health issued a Moratorium of Groundwater Use within the Army designated 'Area of Land Use Controls' in May 2013, and that is now incorporated into the ESD as an additional LUC layer. EPA provided technical support to the Town of Ayer, through its Technical Assistance for Superfund Communities (TASC) grant program, which facilitated the Town's evaluation of the ESD and the issuance of this Moratorium. EPA greatly appreciates the Town's cooperation and willingness to issue the moratorium, in support of the LUC performance objectives detailed in the ESD.

Although EPA continues to disagree with the Army on the adequacy of the other governmental controls included in the ESD in meeting the LUC performance objectives alone, it is a moot point since the Town has now issued the groundwater moratorium and Army has incorporated the moratorium as an additional LUC layer.

EPA requests that Army address any outstanding comments from stakeholders and proceed with preparing a Final ESD for Army and EPA signature. EPA requests that Section 6.0 be revised to reference the extended public comment period and the Town of Ayer's March 20, 2013 public meeting.

Within 3 months of signature of the ESD, Army must submit the Draft Land Use Control Implementation Plan (LUCIP). Consistent with the Army's response to EPA's comments on the Draft ESD, the LUCIP should document the Army and Town of Ayer's roles, responsibilities and legal authorities related to the implementation of the governmental controls relied upon pursuant to the ESD and should also include procedures to assure compliance with the zoning requirements and a Town utility map. In addition, in preparation of the Draft LUCIP, Army should consider the recently released EPA guidance documents related to Institutional Controls entitled, "A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites" and "A Guide to Preparing Institutional Control Implementation and Assurance Plans at Contaminated Sites," both issued in December 2012 and available at

http://www.epa.gov/superfund/policy/ic/guide/index.htm.

The Army will address comments from stakeholders that have been submitted regarding the Draft Final ESD. Section 6 will be revised to include a reference the extended public comment period and the Town of Ayer's March 20, 2013 public meeting.

The Army will submit a draft LUCIP to the stakeholders within 90 days of finalization of the ESD as stated in Section 3.1.1, line 502 of the attached redline version.

As included in footnote No. 3 of the Draft Final ESD, the Army is utilizing the above suggested reference in the preparation of these documents.

Ayer BOH Comments on
Draft Final Explanation of Significant Differences
Land Use Controls to Restrict Use of Groundwater
For Shepley's Hill Landfill Superfund Site
Former Fort Devens, MA
July, 8 2013

The Ayer Board of Health (BOH) offers the following comments on the Draft Final ESD:

1) To make the document easier to review by those new to the project, please consider adding a glossary of abbreviations and acronyms prior to the first section of the document content.

   A list of acronyms will be provided following the table of contents.

2) Please replace the words "increased the uncertainty" with "decreased the likelihood" in the final paragraph in Section 2.2.2, which currently states:

   i) This CSM and the complex groundwater contamination problems have increased the uncertainty that this remedy will meet the aquifer restoration goals.

   The BOH understands that the wording of this paragraph has been the subject of much debate between the Army and regulatory agencies due to disagreement over the performance of the extraction system. The BOH's request is intended to clarify the present situation, based on monitoring well data, which clearly demonstrate unacceptable levels of mobilized arsenic in the groundwater; therefore, it is unlikely that the arsenic treatment plant (ATP) will be capable of adequately restoring the aquifer.

   Comment noted. The draft final language will be kept as the term "uncertainty" is tied to standard risk evaluation language used when evaluating a remedy. The Army intends to keep this text in the document as it appropriate to document the concern that that remedy cannot achieve the RAO.

3) Please replace the word "could" with "would" in the following sentence in the last paragraph of Section 2.1.2:

   i) Currently, based on available survey records, there is no significant risk to human health, but such a risk could exist if groundwater was a source of drinking water.

   It has been well established in the scientific literature that human ingestion of arsenic at levels in excess of the 10 ppb MCL (Maximum Contaminant Level) upper limit set by the Federal EPA constitute a risk to human health. Because groundwater arsenic levels have consistently exceeded this limit over a long period of time as measured via sampling wells, with some values in excess of 3,000 ppb measured earlier this year at SHM-13-04 (which is believed by the EPS to be within the core of the plume), there should be no remaining

uncertainty as to whether exposure to these levels of arsenic in drinking water "could" pose a significant risk to public health.

The text will be revised as suggested.

4) The BOH requests that the Army include a statement in the ESD to clarify that it will bear financial responsibility for any well decommissioning or any other costs necessary to ensure the effectiveness of existing and future Land Use Controls.

   In a letter dated April 5, 2013 the BOH made the following comments:

   i) The Ayer Board of Health would like to go on record that the Army will be responsible and provide for any abandonment and/or decommissioning of wells that may be identified within the plume of contamination Area of Land Use Controls, including covering the costs of doing so. This should be noted as being open ended, meaning that should a well be found, for example, five years from now, the Army will still be responsible for taking care of it.

   ii) We wish to reiterate that all costs associated with any implementation of land use controls by Ayer Board of Health must be borne by the Army.

   As stated in the Response to Comments to the Draft ESD, it is the Army's responsibility to implement the Land Use Controls (LUCs). As part of the LUCIP, the Army will detail the procedures to be followed if a groundwater well is discovered with the area of LUCs. If it is determined that a groundwater well was installed prior to the implementation of the LUCs, the Army will take financial responsibility for the decommissioning of that well and filing of the appropriate paperwork with the Ayer BOH and the State of Massachusetts.

   The Army will be administratively and financial responsible for the implementation of the LUCIP. The Town of Ayer will be responsible for the enforcement of the related LUCs.

5) The Army's response to these comments, which were provided in Appendix D to the Draft Final ESD, is as follows:

   i) The Army's responsibility with respect to the implementation of LUCs (Land Use Controls) and the Town of Ayer 's responsibility related to the enforcement of the LUCs will be specified in the LUCIP (Land Use Control Implementation Plan). The Army will work with the BOH to ensure effective implementation and enforcement of the LUCs. The Army believes that these LUCs will have a minimal financial impact on the Ayer BOH or the town in general.

   Section 3.1.2 of the Draft Final ESD defines the LUCs applied to Shepley's Hill Site as: the current Town of Ayer Zoning Bylaws, the recent BOH Moratorium on Groundwater Use within the Area of Land Use Controls, the January 2001 Ayer BOH Well Regulations, and the Massachusetts Drinking Water Regulation 310 CMR 22.00, in addition to the following

affirmative measures to be taken by the Army in support of these LUCs: public education and outreach, meetings with the Ayer BOH, and updates to the LUC maps defining the current and projected areas affected by the LUCs.

In light of the reasonably detailed information describing the Army's steps to ensure that LUC performance objectives are met, the BOH requests that the Army add a statement confirming its current and ongoing financial responsibility for the costs of any decommissioning of any well found to be within the area of current and future LUC's. The Army's comment that "these LUCs will have a minimal financial impact on the Ayer BOH or on the town in general" is not substantiated and does not address potential expansion of the affected LUC area. While the BOH agrees that information currently available indicates there are no affected wells in the affected area, this may not be true in the future if the affected area is expanded due to further migration of the existing arsenic contamination. In the event that any wells are discovered to be present in the current LUC area, or if the LUC area is expanded to include properties where wells are present, neither the cost nor the responsibility for decommissioning is clearly defined. Because the Army, not the residents of Ayer, is responsible for the full cost of the entire Shepley's Hill contamination cleanup, we believe it is appropriate to include the cost of well decommissioning in the lists of the Army's "affirmative measures to further ensure that the LUC performance objectives are met" (Draft Final ESD, Section 3.1.2).

See response to BOH Comment No. 4 above.

6) The BOH finds the Army's description of public education and outreach relative to ensuring that LUC performance objectives are being met to be vague and non-specific and requests that the description of these actions be changed to describe the Army's plans for the type, method, and frequency of public education and outreach activities in terms that are quantifiable and measurable. If the Army does not feel it is appropriate to go into this level of detail in the ESD, the BOH requests that the Army modify the final paragraph of Section 3.1.2 to specify that the LUCIP will include the Army's plans for specific, quantifiable public education and outreach activities, which will be evaluated and monitored by the Town of Ayer.

   Please note that this request mirrors similar requests made in the BOH's April 5, 2013 letter in reference to the previous ESD draft, specifically:

   i) Public education and outreach is important and must be defined clearly.

   ii) Please define how the Army will contact landowners and residents to ensure the greatest outreach to impacted residents' areas. We would suggest using a combination of certified mail, inclusion of notices in water bills, and door-to-door outreach if necessary.

In response to these comments the Army indicated that the details of these activities will be defined in the LUCIP and will "likely include but limited to the following" (should this state "not limited to"?):

i) Updated survey of affected landowners and residents.

ii) Distribution of literature regarding the restriction of groundwater use in the area of Land Use Controls.

iii) Participation in annual or as needed meetings with the Board of Health to update them on any changes in the groundwater use restrictions or to the area of LUCs.

The requested information and detail will be included in the LUCIP and not in the ESD. The Army will describe the tasks listed above, and the implementation of those tasks in LUCIP. The Army can meet with BOH, at the board's request, prior to the finalization of the draft LUCIP to review the plans contents. The BOH will have the opportunity to review and comment on the Draft and Draft Final LUCIP.

MassDEP Comment No. 1

First Paragraph of 3.1.2: Replace entire paragraph with the following:

"To meet the LUC performance objectives, the Army is responsible for ensuring that the following four LUCs are established, monitored, maintained, and reported on as part of this final remedy to ensure protection of human health and the environment in accordance with CERCLA and the NCP. In the event that the Town of Ayer fails promptly to enforce the any of the first three LUCs or the Commonwealth of Massachusetts fails to promptly enforce the fourth LUC, the Army will act in accordance with subparagraph (b) of this section 3.2.1, below, regarding the decommissioning of wells, issuing health warnings and installing treatment systems. For purposes of the preceding sentence, "promptly enforce" means if the violation or potential violation is imminent or on-going, enforce to prevent or terminate the violation within 10 days from the enforcing agency's (i.e., the Town or the Commonwealth) discovery of the violation or potential violation; otherwise, enforce as soon as possible."

Army Response:

These changes are not necessary to include as a replacement to referenced text. The Army's responsibilities are already specified in the ESD with respect to LUC monitoring, maintenance and reporting. These responsibilities will be further specified in the LUCIP.

MassDEP Comment No. 2

First bulleted paragraph of 3.1.2: This bulleted paragraph overstates the scope of Ayer's zoning code, and the degree to which it can serve as an effective control on groundwater use. The referenced "Article 10 – Site Plan Review" in Ayer's zoning code, which the Army appears to be relying on principally, does not apply to all "new building or structure and any land use," as the bulleted paragraph states, but only the developments and uses described in 10.2(a) through (d) of Article 10. This is typical of zoning codes: site plan review applies to some, but not all development. Furthermore, although the site plan must show compliance with "environmental performance standards" (which is undefined), as well various provisions cited in the Zoning By-Law, none of those provisions appear to address groundwater use specifically. See 10.6(g) and (h) of the Zoning By-Law. Replace second paragraph in this bullet in its entirety with the following language:

"Article 10 – Site Plan Review of the Town of Ayer's Zoning By-Laws provide that developments and uses above certain minimum thresholds specified in Section 10.2 of said Article may not be permitted unless a site plan has been endorsed by the Town of Ayer Planning Board. Such site plan must show the location of, and describe, how water is being supplied to such developments."

Army Response:

The text has been revised to better reflect how the zoning by-laws apply. However, this LUC layer does in fact address all new building and structures since it includes both the Town of Ayer Zoning By-Laws and the Town of Ayer Building Department Permitting Requirements. The site plans required for both subdivision and cluster development under the Subdivision Control Regulations and the Zoning By-Laws requires, "A Utility Plan showing the location, size and engineering detail of the existing municipal water distribution lines, sanitary sewer collection lines, storm-water management systems, fire hydrants, pumping stations and other system features. The Utilities Plan also shall include design of all proposed utilities to be constructed on site and their connections to the municipal systems; also refer to Town of Ayer Subdivision Control Regulations, Section IV, Design Standards." The design standards state, "Where public water system is located within four hundred feet of the subdivision, the sub-divider shall connect to the public water system. Where a public water system is not located within four hundred feet, the sub-divider may install private on-lot water systems and such systems shall be designed in conformity with the standards of the Board of Health."

The site plan review of other types of development not addressed above i.e., new single residence house construction, is addressed under the Town of Ayer Building Department Permitting process which states, " If your lot has public utilities, you are required to obtain connection permits from the DPW."

MassDEP Comment No. 3

Second bulleted paragraph of 3.1.2: The Town of Ayer's Moratorium restricts the use of groundwater in "documented or anticipated areas of groundwater contamination as defined by the Ayer Board of Health." These areas are not necessarily identical to the "Area of Land Use Controls" described in Figure 3 of the ESD, which extends 400 feet from the limits of groundwater contamination. Delete "within the Area of Land Use Controls" after "(Attached as Appendix B)". Delete "within the Area of Land Use Controls as defined by Figure 3 (including any future revisions)" and replace with "within documented or anticipated areas of groundwater contamination as defined by the Ayer Board of Health." Add the following sentence: "The Army will be responsible for ensuring that the Town of Ayer applies the Moratorium

to an area that is at least as extensive as the Area of Land Use Controls established pursuant to this ESD, as the Area of Land Use Controls may be adjusted from time to time to reflect the actual location of the contamination."

Army Response:

Since the Town of Ayer Moratorium did not reference Figure 3 - Area of Land Use Control, the text has been revised accordingly as follows:

- ***Moratorium on Groundwater Use within the Area of Land Use Controls - The Ayer BOH has issued a Moratorium on Groundwater Use (Attached as Appendix A).***

  This LUC will provide additional controls or restrictions on access to groundwater for the purpose of potable use or irrigation within documented or anticipated areas of groundwater contamination as defined by the Ayer Board of Health in consultation with the Army. This measure prohibits any and all uses of groundwater use in the defined area.

  The final suggested text change is not necessary since the Army's responsibilities to consult with the Ayer BOH for updating the Area of LUCs are already stated under the affirmative measure LUC.

MassDEP Comment No. 4

Third bulleted paragraph of 3.1.2: Delete the sentence beginning with "The Area of Land Use Controls has been serviced." The language of the zoning by-laws and building permitting requirements cited in that statement does not support the broad statement that the "installation of new private wells is not allowed." Delete "unlikely" before "event." We aware of no reliable basis for predicting far into the future the likelihood that a landowner in the affected area may apply for a groundwater permit. Replace "ensure that a private well would not be permitted" with "help ensure that a private well would not be permitted." Replace "Specifically, the requirement" with "The requirement". Replace "would prevent the installation of any new private wells in this area" with "would require the permit applicant to identify any possible sources of contamination within 400 feet of the proposed well."

Army Response:

As discussed above, the installation of new private wells is not allowed per zoning and permitting regulations. The purpose of this paragraph was to explain and interpret how this LUC

(the well regulations) would meet the LUC objective to restrict access to groundwater. The interpretation is accurate and the suggested changes to this paragraph are not warranted.

MassDEP Comment No. 4

Fourth bulleted paragraphs of 3.1.2: Replace these paragraphs in their entirety with the following:

"The Massachusetts Drinking Water Regulations at 310 CMR 22.00 – the state regulatory permitting and approval process for public water systems.

Any new Public Water Supply or any expansion of an existing Public Water Supply will be required to conform with the requirements of 310 CMR 22.00, which includes a screening, evaluation and approval process. The screening process is designed to identify potential threats to any Public Water Supply, including threats posed by contamination within the protective zones and areas around Public Water Supplies identified in 310 CMR 22.00."

Army Response:

The text as written provides an accurate description of the LUC layer and why it is consistent with the overall LUC objective to restrict access to groundwater. The suggested changes to this paragraph are not warranted.

MassDEP Comment No. 4

After the paragraph in 3.1.2 beginning with "In addition, the Army will implement the following affirmative measures," add the following new bulleted paragraph:

"Within two years of the signing of the ESD, the Army shall:

(a) Document all private wells (i.e. non-decommissioned wells, including wells not currently in use) that are above or within the Area of Land Use Controls;

(b) If, pursuant to paragraph (a) above, the Army identifies any private wells (i.e. non-decommissioned wells, including wells not currently in use) that are above or within the Area of Land Use Controls, the Army will offer the owner to decommission the well. If accepted, the Army will document such action with the BOH. If the decommissioning is not accepted, the Army will take other steps to ensure protectiveness, including, but not be limited to,

requesting assistance from the BOH to issue health warnings to the property owner and any other person with access to the well (such as a lessee or licensee), offering bottled water (if well is used for drinking), or installing treatment systems on affected wells. In each instance, the Army shall submit a schedule subject to EPA approval, outlining and including time limitations for the completion of steps sufficient to prevent exposure to concentrations of contaminated groundwater."

Army Response:

The suggested text additions are not appropriate for an ESD. The implementation of these LUCs, specifically groundwater use surveys and results, will be defined in the LUCIP.

MassDEP Comment No. 4

Third to Last Paragraph of 3.1.2: Replace "with the prior coordination/concurrence of the Town of Ayer, EPA and MassDEP" with "with approval of EPA and MassDEP, and after coordination with the Town of Ayer"

Army Response:

The referenced concurrence language has been deleted. This paragraph will now state that "All LUCs will be maintained until the concentrations of contaminants of concerns in the groundwater are at such levels as to allow unrestricted use and exposure." The concurrence language to modify LUCs will be added to the LUCIP.

MassDEP Comment No. 5

Second to Last Paragraph of 3.1.2: After the first sentence, add:

"Such monitoring shall be conducted at least annually. The monitoring results will be included in a separate report or as a section of another environmental report, if appropriate, and provided to the EPA and MassDEP. The monitoring reports will be used in preparation of the five-year review to evaluate the effectiveness of the final remedy. The monitoring report, submitted to the regulatory agencies by the Army, will evaluate the status of the LUCs and how any LUC deficiencies or inconsistent uses have been addressed. The annual evaluation will address (i) whether the use restrictions and controls referenced above were effectively communicated, (ii) whether the operator, owner, and state and local agencies were notified of the use restrictions and controls affecting the property, and (iii) whether use of the property has conformed with such restrictions and controls

and, in the event of any violations, summarize what actions have been taken to address the violations."

Army Response:

The suggested text additions are not appropriate for an ESD. The monitoring and reporting elements of each LUC will be specified in the LUCIP.

MassDEP Comment No. 6

Second to Last Paragraph of 3.1.2: At the end of the paragraph, add:

"The Army will provide EPA and MassDEP 30 days' notice of any changes to its or its contractors' or agents' procedures for monitoring, maintaining, and reporting on the LUCs established under this ESD."

Army Response:

The suggested text additions are not appropriate for an ESD. The monitoring and reporting elements of each LUC will be specified in the LUCIP.