Superfund Records Center
SITE: Devens
BREAK: 5.4
OTHER: 256945

SDMS DocID 256945

DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
BASE REALIGNMENT AND CLOSURE DIVISION
600 ARMY PENTGON
WASHINGTON, DC 20310-0600

EXPLANATION OF SIGNIFICANT DIFFERENCES

FOR

RECORD OF DECISION
AREA OF CONTAMINATION 43J

DEVENS, MASSACHUSETTS

Prepared By:

U.S. Department of the Army
Base Realignment and Closure Division
Devens BRAC Environmental Office
30 Quebec Street, Unit 100
Devens, MA 01434-4479

JUNE 2006

TABLE OF CONTENTS

1) **Introduction and Statement of Purpose:** 1

2) **Legal Requirement:** 2

3) **Summary of Site History and Selected Remedy** 2
   Site History: 2
   Selected Remedy Implementation: 3

4) **Description of Significant Differences:** 6
   Current Remedy: 6
   Modified Remedy: 6

5) **Affirmation of the Statutory Determinations:** 8

6) **Public Review:** 8

AUTHORIZING SIGNATURES 10

Figures

Figure 1 - Devens Location Map
Figure 2 - Project Locus
Figure 3 – Site Plan – AOC 43J and Parcel C

1) Introduction and Statement of Purpose:

This document presents the Explanation of Significant Differences (ESD) for the Record of Decision (ROD) on Area of Contamination (AOC) 43J, Devens, Massachusetts dated October 16, 1996. AOC 43J is located on a property known as Parcel C (the "Property") of the Devens Reserves Forces Training Area (DRFTA) Devens, Massachusetts (see Figures 1 & 2). The Property has been owned by the U.S. Department of the Army since Fort Devens was established in 1917, up to the present time. The Property is currently in the process of being transferred to the local redevelopment authority, MassDevelopment ("MassDev") under the early transfer provisions of CERCLA. The intended re-use of the Property is for innovation and technology businesses and will be "bundled" with adjacent properties to form a large development tract of property. The entire tract of property will then be part of a redevelopment project that may involve the construction of 12 structures ranging in size from 90,000 square feet (sq ft) to 262,000 sq ft to be utilized by a major pharmaceutical manufacturing facility. This future use of the Property and the adjacent property is consistent with the approved Devens 1994 Re-Use Plan.

The ROD states that should the Army change the use of the AOC, additional assessment and/or possible remedial action may be needed. In addition, if the Army transfers the AOC by lease or deed, an Environmental Baseline Survey (EBS) will be performed, and a determination will be made by the Army and U.S. Environmental Protection Agency (USEPA) whether the remedy remains protective of human health and the environment. This ESD incorporates the results of the additional assessments conducted as part of the EBS and the Finding of Suitability for Early Transfer (FOSET) and addresses the changes that are necessary for the remedy to remain protective of human health and the environment.

This ESD represents a significant change to the implementation of the remedy subsequent to the issuance of the AOC 43J ROD (Note: the 1996 ROD also included AOC 43 G, however, this ESD applies only to the AOC 43 J portion of the ROD since property ownership of AOC 43 G remains under the control of the Army and land-use remains unchanged).

Site Name and Location	
Site Name:	Devens Reserve Forces Training Area (former Fort Devens) Area of Contamination 43J (former historic gas station site).
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. The AOC 43J is located on Patton Road at the southern edge of the Main Post

	Reserve Forces Training Area (see Figures 1 & 2).
Lead and Support Agencies	
Lead Agency: Contacts:	Headquarters Dept. of the Army, Base Realignment and Closure, Atlanta Field Office Robert Simeone, BRAC Environmental Coordinator (978) 796-2205
Support Agencies Contacts:	United States Environmental Protection Agency and Massachusetts Department of Environmental Protection Ginny Lombardo, Remedial Project Manager, EPA New England, (617) 918-1754 Lynne Welsh, Remedial Project Manager, MA DEP, Central Region (508) 792-7650

2) Legal Requirement:

Under Section .117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act (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 AOC 43J differs significantly in scope, performance, or cost from the Record of Decision for the site, the Army shall publish an explanation of significant differences 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, and a description of the rationale for the changes to the remedy specified in the ROD.

3) Summary of Site History and Selected Remedy

Site History:

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 9,302 acres divided into North Post, Main Post, and South Post. 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. The Army transferred 4,120 acres under the Base Realignment and Closure Act of 1991. Currently, the Devens Reserve Forces Training Area (RFTA) consists of 5,182 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. The US Environmental Protection Agency (USEPA) placed the former Fort Devens on its National Priorities List on November 21, 1989. 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 (BRAC) of 1990. In 1991, the U.S. Department of the Army and the USEPA signed a Federal Facilities Agreement (FFA) under Section 120 of CERCLA for environmental investigations and remedial actions at Fort Devens. The installation ceased to be Fort Devens on March 31, 1996 at which time the remaining Army mission was assimilated by the Devens Reserve Forces Training Area (DRFTA).

AOC 43 J:

Prior to being designated AOC 43J the site was historically utilized as a gas station and motor pool during the 1940's and 1950's (see Figure 3). Subsequent to the closing of the gas station in the 1950's, it included a 5,000 gallon gasoline UST, a 1,000 gallon waste oil UST, a drywell, cesspool and a maintenance building with floor drains. The drywell, cesspool and floor drain were studied under Area Requiring Environmental Evaluation (AREE) 61AF. AREE 61 AF was recommended for No Further Action and has been administratively transferred to the remedy for AOC 43J.

Environmental remediation commenced when the 5,000 gallon gasoline and 1,000 gallon waste oil USTs and contaminated soil were removed in 1992 during site investigation activity. There has been no additional contaminated soil removed from this site as a result of subsequent investigations and studies. From 1993 to 1996 the supplemental site investigations and remedial investigation programs utilized ground penetrating radar and seismic refraction to clear exploration locations and to further define the bedrock surface. Drilling of over 60 terraprobe points, installing ten groundwater monitoring wells, and two piezometers, drilling and sampling 15 soil borings and 9 screened auger borings occurred. These activities along with aquifer conductivity testing and laboratory analysis of environmental samples occurred in order to assess the soil and groundwater contamination and to conduct a Human Health Risk Assessment.

Selected Remedy Implementation:

In accordance with CERCLA and the National Contingency Plan (NCP), a baseline human health risk assessment was conducted to determine the potential for adverse effects associated with exposure to contaminants in subsurface soil related to the source area and perimeter area of AOC 43J. The exposure scenarios evaluated were for a utility/maintenance worker and a construction worker. Under this exposure assumption, no risks to human health were identified related to subsurface soil. Potential risks associated with the use of site groundwater as a potable water source were evaluated for both unfiltered and filtered groundwater representing the contaminated areas of the site i.e., source area and impacted

downgradient areas. The receptor evaluated was a future commercial/industrial worker. Under this exposure assumption, an unacceptable risk to human health was identified based on this future use exposure scenario (Final Remedial Investigation Report AOC 43J, February 1996).

Based on the site risks and the fact that the future property use was anticipated to be Army retained/restricted access for military/industrial purposes, the subsequent feasibility study proposed four alternatives for cleanup of AOC 43J. The selected remedy, Intrinsic Bioremediation, was incorporated into the final ROD. The remedial action objectives (RAOs) stated in the ROD are as follows:

- protect potential commercial/industrial receptors located on the Army property from exposure to groundwater having chemicals in excess of maximum contaminant levels (MCLs);

- protect potential commercial/industrial receptors located off the Army property from exposure to groundwater having chemicals in excess of MCLs ;

- prevent contaminated groundwater having chemicals in excess of MCLs from migrating off Army property.

The current remedy includes the following components in order to meet the RAOs established in the ROD:

1. intrinsic bioremediation

2. intrinsic bioremediation assessment data collection and groundwater modeling

3. installing additional groundwater monitoring wells

4. long term groundwater monitoring

5. annual data reporting and five year site reviews

The implementation of remedial component 2 (the intrinsic remediation assessment and groundwater modeling) and component 3 (installation of additional groundwater monitoring wells) were completed by Stone & Webster Environmental Technology & Services (SWETS, 1999a) and HLA between 1998 and 1999 under contract with the USACE. The results of the intrinsic remediation assessment and associated field efforts are detailed in a Final Intrinsic Remediation Assessment Report for each site (SWETS, 1999a, 1999b). These reports were the culmination of field efforts and numerous interim deliverables documenting that intrinsic remediation will effectively remediate the groundwater at AOCs 43G and 43J.

Current action consists of implementing the remaining components specified in the ROD; a long term groundwater monitoring program, annual reporting, and Five-Year site Reviews (components nos. 4 & 5). These components enable continued assessment

for compliance with established performance standards and reporting of the remedial progress. Performance standards were established in the intrinsic remediation assessment, consisting of contaminant migration and remedial duration assessments. The performance standards are being used during long-term groundwater monitoring to ensure that the effectiveness criteria set forth in the ROD continue to be met and remedial objectives are ultimately achieved.

Long term monitoring is being performed by the USACE-NAE, Concord, Massachusetts. The first long term groundwater monitoring round since completion of the intrinsic remediation assessment was performed in December 1999. Annual sampling rounds have been performed by the USACE each year since 1999 to present.

The site has completed two Five-Year Reviews (FYR) since the ROD was implemented in 1996. The second FYR, completed in September 2005, determined that the remedy remains protective of human health and the environment. The recommendations and follow-up actions from this latest review include a reassessment and update of the Long Term Monitoring Plan (LTMP) that includes a re-evaluation of modeling assumptions and predictions relating to the COCs and the duration of the remedy. The updated LTMP is scheduled to be completed in August 2006.

In May 2006, the potential risks associated with the post-transfer intended reuse of AOC 43 J / Parcel C were reviewed during the preparation of FOSET to assess the appropriate land use restrictions to be in place upon transfer of the property (reference FOSET for the Devens Reserve Forces Training Area, Parcel C, June 2006). This review included a technical update of reasonably anticipated changes in exposure pathways, exposure assumptions, toxicity data and risk assessment methodologies. The Applicable or Relevant and Appropriate Requirements (ARARs) were also reviewed to determine if any changes since signing of the Record of Decision (ROD) may affect the protectiveness of the remedy for AOC 43 J. The technical update also reviewed all current groundwater monitoring data for AOC 43 J.

The results of the technical update confirm the conclusions of the 1996 risk assessment for AOC 43 J and the conclusions that there are no risks to human health due to exposure to subsurface soil associated with a future utility/maintenance worker and a construction worker exposure scenario. However, there may remain a potential exposure risk to human health associated with other subsurface soil exposure scenarios. In addition, based on the reasonably anticipated future MassDev development plans for building construction and on current groundwater monitoring data at AOC 43 J, the technical update indicated an unacceptable risk to human health may exit due to the possibility of volatile organic compounds (VOCs) in the subsurface migrating into indoor air of future occupied buildings. There are no buildings currently on the site available for evaluation of the potential risk. Therefore, the modified remedy specified below will incorporate LUCs to provide assurance that the potential risk to future commercial employees from the inhalation of vapors migrating from the subsurface into the indoor air of these proposed structures shall not exceed acceptable risk levels (hazard index <1, excess lifetime cancer risk of 1-in-10,000). As indicated in the 1996 risk assessment and

confirmed with the technical update of current groundwater monitoring data, the use of groundwater beneath AOC 43 J as a potable water source in the future continues to present an unacceptable risk to human health. Therefore, based on this updated risk analysis, the modified remedy specified below will incorporate LUCs to provide assurance that the AOC 43 J site will be protective of human health and the environment following the property transfer of the Property from the Army to MassDevelopment.

4) Description of Significant Differences:

The significant differences between the remedy as described in the ROD and the action now being proposed are described below.

Current Remedy:

The remedy as specified in the ROD will meet the RAOs stated above with the implementation of the remedy components.

Modified Remedy:

In order to ensure human health and the environment are protected, and the ongoing implementation of the remedy will not be compromised following the transfer of the Property/Parcel C to MassDev, the Army is modifying the AOC 43 J remedy to include LUCs as a remedy component with the objective of prohibiting residential and groundwater usage and unauthorized soil disturbance or construction on the Property. The Army shall implement the following LUCs on the Property at the time of transfer to MassDev:

- Deed restrictions and/or use restrictions that prohibit the Property from being used for residential purposes, meaning to prohibit residential use for any single family or multi-family residences; child care facilities; and nursing home or assisted living facilities; and any type of educational purpose for children/young adults in grades kindergarten through 12). Note: The property is currently zoned for commercial redevelopment per the 1996 Devens Reuse Plan.

- Deed restrictions and/or use restrictions that prohibit the extraction, consumption or use of groundwater underlying the Property for any purpose. This use restriction will provide an assurance that the groundwater will not pose an unacceptable risk to human health and the environmental after the property is transferred. In addition, the property is currently serviced and is anticipated to be serviced in the future by the Devens municipal water supply.

- Deed restrictions and/or use restrictions that prohibit the excavation, removal, or disposal of soil or other ground intrusive work on all areas of the Property without the prior approval of the Army, USEPA and MADEP.

As a condition of granting such approval, the Army, USEPA and MADEP may require the property owner to prepare the following plans and perform the following technical evaluations to provide assurance that site development will not interfere with or impede the completion of the CERCLA clean-up on the Property and that the remedy remains protective of human health and the environment:

(1) prepare a soil management and health and safety plans prepared by a Licensed Site Professional and Certified Industrial Hygienist, or other qualified professionals;

(2) perform a technical assessment to evaluate the potential risk associated with the inhalation of vapors migrating from the subsurface into the indoor air of any proposed structures that could be impacted by the contaminated groundwater associated with AOC 43 J. This assessment shall follow the EPA Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soil (Subsurface Vapor Intrusion Guidance) EPA530-F-02-052, or its most recently updated version. The property owner shall be required to ensure through construction techniques or other means that post-construction vapor intrusion risks to indoor workers shall not exceed acceptable risk levels (hazard index <1, excess lifetime cancer risk of 1-in-10,000) and;

(3) prepare a technical evaluation for the construction of new stormwater recharge/management systems that have the potential to modify the contaminated groundwater plume. This technical evaluation will include an engineering demonstration by the Property owner that the proposal will protect the integrity and effectiveness of the selected remedy and provide access to maintain the remedy and prevent unacceptable risk for the duration of the remedy.

In addition to requiring the compliance with LUCs, the deed of the conveyance shall also require the property owner to prevent interference with, and/or disruption of the CERCLA remedy developed in accordance with the provisions of the Fort Devens Army Installation Federal Facility Agreement (FFA) dated May 13, 1991, and FFA Modification No. 1 dated March 27, 1996.

LUCs will be maintained until the concentration of hazardous substances in both the subsurface soil and groundwater are reduced to levels that allow for unlimited use and unrestricted exposure at this site, estimated to occur in approximately 25 years. The LUCs specified in this ESD will apply to the area that encompasses the Parcel C property boundary as shown in Figures 3. If this site is subsequently remediated to unrestricted use, the ROD will be changed to remove the LUCs as part of the remedy. CERCLA 121(c) five-year reviews will be conducted to assess the long-term effectiveness of the remedy, including LUCs.

The current Long Term Monitoring Plan (LTMP) will be revised to include a LUC component describing the details of LUC implementation and maintenance, including periodic inspections. The Army shall be responsible for implementation,

maintenance, periodic reporting, and enforcement of LUCs in accordance with the LTMP. Although the Army may transfer these responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall remain ultimately responsible for remedy integrity to include; (1) CERCLA 121(c) five year reviews; (2) notification of the appropriate regulators and/or local government representatives of any known LUC deficiencies or violations; (3) reservation of access to the property to conduct any necessary response; (4) notification and approval of the appropriate regulators and/or local government representatives to change, modify or terminate LUCs and any related deed or lease provisions; and (5) ensure that the LUC objective is met to maintain remedy protectiveness.

The Land Use Controls specified above shall also be incorporated within a Grant of Environmental Restriction and Easement (GERE) made by the Massachusetts Development Finance Agency (the transferee) and granted to the Massachusetts Department of Environmental Protection. This GERE will allow the State to enforce LUC terms and conditions against the transferee, as well as subsequent property owner(s) or user(s) or their contractors, tenants, lessees or other parties. This covenant will be incorporated in the transfer deed and will run with the land in accordance with State realty law. This state enforcement right would supplement, not replace the Army's right and responsibility to enforce the LUCs. To the extent permitted by law, the transfer deed shall require the LUCs imposed as part of this CERCLA remedy to run with the land and bind all property owners and users.

5) Affirmation of the Statutory Determinations:

The revised remedy complies with the NCP and the statutory requirements of CERCLA. Considering the modification to the existing remedy as specified in this ESD, the Army believes that the remedy remains protective of human health and the environment, complies with federal and state requirements that were identified in the ROD as applicable or relevant and appropriate to this remedial action at the time the original and this ESD were signed, and is cost-effective.

6) Public Review:

The Army hosts Restoration and Advisory Board (RAB) meetings every other month on the second Thursday at 7pm at the local communities on a rotating schedule. AOC 43J has been a topic of discussion several times this year and during the prior year since it had a five year review last summer and its report was presented to the public for their review and comment. Discussion will continue on the remediation progress and the anticipated reuse of the property by commercial development.

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 01432) between the hours of 8:30 AM and 5:00 PM, Monday through Friday. Additional repositories for

the Administrative Record are housed in surrounding Town Libraries, including Ayer, Harvard, Lancaster (Executive Summaries only), and Shirley.

Public notice relating to the availability of the ESD for review was made in the Nashoba Publishing papers on May 5, 2006. A voluntary 30 day public comment period beginning May 5, 2006 and ending June 5, 2006 was held by the Army to solicit public comment on this ESD. No comments on the ESD were received from the public during this comment period.

AUTHORIZING SIGNATURES

The forgoing Explanation of Significant Differences has been prepared to document changes in the remedy 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 the concurrence of the Massachusetts Department of Environmental Protection.

Concurrence and recommend for immediate implementation

U.S. DEPARTMENT OF THE ARMY

Robert J. Simeone

Date 6/13/06

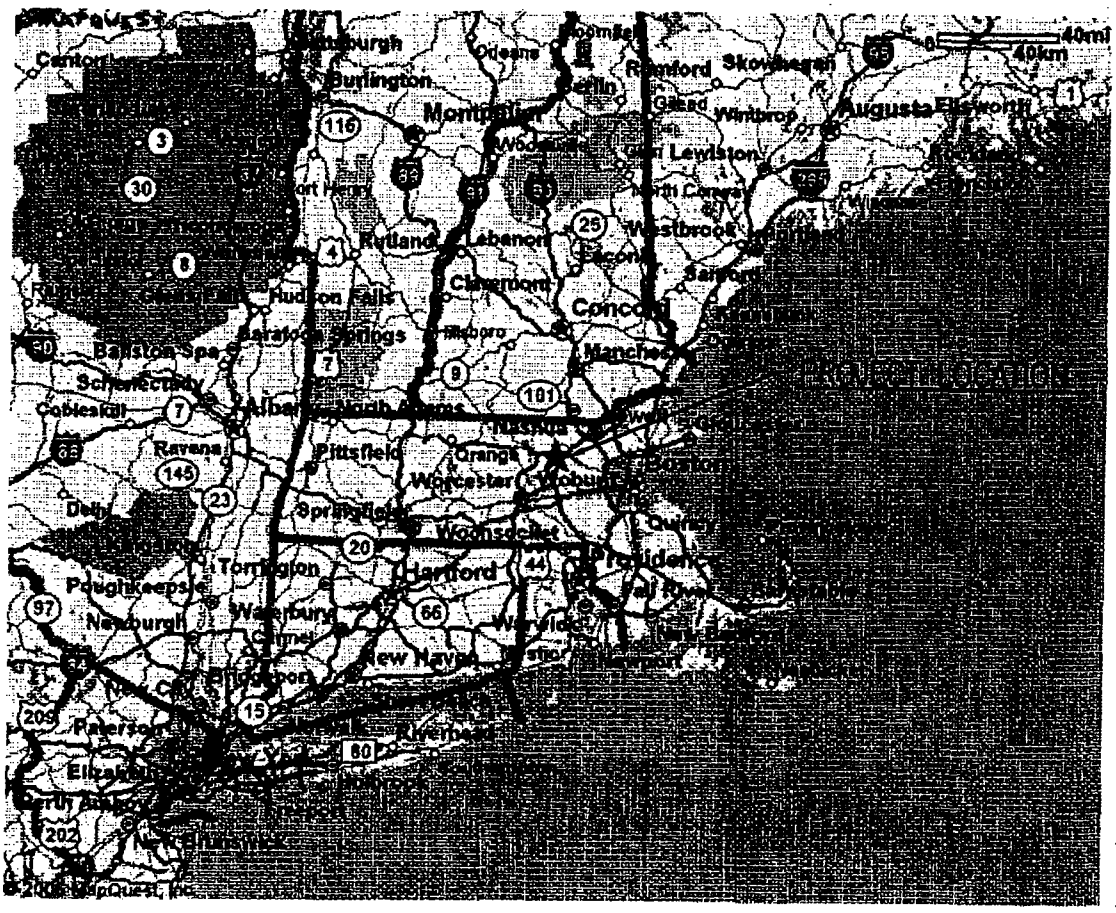
Robert J. Simeone
BRAC Environmental Coordinator
Department of the Army
Base Realignment and Closure Division

U.S. ENVIRONMENTAL PROTECTION AGENCY

Susan Studien

6/15/06
Date

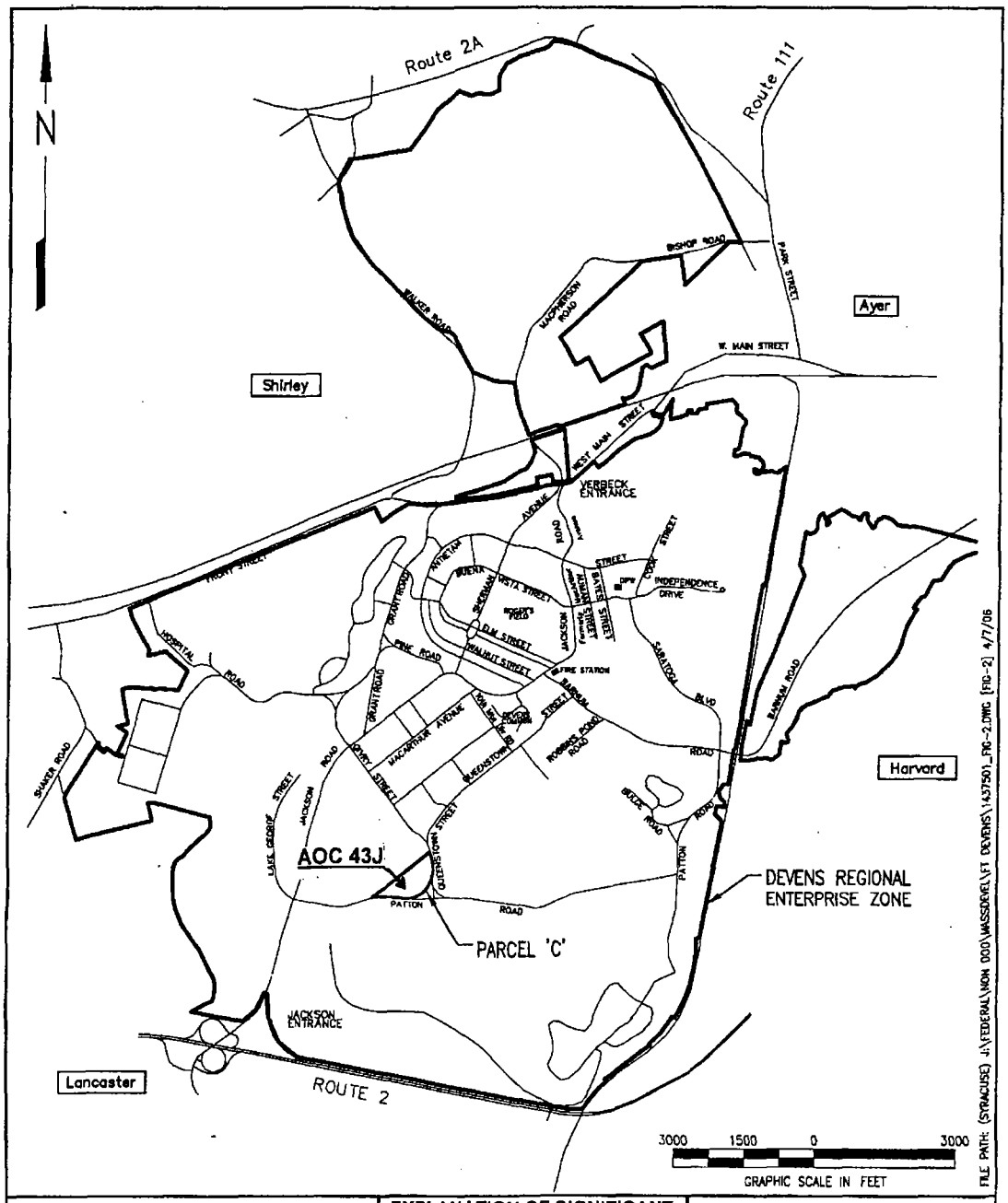
Susan Studien
Division Director
Office of Site Remediation and Restoration
Region 1



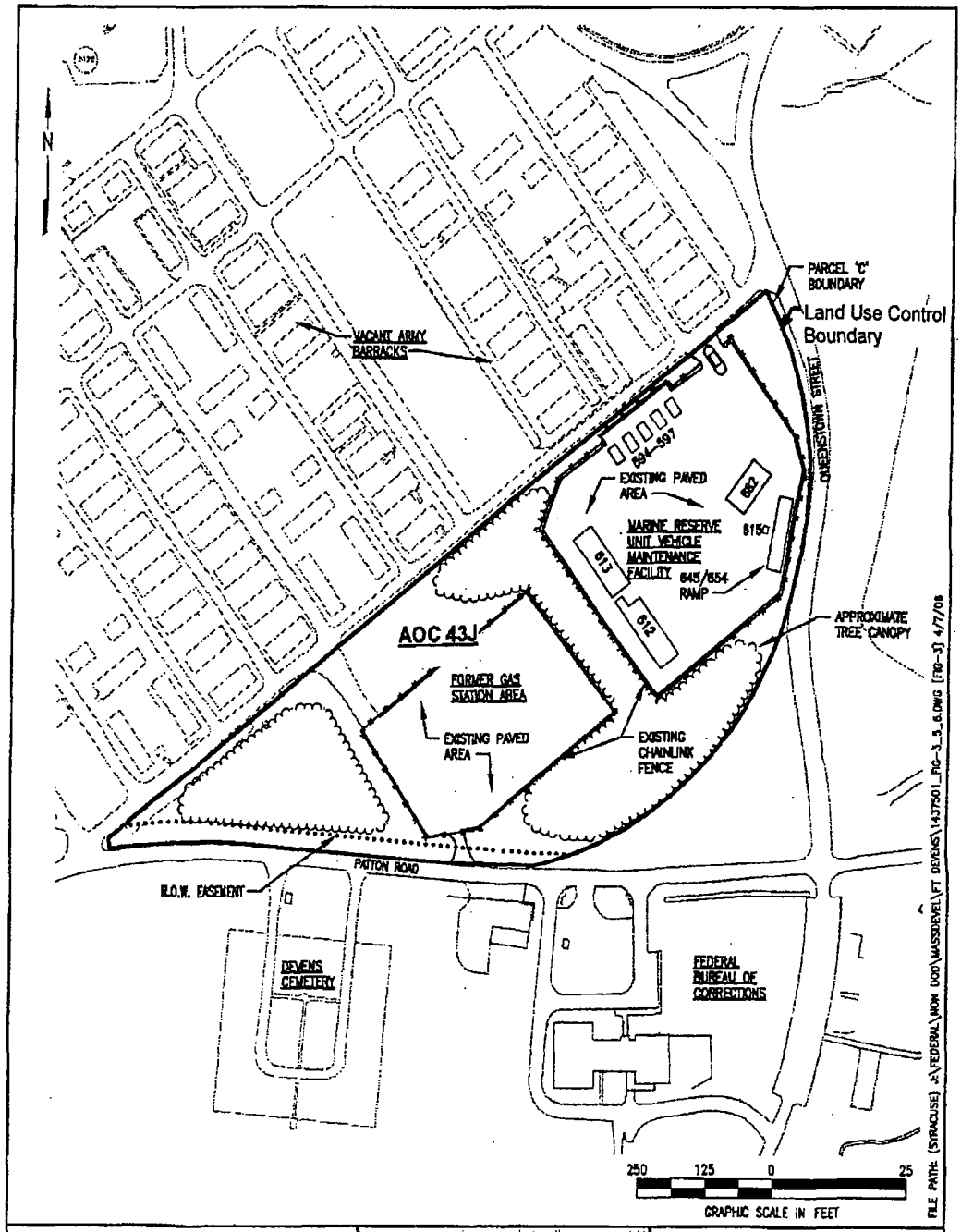
FILE PATH: (SYRACUSE) J:\FEDERAL\NON DOD\MASSDEVEL\FT DEVENS\1437501_FIG-1.DWG [FIG-1] 4/7/06

	EXPLANATION OF SIGNIFICANT DIFFERENCES FOR RECORD OF DECISION AREA OF CONTAMINATION 43J DEVENS, MASSACHUSETTS	LOCATION MAP

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FIGURE
				AS SHOWN	4-7-06		1



			EXPLANATION OF SIGNIFICANT DIFFERENCES FOR RECORD OF DECISION AREA OF CONTAMINATION 43J DEVENS, MASSACHUSETTS			PROJECT LOCUS	
PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE AS SHOWN	DATE 4-7-06	PROJECT NO	FIGURE 2



			EXPLANATION OF SIGNIFICANT DIFFERENCES FOR RECORD OF DECISION AREA OF CONTAMINATION 43J DEVENS, MASSACHUSETTS			SITE PLAN AOC 43J AND PARCEL C	
PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE AS SHOWN	DATE 4-7-06	PROJECT NO	FIGURE 3

Superfund Records Center
SITE: Devens
BREAK: 5.4
OTHER:

DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
BASE REALIGNMENT AND CLOSURE DIVISION
600 ARMY PENTGON
WASHINGTON, DC 20310-0600

June 13, 2006

REPLY TO
THE ATTENTION OF:
BRAC Environmental Office
DAIM-BO-A-DV
30 Quebec Street, Box 100
Devens, MA 01432

Ms. Ginny Lombardo
U.S. Environmental Protection Agency
1 Congress Street, Suite 1100
Boston, MA 02114

RE: Final Explanation of Significant Differences (ESD)
for the Area of Contamination (AOC) 43J Record of Decision

Dear Ms Lombardo:

Please find enclosed the final Explanation of Significant Differences (ESD) for the Area of Contamination (AOC) 43J Record of Decision, dated June 2006. This ESD has been prepared to document changes in the remedy from the Record of Decision as required by Section 117(c) of CERCLA. It is requested that EPA provide final approval and authorizing signature of the ESD.

If you have any questions regarding these documents, you may contact me at (978) 796-2205.

Sincerely,

Robert J. Simeone
BRAC Environmental Coordinator

Enclosure