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**CONTAMINATED SOIL REMOVAL - PHASE II
STUDY AREA 57, AREA 1
STORM DRAIN SYSTEM No. 6 OUTFALL
FORT DEVENS, MASSACHUSETTS**

**ACTION MEMORANDUM
Contract No. DACW33-95-D-0004
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Prepared for

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CSV2 96105 RFWR

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
	EXECUTIVE SUMMARY	ES-1
1	PURPOSE.....	1-1
2	SITE CONDITIONS AND BACKGROUND	2-1
2.1	Site Description	2-1
2.2	Other Actions to Date	2-1
2.2.1	Site Investigations Activities at SDS No. 6	2-3
2.3	State and Local Authorities' Roles	2-3
3	THREATS TO HUMAN HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES.....	3-1
3.1	Threats to Public Health or Welfare	3-1
3.1.1	Actual or Potential Exposure to Hazardous Substances or Pollutants or Contaminants by Nearby Populations or the Food Chain.....	3-1
3.1.2	Actual or Potential Contamination of Drinking Water Supplies.....	3-1
3.1.3	Hazardous Substances, Pollutants, or Contaminants in Drums, Barrels, Tanks, or Other Bulk Storage Containers That May Pose a Threat of Release	3-1
3.1.4	High Levels of Hazardous Substances or Pollutants or Contaminants in Soils Largely At or Near the Surface That May Migrate.....	3-1
3.1.5	Weather Conditions That May Cause Hazardous Substances or Pollutants or Contaminants to Migrate or be Released.....	3-2
3.1.6	Threat of Fire or Explosion	3-2
3.2	Threats to the Environment	3-2
3.2.1	Actual or Potential Exposure to Hazardous Substances or Pollutants or Contaminants by Nearby Populations or the Food Chain	3-2
3.2.2	Actual or Potential Contamination of Sensitive Ecosystems	3-2

TABLE OF CONTENTS (Continued)

<u>Section</u>	<u>Title</u>	<u>Page</u>
3.2.3	Hazardous Substances, Pollutants, or Contaminants in Drums, Barrels, Tanks, or Other Bulk Storage Containers That May Pose a Threat of Release	3-2
3.2.4	High Levels of Hazardous Substances or Pollutants or Contaminants in Soils Largely At or Near the Surface that may Migrate	3-2
3.2.5	Weather Conditions that may cause Hazardous Substances or Pollutants or Contaminants to Migrate or be Released	3-3
3.2.6	Threat of Fire or Explosion	3-3
4	ENDANGERMENT DETERMINATION	4-1
5	PROPOSED ACTIONS AND ESTIMATED COSTS.....	5-1
5.1	Proposed Action	5-1
5.1.1	Proposed Action Description.....	5-1
5.1.1.1	Mobilization/Site Preparation.....	5-1
5.1.1.2	Soil Excavation	5-2
5.1.1.3	On-Site Soil Staging.....	5-2
5.1.1.4	Soil Disposal	5-4
5.1.1.5	Confirmation Soil Sampling	5-4
5.1.1.6	Demobilization.....	5-5
5.1.1.7	Quality Control Documentation	5-5
5.1.1.8	Project Schedule	5-5
5.1.1.9	Project Personnel	5-7
5.1.2	Contribution To Remedial Performance.....	5-7
5.1.3	Description of Alternative Technologies	5-7
5.1.4	Engineering Evaluation/Cost Analysis.....	5-7
5.1.5	Applicable or Relevant And Appropriate Requirements	5-7
5.2	Estimated Project Cost.....	5-8
6	EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN.....	6-1
7	OUTSTANDING POLICY ISSUES	7-1

TABLE OF CONTENTS
(Continued)

<u>Section</u>	<u>Title</u>	<u>Page</u>
8	ENFORCEMENT	8-1
9	RECOMMENDATION	9-1

ATTACHMENT 1 — QUALITY CONTROL DOCUMENTATION FORMS

LIST OF FIGURES

<u>Figure No.</u>	<u>Title</u>	<u>Page</u>
2-1	Site Location.....	2-2
2-2	Previous Sampling Locations	2-4
5-1	Limits of Excavation	5-3
5-2	Project Schedule	5-6
5-3	Organizational Chart	5-8

LIST OF TABLES

<u>Table No.</u>	<u>Title</u>	<u>Page</u>
2-1	Summary of Analytical Surface Water/Sediment Sample Results for Storm Drain System No. 6 and Associated Lower Cold Spring Brook	2-5

EXECUTIVE SUMMARY

The purpose of this Action Memorandum is to document the decision to perform a time-critical removal action in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, at the Study Area 57, Area 1, Storm Drain System No. 6 Outfall (SDS No. 6), located approximately 200 feet southeast of Building 3701 Barnum Road, Fort Devens, Massachusetts.

SDS No. 6 collects runoff from the area around buildings 3712 and 3713, which includes vehicle storage areas and an unpaved area of railroad track. The system initially drains to the southwest, but turns to the southeast before passing under Barnum Road and discharging into a drainage swale that leads to Lower Cold Spring Brook located approximately 800 feet southeast. Historical land use near SDS No. 6 included a former commissary and, as interpreted from aerial photographs, a vehicle storage/maintenance facility. During a previous investigation, it was determined that SDS No. 6 received a release of approximately 3,000 gallons of No. 4 fuel oil from an overfilled underground storage tank (UST) in 1978. It is unknown whether contaminated soil was removed during initial remedial actions conducted at the time of the release.

The site is located in a heavily wooded and vegetated low lying area located immediately downgradient of three storm sewer outfall pipes which make up SDS no. 6. Three concrete sluiceways are located beneath the outfall pipes to allow for drainage away from the outfall area to the drainage swale.

A Site Investigation (SI) was conducted by ABB Environmental Services, Inc. (ABB-ES) in 1995 and included documentation of five soil/sediment samples which were collected adjacent to and downgradient of the outfall area in June of 1992 and 1993 during previous investigations. Analytical results indicated high total petroleum hydrocarbons (TPH), semivolatile organic compounds (SVOCs), and metal concentrations above applicable Massachusetts Contingency Plan (MCP) Method 1 S-1/GW-1 clean-up standards.

Based on the known history of the area, as well as on limited analytical results from soil/sediment sampling in the area, a soil removal action was recommended to address contamination resulting from releases of petroleum oil to the storm drain outfall.

The removal action is consistent with the National Contingency Plan and site conditions meet the criteria (40 CFR 300.415) for a removal action. The removal action is being performed to enhance public welfare and is expected to provide a permanent, long-term solution for the site. The removal action involves the excavation of approximately 25 to 30 tons (17 cubic yards) of soil from an evident overland flow route which receives runoff from the SDS No. 6 outfall.

No Further Action is anticipated for SDS No. 6 upon completion of this removal action.

SECTION 1

PURPOSE

The purpose of this Action Memorandum is to document the decision to perform a time-critical removal action in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, at the Study Area 57, Area 1, Storm Drain System No. Outfall (SDS No. 6), Fort Devens, Massachusetts. The removal action involves the excavation and off-site disposal of an estimated 25 to 30 tons (17 cubic yards) of total petroleum hydrocarbon (TPH) contaminated soil located adjacent to and downgradient of the storm drain outfall. This Action Memorandum was prepared in accordance with current U.S. Environmental Protection Agency (USEPA) guidance (USEPA, 540/P-90/004, December 1990).

Quality Control Documentation Forms are presented as Attachment 1. A Site Safety and Health Plan (SSHP), including a Site-Specific Health and Safety Plan, has been developed for the site in conformance with previous SSHP submittals.

SECTION 2

SITE CONDITIONS AND BACKGROUND

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) states that a removal action may be conducted at a site where a threat to human health and welfare or the environment is established. An appropriate removal action is taken to abate, minimize, stabilize, mitigate, or eliminate the release or threat of release at the site. The following paragraphs describe Fort Devens and the conditions at the Study Area 57, Area 1, Storm Drain System No. 6 Outfall (SDS No. 6) that support the need for a time-critical removal action.

SDS No. 6 is located in the northeast portion of the North Post of Fort Devens. Figure 2-1 depicts the site location. Fort Devens is located within the towns of Ayer, Harvard, Lancaster, and Shirley, Massachusetts, and it comprises approximately 9,280 acres. Fort Devens was used for a variety of U.S. military training missions from 1917 until 1990 when the base was selected for cessation of operations and closure under Public Law 101-510, the Base Realignment and Closure (BRAC) Act of 1990. On December 21, 1989, Fort Devens was placed on the National Priorities List (NPL) pursuant to CERCLA.

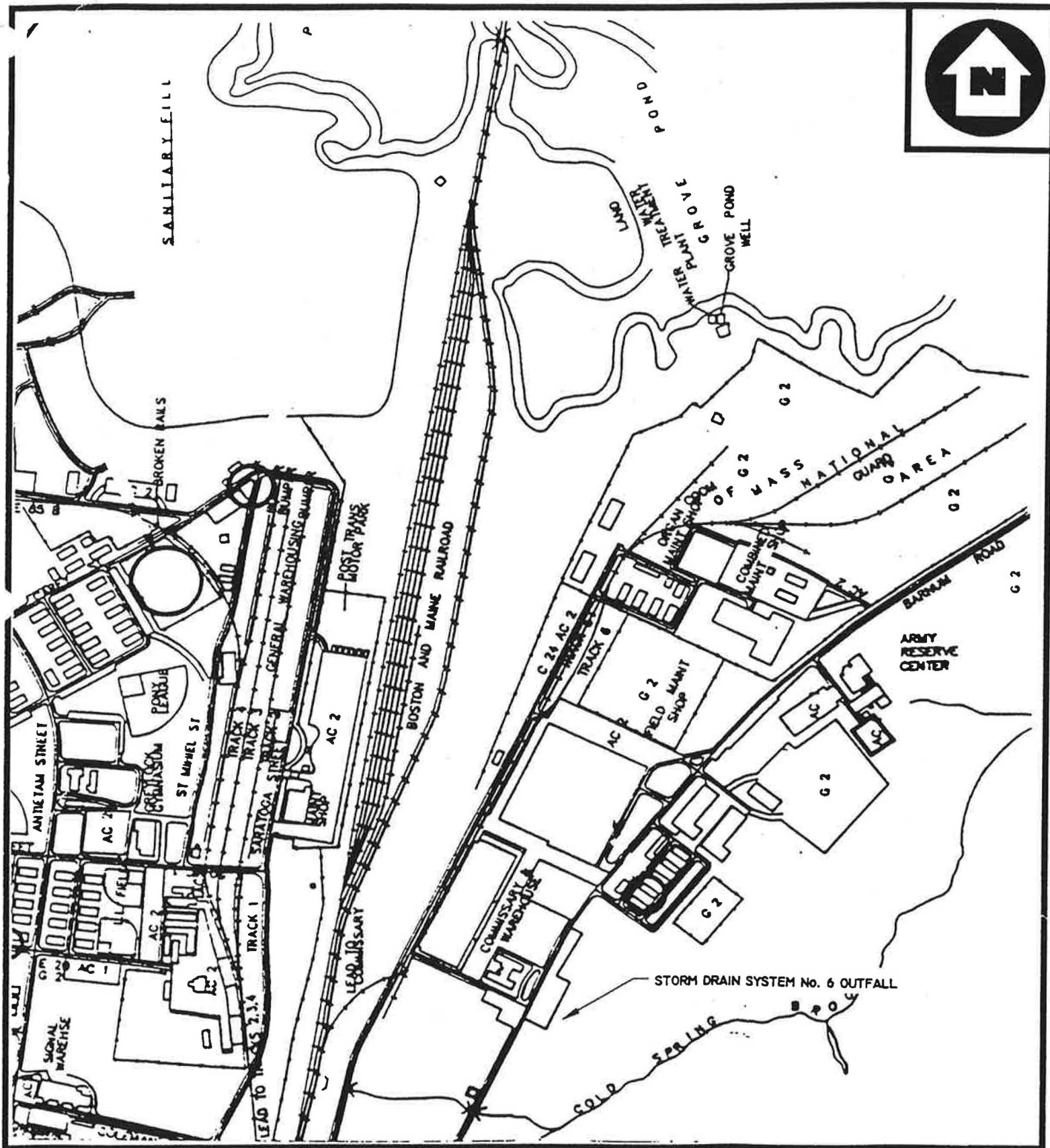
SDS No. 6 collects runoff from the area around buildings 3712 and 3713, which includes vehicle storage areas and an unpaved area of railroad track. The system initially drains to the southwest, but turns to the southeast before passing under Barnum Road and discharging into a drainage swale that leads to Lower Cold Spring Brook. Historical land use near SDS No. 6 included a former commissary and, as interpreted from aerial photographs, a vehicle storage/maintenance facility. During a previous investigation, it was determined that SDS No. 6 received a release of approximately 3,000 gallons of No. 4 fuel oil from an overfilled underground storage tank (UST) in 1978. It is unknown whether contaminated soil was removed during initial remedial actions conducted at the time of the release.

2.1 SITE DESCRIPTION

The site is located in a heavily wooded and vegetated low lying area located immediately downgradient of three storm sewer outfall pipes which make up SDS no. 6. Three concrete sluiceways are located beneath each of the outfall pipes to allow for drainage away from the outfall area to a drainage swale. The drainage swale ultimately leads to Lower Cold Spring Brook located approximately 800 feet southeast of the SDS No. 6. As mentioned previously, SDS No. 6 receives flow from a storm drain system which services buildings 3712 and 3713, which includes vehicle storage areas and an unpaved area of railroad track.

2.2 OTHER ACTIONS TO DATE

Previous investigative actions at SDS No. 6 are discussed in detail in the *Lower Cold Spring Brook Site Investigative Report, Group 1A Sites, Fort Fort Devens, Massachusetts*, prepared for the U.S.



SITE LOCATION

SDS No. 6 BARNUM ROAD
DEVENS, MASSACHUSETTS

WESTON
MANAGERS DESIGNERS/CONSULTANTS

FIGURE 2-1

Army Environmental Center (USAEC) by ABB Environmental Services, Inc. (ABB) dated December 1995. A brief summary of the actions taken to date is as follows.

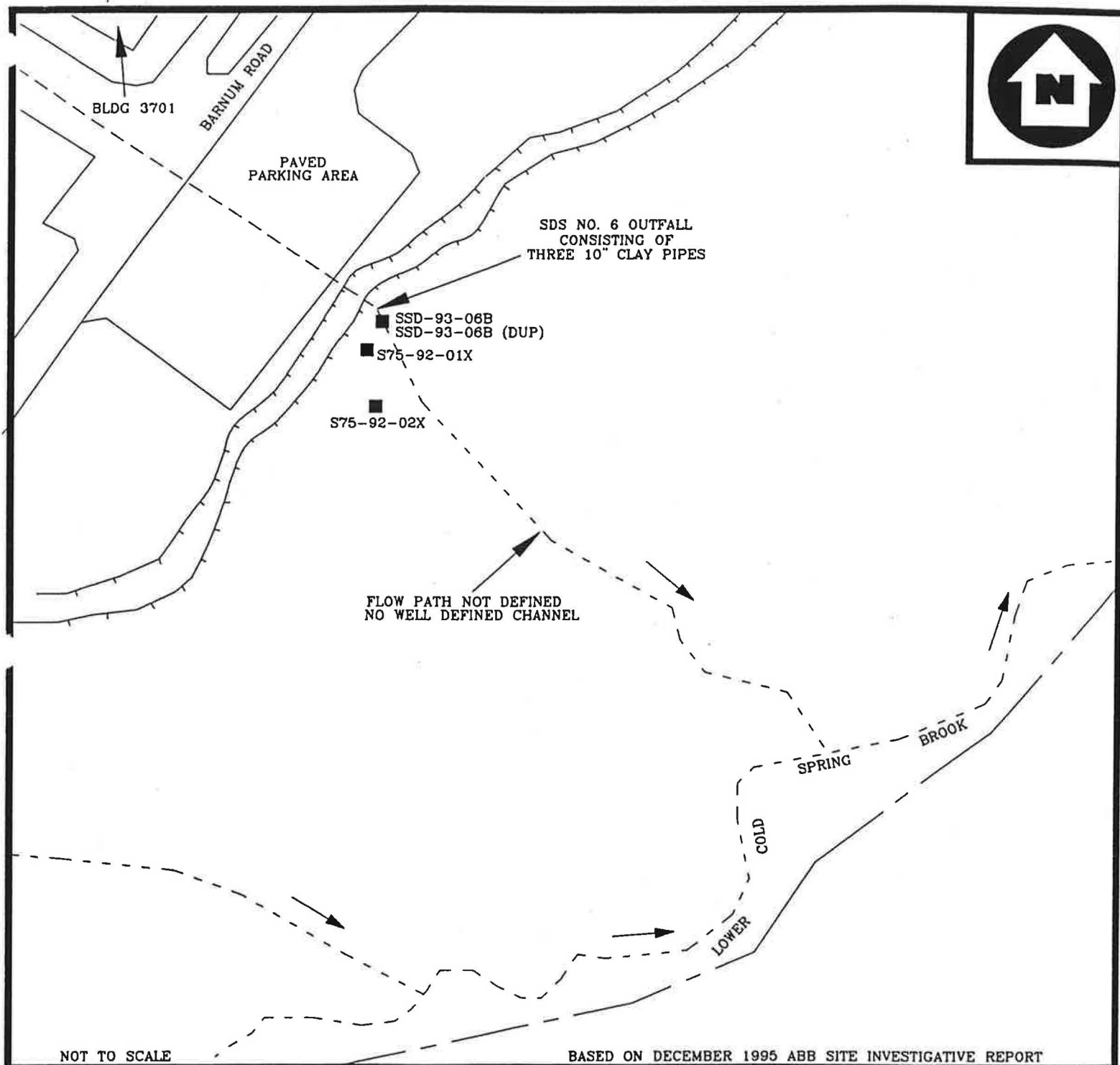
2.2.1 Site Investigation Activities at SDS No. 6

The Site Investigation (SI) conducted by ABB for the USAEC included documentation of five surface water/sediment samples which were collected in June 1992 and June 1993 during previous investigations. Figure 2-2 depicts the sampling locations. These samples were collected from ground surface to a maximum depth of one foot below ground surface (bgs) in the vicinity and downstream of the outfall. A total of three soil/sediment samples were collected in the June 1992 sampling round and were submitted for laboratory analyses for total petroleum hydrocarbons (TPH) and semivolatile organic compounds (SVOCs). One soil/sediment sample and a duplicate sample were collected in June 1993 and were submitted for laboratory analyses for TPH, SVOCs, volatile organic compounds (VOCs) and metals.

Analytical results indicated TPH concentrations ranging from 1,410 to 3,500 parts per million (ppm) in all soil/sediment samples which exceeds the applicable Massachusetts Contingency Plan (MCP) Method 1 S-1/GW-1 clean-up standard of 500 ppm. In addition, several SVOCs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and chrysene, were detected in the two samples collected during the June 1993 sampling round. These concentrations exceed the applicable MCP clean-up standard of 0.07 ppm for all four contaminants, the highest SVOC concentration being benzo(b)fluoranthene at 4.9 ppm. These contaminants may not have been detected in soil/sediment samples collected during the June 1992 sampling round since analytical detection limits for this event exceeded the June 1993 concentrations. An elevated lead concentration of 420 ppm was detected in the June 1993 duplicate soil/sediment sample which exceeds the MCP S-1/GW-1 clean-up standard of 300 ppm. No VOCs were detected in soil/sediment samples collected during the June 1993 sampling round. The soil/sediment in the drainage path was characterized as well-graded sand to a silty sand. Table 2-1 summarizes the results of laboratory analytical results for previous soil/sediment samples collected at SDS No. 6 and which were subsequently documented by ABB-ES during the SI.

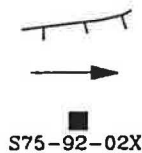
2.3 STATE AND LOCAL AUTHORITIES' ROLES

This Action Memorandum for SDS No. 6 at Fort Devens will be submitted to the USEPA New England Region and to the Massachusetts Department of Environmental Protection (MADEP) for review.



LEGEND

--- DRAINAGE COURSE
--- STORM SEWER SYSTEM
--- RESERVATION BOUNDARY



CONTOUR INTERVAL 10 FT
DIRECTION OF FLOW
PREVIOUS SOIL/SEDIMENT
SAMPLE LOCATION

PREVIOUS SAMPLING LOCATIONS
SOIL DRAIN SYSTEM No. 6 OUTFALL
DEVENS, MASSACHUSETTS



FIGURE 2-2

Table 2-1
Summary of Analytical Soil/Sediment Sample Results for
Storm Drain System No. 6 and Associated Lower Cold Spring Brook

Analyte	MCP S-1/GW-1 Standard	Soil/Sediment Sample Location				
		SSD-93-06B 06/18/93 0 FT	SSD-93-06B (D) 06/18/93 0 FT	S7S-9201X 06/19/92 0 FT	S7S-92-02X 06/19/92 0 FT	S7S-92-03X 06/19/92 0 FT
PAL METALS (µg/g)						
Aluminum	-	5,750	9,680 D	NA	NA	NA
Arsenic	30	10.3	20.9 D	NA	NA	NA
Barium	-	24	69 D	NA	NA	NA
Beryllium	0.4	ND	ND	NA	NA	NA
Cadmium	1	< 1.2	3.82 D	NA	NA	NA
Calcium	-	1,190	1,760 D	NA	NA	NA
Chromium	1,000	27.1	64.6 D	NA	NA	NA
Cobalt	-	4.23	7.39 D	NA	NA	NA
Copper	-	40.7	105 D	NA	NA	NA
Iron	-	14,900	21,800 D	NA	NA	NA
Lead	300	140	420 D	NA	NA	NA
Magnesium	-	2,500	3,770 D	NA	NA	NA
Manganese	-	184	320 D	NA	NA	NA
Mercury	10	< 0.05	0.115 D	NA	NA	NA
Nickel	300	14.1	22.8 D	NA	NA	NA
Potassium	-	885	1,670 D	NA	NA	NA
Selenium	300	ND	ND	NA	NA	NA
Sodium	-	76.2	138 D	NA	NA	NA
Tin	-	< 7.43	13.5 D	NA	NA	NA
Vanadium	-	16.8	36.8 D	NA	NA	NA
Zinc	2,500	83.1	189 D	NA	NA	NA
PAL SEMIVOLATILE ORGANICS (µg/g)						
9-h carbozole	-	ND	ND	ND	< 2	< 2
2-methylnapthalene	0.7	0.19	0.15 D	< 1	< 1	< 1
Acenaphthene	20	0.22	0.18 D	< 0.7	< 1	< 1
Ancenaphthylene	100	3.2	2.7 D	< 0.7	< 1	< 1
Anthracene	1,000	3	2.5 D	< 0.7	< 1	< 1
Benzo(a)anthracene	0.7	3.5	2.7 D	< 3	< 10	< 10

Table 2-1
Summary of Analytical Soil/Sediment Sample Results for
Storm Drain System No. 6 and Associated Lower Cold Spring Brook
Concluded

Analyte	MCP S-1/GW-1 Standard	Soil/Sediment Sample Location				
		SSD-93-06B 06/18/93 0 FT	SSD-93-06B (D) 06/18/93 0 FT	S7S-9201X 06/19/92 0 FT	S7S-92-02X 06/19/92 0 FT	S7S-92-03X 06/19/92 0 FT
PAL SEMIVOLATILE ORGANICS (µg/g)						
Benzo(a)pyrene	0.7	4.1	3.1 D	< 5	< 10	< 10
Benzo(b)fluoranthene	0.7	4.9	3.5 D	< 4	< 8	< 8
Benzo(g,h,i)perylene	100	4.9	3.1 D	< 5	< 10	< 10
Benzo(k)fluoranthene	7	3.6	3 D	< 1	4	4
Bis(2-ethylhexyl)phthalate	100	1.4	< 0.48 D	< 10	< 20	< 20
Chrysene	0.7	4.3	3.3 D	< 2	5	5
Di-n-butyl phthalate	-	9.3	6.2 D	< 1	< 2	< 2
Dibenz(a,b)anthracene	-	0.63	< 0.31 D	< 4	< 8	< 8
Fluoranthene	600	5.2	4 D	< 1	9	10
Fluorene	400	0.61	< 0.065 D	< 0.7	< 1	< 1
Indeno(1,2,3-c,d)pyrene	0.7	ND	ND	ND	ND	ND
Phenanthrene	700	4.6	3.2 D	< 0.7	4	4
Pyrene	500	5.9	4.6 D	< 0.7	10	10
PAL VOLATILE ORGANICS (µg/g)						
1,1,1-trichloroethane	30	ND	ND	NA	NA	NA
Acetone	3	ND	ND	NA	NA	NA
Toluene	90	ND	ND	NA	NA	NA
Trichlorofluoroethane	-	ND	ND	NA	NA	NA
OTHER (µg/g)						
Total Organic Carbon	-	75,000	NA	24,500	24,700	18,400
Total Petroleum Hydrocarbons	500	3,500	2,600 (D)	1,860	1,410	2,210

µg/g = micrograms per gram, analogous to parts per million (ppm).

- = MCP comparison not applicable.

D = Duplicate of sediment sample SSD-93-06B.

ND = Not detected above analytical detection limit.

NA = Not analyzed.

SECTION 3

THREATS TO HUMAN HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Section 300.415 of the NCP outlines factors to be considered in establishing the appropriateness of a removal action. This section evaluates factors for the Study Area 57, Area 1, SDS No. 6 site.

3.1 THREATS TO PUBLIC HEALTH OR WELFARE

3.1.1 Actual or Potential Exposure to Hazardous Substances or Pollutants or Contaminants By Nearby Populations or the Food Chain

To enhance public welfare, this Action Memorandum outlines the removal of approximately 25 to 30 tons (17 cubic yards) of contaminated soil from the area adjacent to and downgradient of the SDS No. 6 outfall pipes.

Human health risks associated with exposure to soils at SDS No. 6 were not evaluated as part of the ABB SI. However, because TPH, SVOC, and metal concentrations in excess of the MCP S-1/GW-1 standards were detected in soil/sediment within the drainage swale downgradient of the outfall, this area is presumed to pose a potential human health risk.

3.1.2 Actual or Potential Contamination of Drinking Water Supplies

Groundwater monitoring wells were not installed at SDS No. 6 as part of the ABB SI; however, based on existing information for Fort Devens, groundwater is assumed to be at approximately 25 to 30 feet bgs. Drinking water supplies are not likely to have been affected by SDS No. 6 since the nearest drinking water supply is located approximately 0.7 miles upgradient of the site.

3.1.3 Hazardous Substances, Pollutants, or Contaminants in Drums, Barrels, Tanks, or Other Bulk Storage Containers That May Pose a Threat of Release

Other than the oil release to SDS No. 6, no additional hazardous substances, pollutants, or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release have been identified.

3.1.4 High Levels of Hazardous Substances or Pollutants or Contaminants in Soils Largely At or Near the Surface That May Migrate

Levels of TPH, SVOCs, and metals exceeding MCP S-1/GW-1 standards were detected in soil/sediment between 0 and 1 foot bgs. The site is located at the outfall of a storm sewer known to have been contaminated with oil. An evident overland flow route from the outfall area into a low lying woodland, which drains into Lower Cold Spring Brook located approximately 800 feet downgradient, indicates a potential for contaminant migration.

3.1.5 Weather Conditions That May Cause Hazardous Substances Or Pollutants Or Contaminants To Migrate Or Be Released

Two weather conditions which are likely to cause migration of contaminants in the drainage swale, which leads from the SDS No. outfall, are high winds and heavy precipitation. High winds could cause contaminants entrained in sediments deposited along the outfall flow path to become airborne.

Heavy precipitation could flush any residual contaminants from the storm drain into the exposed soil drainage swale; or it could further mobilize contaminated sediments already in the drainage swale to further downgradient locations.

3.1.6 Threat of Fire Or Explosion

No threat of fire or explosion associated with SDS No. 6 has been identified.

3.2 THREATS TO THE ENVIRONMENT

3.2.1 Actual or Potential Exposure to Hazardous Substances or Pollutants or Contaminants By Nearby Populations or the Food Chain

Ecological risks associated with soil contamination at SDS No. 6 were not evaluated.

3.2.2 Actual or Potential Contamination of Sensitive Ecosystems

Sensitive ecosystems were not identified in the vicinity of SDS No. 6.

3.2.3 Hazardous Substances, Pollutants, or Contaminants in Drums, Barrels, Tanks, or Other Bulk Storage Containers That May Pose a Threat of Release

Other than the oil release to SDS No. 6, no additional hazardous substances, pollutants, or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release have been identified.

3.2.4 High Levels of Hazardous Substances or Pollutants or Contaminants in Soils Largely At or Near the Surface That May Migrate

Levels of TPH, SVOCs, and metals exceeding MCP S-1/GW-1 standards were detected in soil/sediment between 0 and 1 foot bgs. The site is located at the outfall of a storm sewer known to have been contaminated with oil. An evident overland flow route from the outfall area into a low lying woodland, which drains into Lower Cold Spring Brook located approximately 800 feet downgradient, indicates a potential for contaminant migration.

3.2.5 Weather Conditions That May Cause Hazardous Substances Or Pollutants Or Contaminants To Migrate Or Be Released

Two weather conditions which are likely to cause migration of contaminants in the drainage swale, which leads from the SDS No. outfall, are high winds and heavy precipitation. High winds could cause contaminants entrained in sediments deposited along the outfall flow path to become airborne.

Heavy precipitation could flush any residual contaminants from the storm drain into the exposed soil drainage swale; or it could further mobilize contaminated sediments already in the drainage swale to further downgradient locations.

3.2.6 Threat of Fire Or Explosion

No threat of fire or explosion associated with SDS No. 6 has been identified.

SECTION 4

ENDANGERMENT DETERMINATION

A time-critical removal action to facilitate the removal of the contaminated soil located near a storm sewer outfall, Study Area 57, Area 1, SDS No. 6, has been identified. Actual or threatened releases of pollutants and contaminants from this site, if not addressed by implementing the response action selected in this Action Memorandum, may endanger human health and welfare, and/or present a risk to the environment.

SECTION 5

PROPOSED ACTIONS AND ESTIMATED COSTS

5.1 PROPOSED ACTION

5.1.1 Proposed Action Description

The response action to be performed at the Study Area 57, Area 1, SDS No. 6 site across from 3701 Barnum Road, Fort Devens, Massachusetts, involves the removal of an estimated 25 to 30 tons (17 cubic yards) of associated contaminated soil. The removal action is expected to provide a permanent, long-term solution for the site.

5.1.1.1 Mobilization/Site Preparation

Mobilization Documents

This Action Memorandum documents the decision to perform contaminated soil removal at SDS No. 6 and describes the technical approach and objectives for the work.

The Site Safety Health Plan (SSHP) was developed in accordance with 29 CFR 1910.120(b)(4), EM 385-1-1, and previous SSHPs prepared for work at Fort Devens. The SSHP establishes safety guidelines for the work operations, and includes key personnel, medical surveillance, training, site control, hazardous waste operations, equipment operations, personal protection, and construction safety.

The SSHP has been reviewed and approved by a Certified Industrial Hygienist (CIH) at WESTON. The SSHP is a separate stand-alone document to be used in conjunction with this Action Memorandum.

Prior to mobilization to the site, a Field Sampling and Analysis Plan (FSAP) will be developed. The FSAP will detail field sampling protocols and field screening and laboratory procedures for the confirmation sampling and waste characterization analyses required.

Site Preparation

Prior to excavation activities, WESTON will obtain a DIG-SAFE number and coordinate utility clearances and all field work with appropriate DCC and Fort Devens personnel.

Erosion control measures will be implemented using silt screen fencing and hay bales to be positioned downgradient of excavation activities and along the surface water pathway from the site.

The SDS No. 6 outfall area is located approximately ten feet below surrounding accessible grade. In order to access the area to be excavated with appropriate equipment, several trees and small brush to be cleared and a dirt ramp constructed.

Temporary facilities, including a portable steel (or equivalent) decontamination pad, will be established at the site.

Health and safety equipment such as fire extinguishers, first aid kits, eye wash station, and mobile communications will be assembled, checked for integrity and condition, and shipped to the site. Communications will be provided via a cellular phone.

A construction safety work fence will be erected around the site work and staging area to prevent unauthorized access to the area. Appropriate construction area work signs will be posted.

A CAT 426 B or equivalent backhoe will be mobilized to the site for excavation activities.

All work will be coordinated between the Corps of Engineers - New England Division (CENED) Contracting Officer, the Fort Devens Department of Public Works, and utility subcontractors.

5.1.1.2 Soil Excavation

Figure 5-1 depicts the proposed excavation limits (both depth and aerial extent). As previously stated, TPH, SVOCs, and lead are present in shallow soil/sediment (0-to-1 feet bgs) along the overland flow route located downgradient of the SDS No. outfall pipes. During excavation, appropriate engineering controls such as erosion control, construction dewatering, dust minimization, etc., will be implemented as necessary, according to current CENED and OSHA construction practices.

Approximately 25 to 30 tons (17 cubic yards) of TPH contaminated soil is to be removed from the vicinity of the SDS No. 6 outfall. The estimated area of contamination is a 15' x 15' area in the silty portion of the outfall area, at the end of three 16' x 3' existing concrete conduits. However, due to various fissures between the conduits as a result of weathering and years of water erosion, it is probable that the area beneath these conduits have been impacted and will have to be removed in order to access the soil area. The estimated maximum depth to be excavated is two feet bgs.

5.1.1.3 On-Site Soil Staging

Excavated soil will be field-screened for TPH at a frequency of one representative sample per 100 cubic yards of excavated soil. Those soils for which field screening results indicate TPH concentrations above background will be stockpiled and identified as potentially contaminated. These stockpiled soils will be resampled at a frequency of one sample per 100 cubic yards, and the samples will be analyzed for waste characterization parameters at a qualified off-site laboratory.



THREE 10" CLAY
DRAIN PIPES

HEAVILY VEGETATED
WOODLAND AREA

HEAVILY VEGETATED
WOODLAND AREA

DRAINAGE SWALE

DIRECTION OF FLOW

NOT TO SCALE

LEGEND



LIMITS OF EXCAVATION



CONCRETE SLUICEWAYS
AT BASE OF DRAIN PIPES



CONTOUR INTERVAL 10 FT

LIMITS OF EXCAVATION
SOIL DRAIN SYSTEM NO. 6 OUTFALL
DEVENS, MASSACHUSETTS



FIGURE 5-1

5.1.1.4 Soil Disposal

Excavated soil that does not appear to be contaminated, as indicated by visual field observations and by field screening analytical results (TPH concentrations below background), will be re-used during backfilling of the excavation. Potentially contaminated soil will require Resource Conservation and Recovery Act (RCRA) waste characterization for disposal. Potentially contaminated soil which is shown to be non-RCRA hazardous will be stockpiled on-site. All confirmed contaminated soils will be disposed and/or treated with soil currently stockpiled in Cell B of the Soil Storage Facility at Building 202 under a Materials Shipping Record (MSR).

Soil samples collected for disposal characterization will undergo the following laboratory analyses:

- Corrosivity (Method 1110)
- Reactivity (Methods 7.3.3.2, 7.3.4.2)
- Ignitability (Method 1010)
- Toxicity Characteristic Leaching Procedure (TCLP), full (Method 1311)
- VOCs (Method 8260)
- Semivolatile Organic Compounds (SVOCs) (Method 8270)
- PCBs and Pesticides (Method 8080)
- Priority Pollutant (PP) Metals (Method 6010/Method 7061)
- Total Petroleum Hydrocarbons (Method 8015)

Appropriate Quality Control/Quality Assurance (QA/QC) samples, including duplicates, trip blanks, rinsate blanks, and matrix spike/matrix spike duplicate (MS/MSD) samples, will also be collected for laboratory analysis to evaluate the integrity of the data.

If the analytical disposal characterization data indicate the excavated soil is RCRA-hazardous, appropriate vendors will be solicited for off-site disposal options for the soil. Based on past sampling results at SDS No. 6, it is anticipated that none of the excavated soil will be found to be RCRA-hazardous.

5.1.1.5 Confirmation Soil Sampling

Once field screening results indicate that removal objectives (contaminants below MCP S-1/GW-1 soil criteria) have been met, one composite sample from each of the sidewalls of the excavation, and one composite from the floor of the excavation will be collected and submitted to an off-site laboratory for TPH, SVOC, and Priority Pollutant metals analyses. Appropriate QA/QC samples will also be collected for laboratory analysis to evaluate the integrity of the data. A one-week turnaround time for receipt of preliminary analytical results is planned. During that time, the excavation will be cordoned off to prevent pedestrian access, and covered to prevent surface runoff/precipitation from entering the excavation. If preliminary results confirm the attainment of cleanup goals (MCP S-1/GW-1 soil standards), the excavation will be backfilled with an estimated

17 cubic yards of certified clean fill, regraded, and reseeded. In the event that attainment of cleanup goals is not confirmed, excavation/confirmation sampling will continue until these goals are met.

5.1.1.6 Demobilization

Once the contaminated soil removal operation is completed and waste materials are staged on-site, WESTON will demobilize personnel and equipment, and temporary facilities from the site.

All staged materials will continue to be secured at the site, and construction fencing and access restrictions to the staged materials will remain until the materials are appropriately disposed of.

5.1.1.7 Quality Control Documentation

All field activities affecting quality control will be performed in accordance with documented procedures and requirements identified in the CENED Scope of Work. During all field activities, WESTON will use the following reporting formats:

- Daily Inspection Report
- Field Safety Inspection Checklist

Sample forms are contained in Attachment 1. These reports will be used to document quality control activities. WESTON's Field Supervisor will maintain a field logbook of inspection and work progress. This daily logbook will be used in preparing the Daily Inspection Report form which will be signed and dated by the Field Supervisor. Field documentation records will be kept at the WESTON field office at 3701 Barnum Road, Fort Devens, Massachusetts and the Daily Inspection Report for the previous day's activities will be submitted to the Contracting Officer's Representative (COR) on a daily basis.

The Daily Inspection Report includes:

- Contractors/subcontractors and responsibilities.
- Location, personnel, and description of work progress for each day.
- Equipment used.
- Safety evaluations including a description of inspections, results, and any corrective actions.

5.1.1.8 Project Schedule

The Project Schedule is organized by the tasks outlined in the Work Breakdown Structure (WBS) or the project. A preliminary version of the Project Schedule is presented in Figure 5-2. The schedule, which will be developed during production of the FSAP, will contain the WBS number,

FIGURE 5-2
PROJECT SCHEDULE

Site Preparation	2 Days*
Soil Removal and Disposal	2 Days
Field Screening	1 Day
Lab Analysis	7 Days
Backfill/Compact/Grade	1 Day
Seed	1 Day
Remove Decon Pad/Demobilize	1 Day

* Days represents total days required for completion of the task. It is understood that some tasks may overlap or occur concurrently.

task description, duration, and early start and finish dates. The project schedule will be updated, as necessary, throughout the project.

5.1.1.9 Project Personnel

This section highlights key personnel, the organizational structure, and the chain of command applicable to this project. Figure 5-3 depicts the key WESTON personnel and the Project Team's organization chart for the soil removal at SDS No. 6.

The permanent WESTON field staff will consist of a Field Supervisor, a Site Quality Control (QC) Systems Manager and a Site Safety and Health Officer. It is anticipated that more than one position can be held by a single field team member. Equipment operators and technicians will be provided on an as needed basis.

5.1.2 Contribution To Remedial Performance

The removal of the contaminated soils from SDS No. 6 eliminates potential future risks to human health from contaminants potentially released from the storm drain outfall to the soil/sediment surrounding the outfall. The removal action contributes to the reduction of overall site risks. No Further Action (NFA) under CERCLA is anticipated for SDS No. 6 following the removal action described in this document.

5.1.3 Description of Alternative Technologies

SDS No. 6 consists of a storm drain outfall, and downgradient surface and subsurface soil contamination. Removal and off-site disposal of the contaminated soil is the most feasible and efficient method of remediation at this site. Because this removal action, and other similar removal actions addressed under this program are time-critical actions, alternative remedial technologies were not considered.

5.1.4 Engineering Evaluation/Cost Analysis

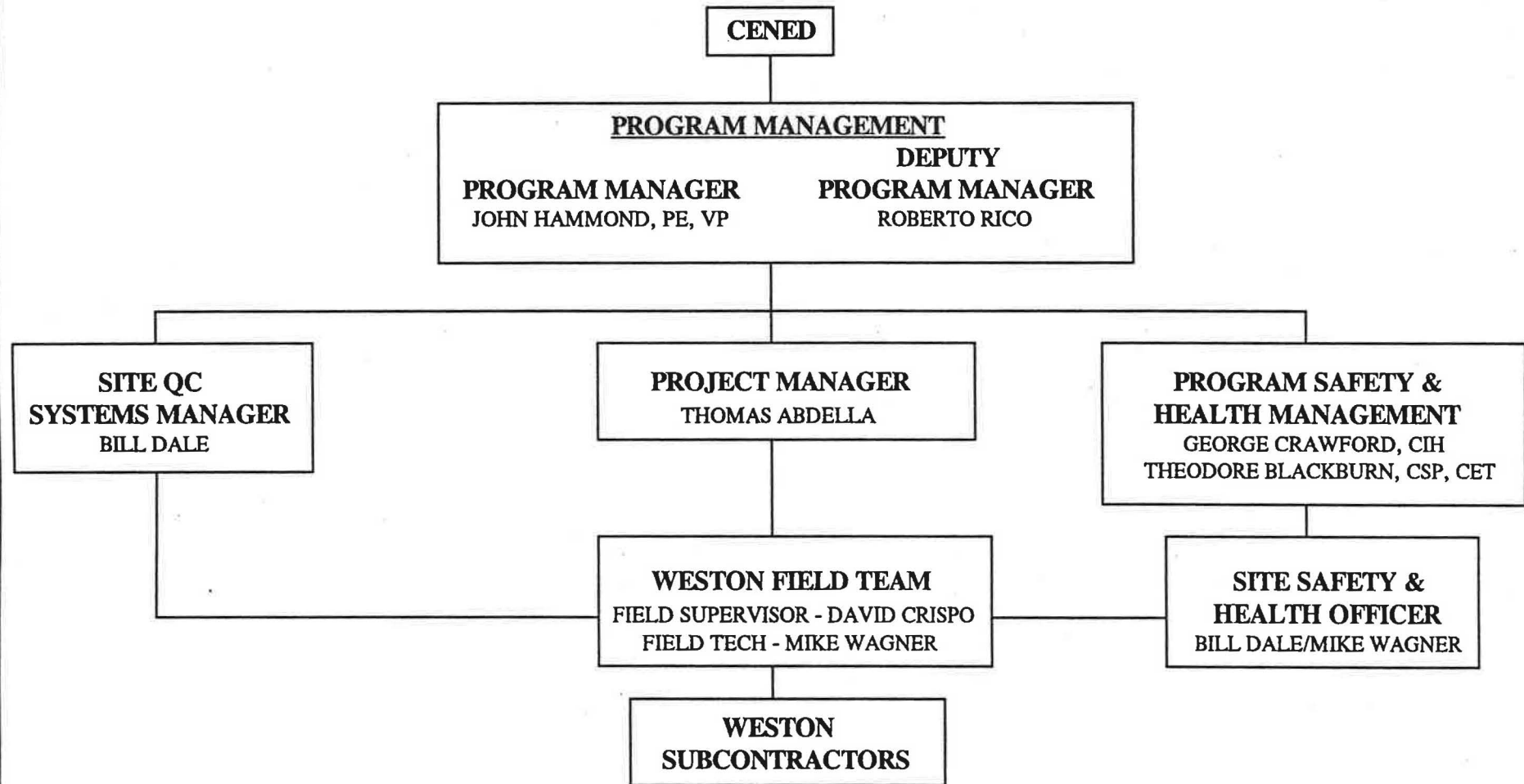
Because the removal action at SDS No. 6 is considered time-critical, an Engineering Evaluation/Cost Analysis was not prepared.

5.1.5 Applicable or Relevant And Appropriate Requirements

Applicable or Relevant and Appropriate Requirements (ARARS) are federal and state public health and environmental requirements used to (1) evaluate the appropriate extent of site cleanup, (2) scope and formulate removal action alternatives, and (3) govern the implementation and operation of a selected removal action. CERCLA and the NCP require removal actions to attain ARARs to the greatest extent practicable. To determine practicability, factors such as the urgency and scope of the remedial action should be considered.

ORGANIZATIONAL CHART

**CONTAMINATED SOIL REMOVAL - PHASE II
STUDY AREA 57, AREA 1
STORM DRAIN SYSTEM NO. 6
FORT DEVENS, MASSACHUSETTS**



ARARs were not identified for SDS No. 6. However, the proposed removal action will follow appropriate state and federal guidelines.

5.2 ESTIMATED PROJECT COST

The removal actions described in this Action Memorandum are estimated to cost Twenty-Five Thousand Dollars (\$25,000.00).

SECTION 6

EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the removal action is not taken, the release may cause an impact to human health or the environment.

SECTION 7

OUTSTANDING POLICY ISSUES

No outstanding policy issues relative to this Action Memorandum were identified.

SECTION 8


ENFORCEMENT

The Department of the Army (DA) is the lead agency for Fort Devens. The removal action will not be financed through CERCLA (Superfund); all funding will be provided by the Department of Defense (DOD) through DA and Fort Devens. Therefore, enforcement strategies do not apply to this removal action.

SECTION 9

RECOMMENDATION

This decision document represents the selected removal action for Study Area 57, Area 1, SDS No. 6 located cross from Building 3701 Barnum Road, at Fort Devens, Massachusetts. This document was developed in accordance with CERCLA, as amended. The removal action is consistent with the NCP and site conditions meet the criteria (40 CFR 300.415) for a removal action. The removal action is expected to provide a permanent, long-term solution for contaminated soils at the site. Therefore, the soil removal action is recommended.


James C. Chambers
U.S. Army
BRAC Environmental Coordinator
Devens Reserve Forces Training Area

31 October 1996
Date