FINAL

SITE CLOSURE PLAN
FT030 FIRE PROTECTION TRAINING AREA

FORMER GRIFFISS AIR FORCE BASE SITE
ROME, NEW YORK

Prepared for:

Air Force Civil Engineer Center
Building 45
706 Brooks Road
Rome, New York 13441

Prepared by:

FPM Remediations Inc.
584 Phoenix Drive
Rome, NY 13441

In association with:

10901 Lowell Avenue, Suite 271
Overland Park, Kansas 66210

Contract Number FA8903-10-D-8595/
Delivery Order 0014

January 2013

This page is intentionally left blank.

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS

AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AOC	Area of Concern
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	Environmental Protection Agency
FPM	FPM Remediations, Inc.
FPTA	Fire Protection Training Area
ft	feet
FTP	Fire Training Pit
IRP	Installation Restoration Program
LUC/IC	Land Use Control/Institutional Controls
µg/kg	micrograms per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
ORC®	Oxygen Release Compound
OWS	oil/water separator
PCBs	polychlorinated biphenyls
PID	photoionization detector
RI	Remedial Investigation
ROD	Records of Decision

ACRONYMS (CONTINUED)

SCGs	Standards, Criteria, and Guidance Values
SCOs	Soil Cleanup Objectives
SI	Supplemental Investigation
SOP	Standard Operating Procedure
STARS	Spill Technology and Remediation Series
SVE	Soil Vapor Extraction
SVI	Soil Vapor Intrusion
SVOC	semi-volatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
UST	underground storage tank
VOC	volatile organic compound

1.0 INTRODUCTION

FPM Remediations, Inc. (FPM), in association with CAPE, Inc., under contract with the Air Force Civil Engineer Center (AFCEC), is conducting site closure activities at the FT030 Fire Protection Training Area (FPTA) Area of Concern (AOC), former Griffiss Air Force Base (AFB). The intent of these activities is to obtain unrestricted use and final site closure at the AOC.

1.1 Purpose

The purpose of this Site Closure Plan is to establish the activities needed to determine that the concentrations of hazardous substances are at such levels or of acceptable risks as to allow for unrestricted use at the site. An assessment based on unrestricted use shall be performed prior to making any such determination. The assessment and determination will be coordinated with the United States Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (NYSDEC). Tasks proposed to achieve unrestricted use and final site closure are soil vapor sampling. If needed, the sampling results will be used to support a risk evaluation for unrestricted use and site closure or installation and operation of a soil vapor extraction (SVE) system at the site.

The work at this site will be conducted in accordance with provisions of the Basic Contract #FA8903-10-D-8595 and Delivery Order # 0014.

2.0 RECORD OF DECISION

The Record of Decision (ROD) for the FPTA AOC was signed by the Air Force and EPA in September 2010. The selected remedy for the FPTA AOC is LUC/ICs for evaluation of the potential for soil vapor intrusion if future construction is performed in the Soil Vapor Intrusion (SVI) restriction area. The ROD, provided in Appendix A, states that:

- The future landowners will be required, through the property deed, to evaluate the SVI potential if construction occurs at the AOC in the future.

Oneida County is responsible for maintaining property and developing facilities, as necessary, to promote airport reuse. The planned future land use designations for the FPTA AOC are aviation support. The runway/flightline area, located west of the AOC, is part of the relocated Griffiss International Airport, and thus the FPTA AOC will be subject to Federal Aviation Administration restrictions including Federal Aviation Regulations 14 Code of Federal Regulations (CFR) Part 77 (Objects Affecting Navigable Airspace)

3.0 SITE BACKGROUND

The former Griffiss AFB covered approximately 3,552 contiguous acres in the lowlands of the Mohawk River Valley in Rome, Oneida County, New York. Topography within the valley is relatively flat, with elevations on the former Griffiss AFB ranging from 435 to 595 feet (ft) above mean sea level. Three Mile Creek, Six Mile Creek (both of which drain into the New York

State Barge Canal, located to the south of the base), and several state-designated wetlands are located on the former Griffiss AFB, which is bordered by the Mohawk River on the west. Due to its high average precipitation and predominantly silty sands, the former Griffiss AFB is considered a groundwater recharge zone.

The FPTA AOC is located in the northwestern portion of the former Griffiss AFB (Figure 1). It is bounded by Taxiway 20 to the southeast, Taxiway 8 to the northeast, and Taxiway 21 to the southwest and west. The FPTA was used to simulate aircraft fuel fires for training purposes and consisted of a fire training pit (FTP), a fuel piping system, underground storage tank (UST), and oil/water separator OWS (Figure 2). Fire training activities at the FPTA ceased in 1998.

From August 1998 through June 1999, the following Phase 1 interim remedial actions were carried out at the FPTA AOC:

- Dismantling and removal of above ground storage tank 6365-C, OWS 6365-2, and the sanitary sewer lift station.
- Removal of the concrete basin, the aircraft mock-up, and the associated building, which included transport of approximately 1,600 tons of rubble from the basin and excavation of contaminated soil up to 4 ft bgs.
- Removal of all associated piping.
- Removal and disposal of 3,305 gallons of petroleum contaminated liquid from two manholes discovered in an electrical/communication vault.
- Remediation of surficial contaminated soil identified during the site investigation.

In 2001 the Phase 2 activities included the following:

- Dismantling and removal of the former electrical/communication vault discovered adjacent to the south/southeast edge of the FPTA basin during the 1999 remediation (see Figure 6 for vault location).
- Removal of petroleum-contaminated soils associated with the vault excavation and a duct trench extending out from the east corner.

All of the contaminated soil excavated during Phase 2 (in addition to Phase 1) of remediation was transported to the Apron 1 Landfarm for treatment via bioremediation.

Although known contamination sources have been removed from the FPTA AOC, the Air Force evaluated the potential for SVI in 2006. The evaluation concluded that there are no structures located on the AOC that can be occupied. Consequently, SVI sampling was not performed. The AOC is located within the boundary of the operational County Airport. Federal Aviation Administration regulations prohibit construction within the AOC boundary. The ROD states that the future landowners will be required, through the property deed, to evaluate SVI potential if construction occurs at the AOC in the future. For further detailed site background information refer to the Final FPTA AOC ROD (September 2010).

3.1 Regulatory Drivers

The FPTA AOC is regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The site activities are conducted in consultation with the EPA, Region II and NYSDEC.

4.0 CLOSURE PLAN

4.1 Scope and Regulatory Basis for Closure

The Griffiss Local Redevelopment Agency has implemented reuse and redevelopment for the former Griffiss AFB that includes a mixture of commercial, industrial and airport use. The Air Force's initiative to reduce its long-term environmental liabilities and life cycle costs through unrestricted site closure creates an opportunity to optimize benefits to the local public, the federal government, and the environment. The FPTA AOC is subject to evaluation of the potential for soil vapor intrusion if future construction is performed in the SVI restriction area. The proposed strategy is aimed at lifting the existing restrictions to achieve unrestricted reuse at the site.

4.2 Closure Tasks

The following tasks are proposed:

- **Collection of 32 soil vapor samples.**
  - The soil vapor samples will be collected in the SVI restriction area.
  - Data shall be compared to background levels of VOCs in air as provided in the New York State Department of Health (NYSDOH) SVI guidance document (Section 3.2.4), the NYSDOH's guidelines for VOCs in air (Table 3.1 in the NYSDOH SVI guidance document), the Air Force calculated screening levels, and EPA SVI screening levels (EPA, November 2002).

- **Conduct human health risk assessment if sampling results show concentrations above SVI screening levels.**
  - Site Closure will be recommended if the human health risk assessment demonstrates acceptable risks for residential use at the site.
  - A full scale SVE system will be installed at the site if the human health risk assessment finds that there are unacceptable risks for residential use at the site. The SVE system will initially be deployed to gather sufficient data regarding radius of influence and contaminants removal effectiveness. The data will support incorporating a full-scale system in an Explanation of Significant Differences.

The data will be relied upon to update the SVI evaluation and evaluate the site-specific risk. If results from the evaluation do not support site closure, the data will be used to implement an SVE system that is capable of eliminating any residual soil vapor. Table 1 summarizes the proposed field activities. Figure 3 shows the proposed sample locations.

In accordance with the guidance documents, "Guidance for Evaluating Soil Vapor Intrusion in the State of New York," issued by the NYS Department of Health (NYSDOH), VOCs in air samples shall be analyzed using Method TO-15. A sample analysis summary is provided in Table 5. Sample methodology is provided in Appendix B, SVI Sampling Standard Operating Procedures (SOP). Field forms for the SVI Sampling are also provided in Appendix B. The samples shall be collected and handled in accordance with the protocols as specified in the NYSDOH Guidance Document (NYSDOH, February 2005) and analyzed by the laboratory using EPA Method TO-15. The laboratory's SOP for Method TO-15 is included in the Uniform Federal Policy Quality Assurance Project Plan (UFP QAPP) for Performance Based-Remediation at the Former Griffiss AFB (CAPE/FPM, November 2011). All data will then be reviewed and evaluated in accordance with these procedures, and the laboratory's standard qualifiers would apply.

Prior to sampling, subsurface utilities identification through Dig Safe NY will be performed. However, it is anticipated that the drilling will not interfere with any underground utilities. The Health and Safety Plan for Performance Based-Remediation at the Former Griffiss AFB (CAPE/FPM, June 2011) will be operational in conjunction with this Site Closure Plan.

5.0 DELIVERABLES

5.1 SVI Evaluation Report

The results of the sub-slab vapor and indoor/outdoor air sampling shall be summarized in the FT030 FPTA AOC SVI Evaluation Report which will also include the site specific risk evaluation. The report will contain figures with sampling locations and summary tables containing any detected soil vapor concentrations.

5.2 Explanation of Significant Differences

The ESD will be prepared to document the findings of the SVI evaluation and to proposed site closure or a remedial action such as soil vapor extraction.

6.0 REFERENCES

AFCEE, Basewide Environmental Baseline Survey, Griffiss Air Force Base, New York, September 1994.

AFCEE, Final Fire Protection Training Area (FT030) Area of Concern Record of Decision, September 2010.

CAPE/FPM/AECOM, Draft-Final Health and Safety Plan for Performance Based-Remediation at the former Griffiss AFB, New York, July 2011.

CAPE/FPM/AECOM, Final Uniform Federal Policy Quality Assurance Project Plan for Performance Based-Remediation at the former Griffiss AFB, New York, November 2011.

FPM Group, Ltd., Monitoring Report, On-Base Groundwater AOCs Monitoring Program, Former Griffiss Air Force Base, Rome, New York, Revision 0.0, August 2007.

FPM Group, Ltd./PEER, Final Interim Remedial Action Report for the Fire Protection Training Area (FT-30), Former Griffiss Air Force Base, Rome, New York, July 2003.

Law, Draft-Final Primary Report: Volume 28, Remedial Investigation Fire Protection Training Area of Concern, Griffiss Air Force Base, New York, December 1996.

This page is intentionally left blank.

TABLES

Table 1
Soil Vapor Intrusion Pathway Investigation at the Fire Protection Training Area
Field Activity Summary

Activity	Rationale	Analytical Parameters
Collection of thirty-two soil vapor samples from the site.	Soil vapor samples will be collected at the site to evaluate SVI potential at the site.	VOCs – EPA TO-15

Table 2
Soil Vapor Intrusion Pathway Investigation at Fire Protection Training Area
Sample Analysis Summary

Analyte/ EPA Method Numbers	Sample Type	No. of Samples	No. of Field Dups./Reps.	No. of Trip Blanks	Total No. of Samples
VOCs – EPA TO-15	Soil Vapor	32	--[1]	--[1]	

[1] One trip blank is required per cooler containing VOCs. One field duplicate sample shall be collected as either a subsurface vapor or a sub-slab vapor sample.

FIGURES

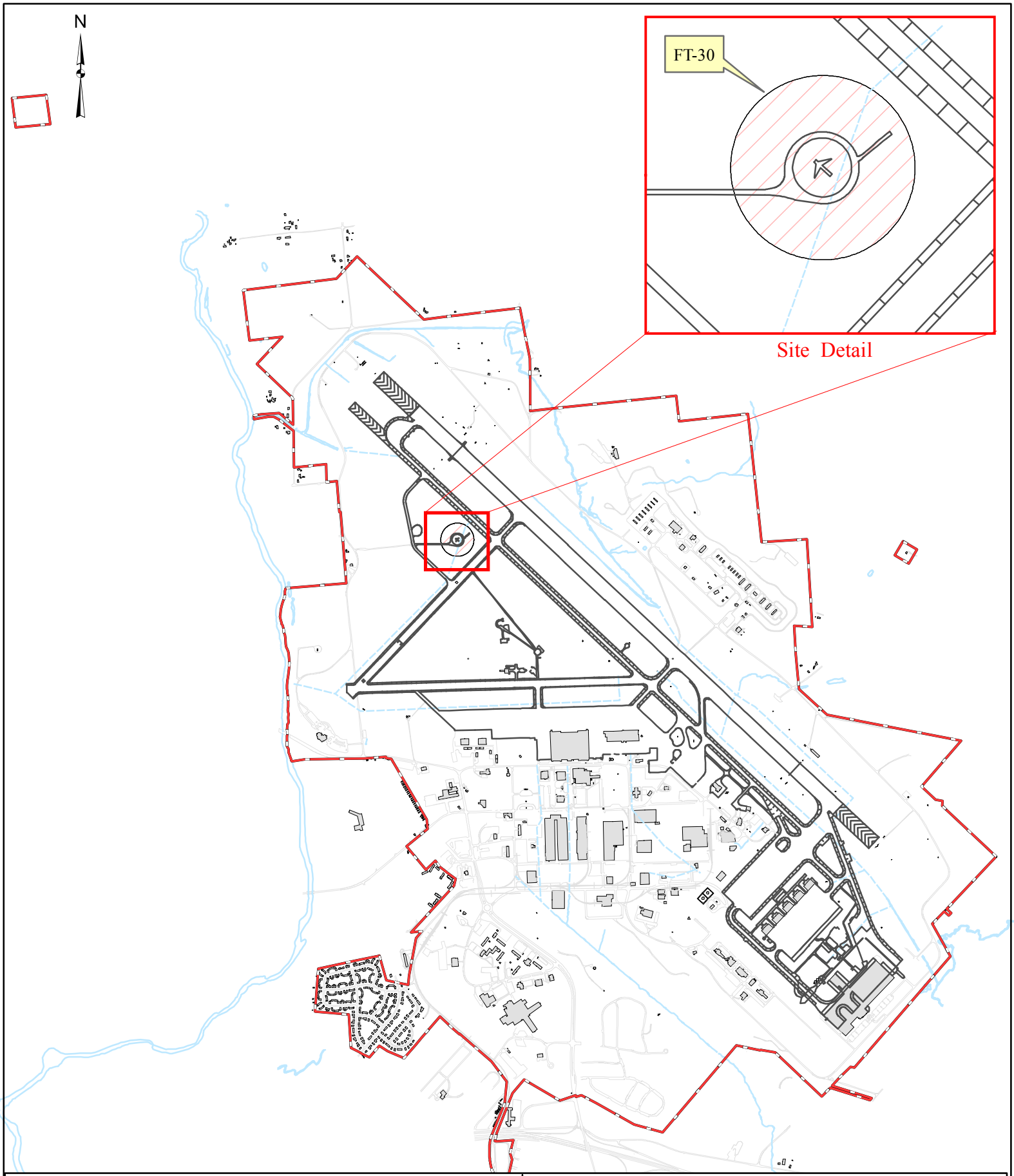
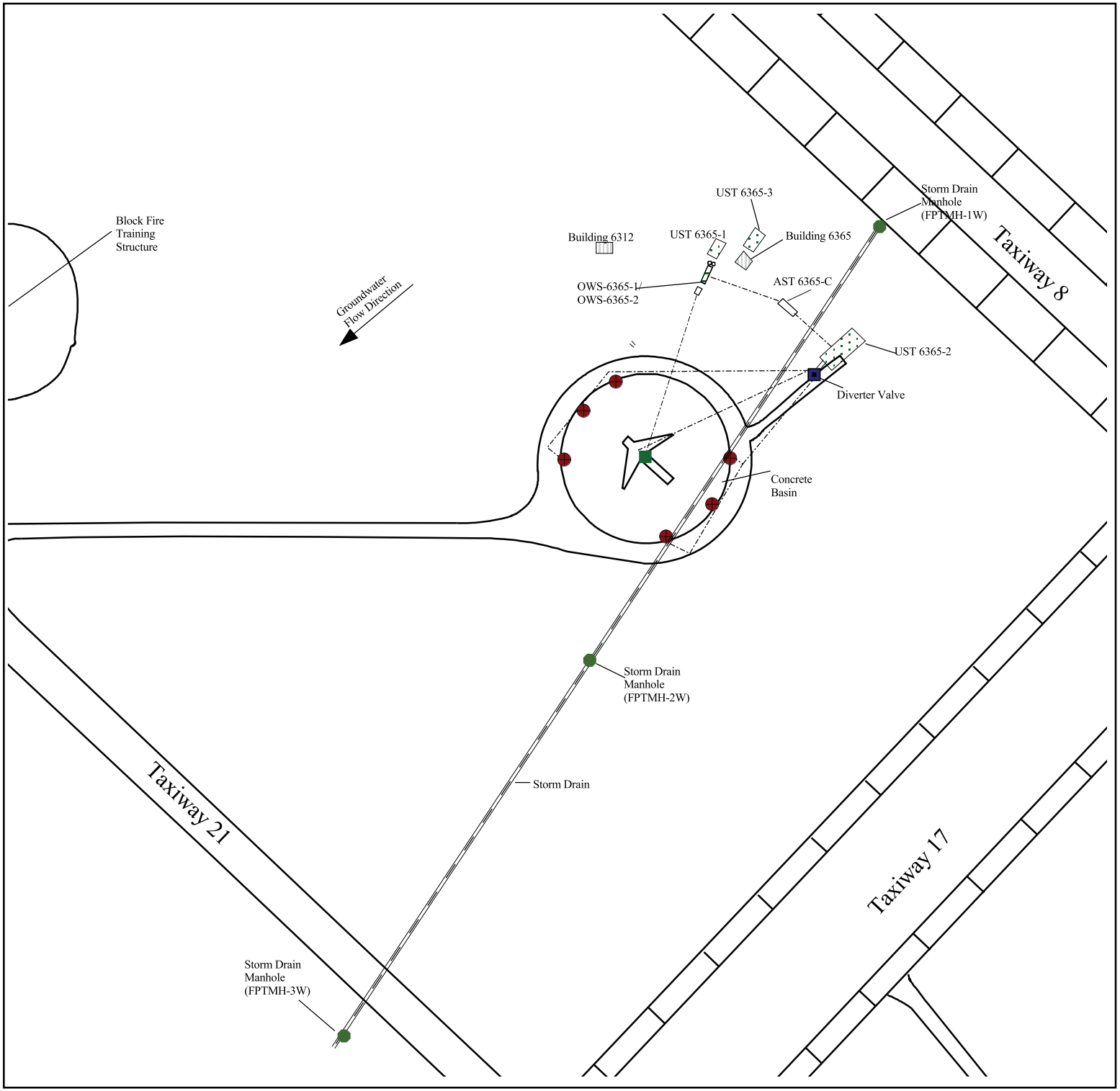


Figure 1
FPTA AOC Site Location Map

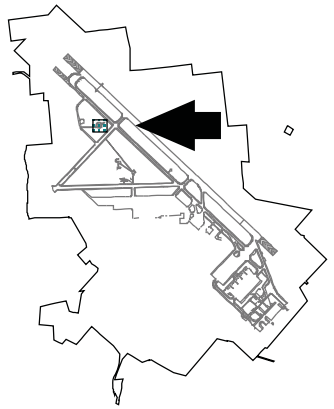
Legend

- Boundary
- Airfield/Road
- Culvert / Ditch
- Surface Water
- LUC/IC Site Boundary
- Facilities

N



N



Legend

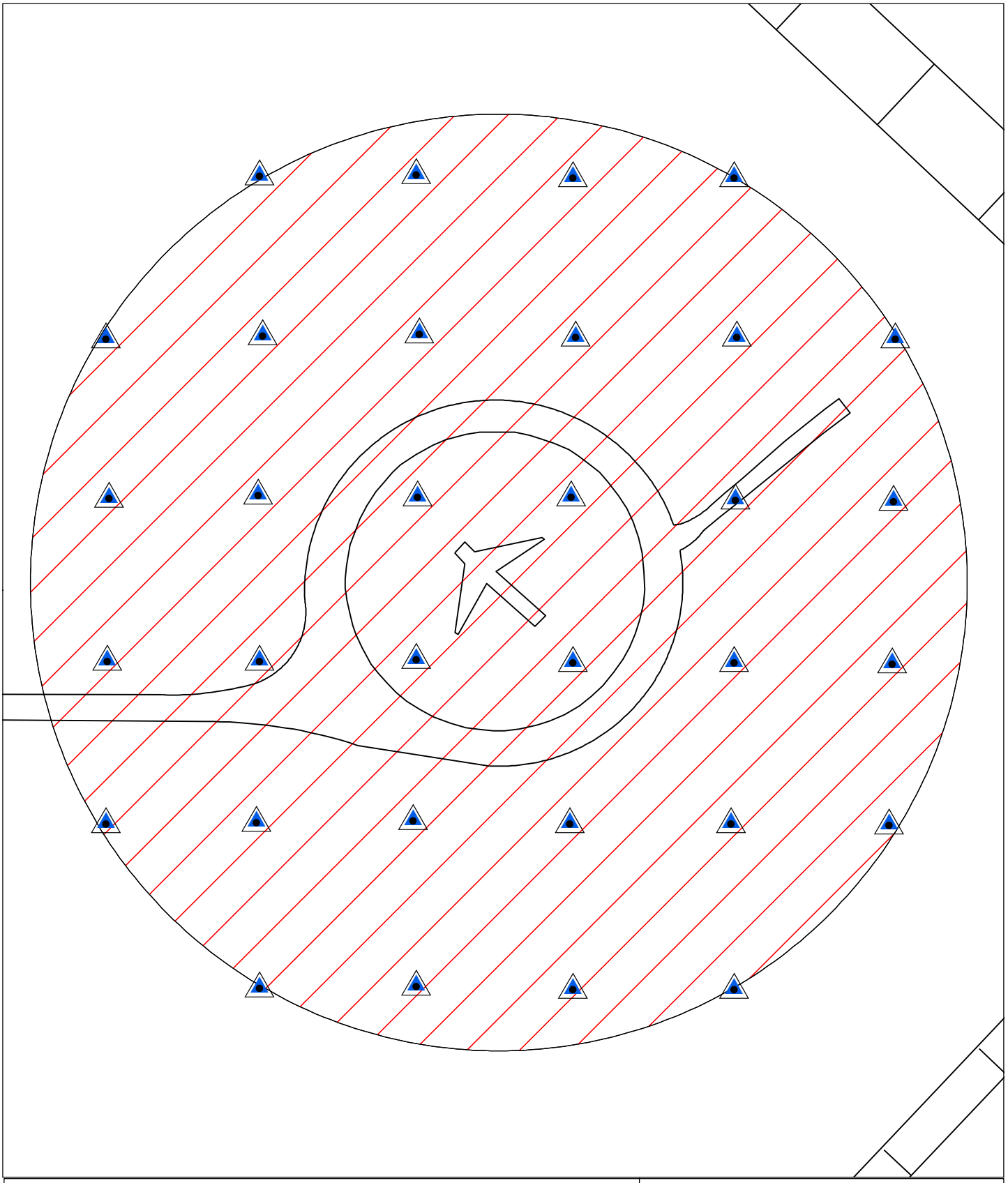
- Storm Drain
- Road/Airfield
- Buried Fuel Pipeline
- Catch Basin
- Fuel Nozzle
- Manhole
- Removed OWS
- Removed AST
- Removed UST
- Demolished Facility

UNITED STATES AIR FORCE
GRIFFISS AIR FORCE BASE
ROME, NEW YORK

70 0 70 Feet

Figure 2
FPTA AOC
Site Features

FPM



Key to Features

- Proposed Soil Vapor Sampling Locations (115 ft intervals)
- Airfield
- IRP Sites

N

0 57.5 115 Feet

Figure 3
FPTA AOC
Proposed Soil Vapor Sample Locations

FPM Remediations, Inc

CAPE

APPENDIX A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

SEP 28 2010

Mr. Robert M. Moore
Director
AFRPA/Kelly
2261 Hughes Avenue Suite 121
Lackland AFB, TX 78236-9821

Re: Record of Decision – Fire Protection Training Area - Area of Concern
Former Griffiss AFB, Rome, NY

Dear Mr. Moore:

This is to inform you that after reviewing the Draft Record of Decision (ROD), responsiveness summary and other supporting documents, the U.S. Environmental Protection Agency (EPA) concurs with the final ROD for the Fire Protection Training Area - Area of Concern, dated September 2010. Therefore, on behalf of EPA, I have co-signed the ROD and will forward a copy to Mr. Michael McDermott of the Air Force Real Property Agency and the New York State Department of Environmental Conservation as requested in your September 10, 2010, submittal letter.

Please note, that the ROD requires implementation of the following:

- Land use controls to manage the potential for soil vapor intrusion (SVI); and
- Five-Year reviews.

Notwithstanding your stated intention to require future landowners, through deed restrictions, to implement the land use restrictions (i.e. evaluate SVI potential in future construction activities at the Site), we agree with the selected remedy based in part on your acknowledgement that it is ultimately the Air Force's responsibility to implement and enforce the land use restrictions selected in this ROD, as stated in Section 1.3 of the ROD.

If you have any questions regarding this letter, please contact Douglas Pocze of my staff at (212) 637-4432.

Sincerely,

Walter E. Mugdan, Director
Emergency and Remedial Response Division

cc: Dale Desnoyer, Director
Division of Environmental Remediation, NYSDEC

Fire Protection Training Area Area of Concern (FT-30)

RECORD OF DECISION

Griffiss Air Force Base
Installation Restoration Program

United States Department of the Air Force
Griffiss Air Force Base
Rome, New York

Final
September 2010

FINAL

RECORD OF DECISION

FIRE PROTECTION TRAINING AREA
AREA OF CONCERN
(IRP SITE FT-30)

FORMER GRIFFISS AIR FORCE BASE
ROME, NEW YORK

UNITED STATES DEPARTMENT OF THE AIR FORCE
AIR FORCE REAL PROPERTY AGENCY

SEPTEMBER 2010

This page is intentionally left blank.

TABLE OF CONTENTS

Page No.

FIGURES

Page No.

TABLES

Page No.

ACRONYMS

AFB	Air Force Base
AOC	Area of Concern
ARARs	Applicable or Relevant and Appropriate Requirements
AST	aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BRAC	Base Realignment and Closure Act
BTEX	benzene, toluene, ethylbenzene and xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
COPC	Chemical of Potential Concern
EPA	Environmental Protection Agency
FFA	Federal Facility Agreement
FPTA	Fire Protection Training Area
ft	feet
FTP	Fire Training Pit
IRP	Installation Restoration Program
LUC	Land Use Control
MCL	Maximum Contaminant Levels
mg/kg	milligrams per kilogram
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEADS	Northeast Air Defense Sector
NYANG	New York Air National Guard
NYSDEC	New York State Department of Environmental Conservation
ORC®	Oxygen Release Compound
OWS	oil/water separator
PCBs	polychlorinated biphenyls
PID	photoionization detector
ppb	parts per billion
ppmv	parts per million by volume
PVC	poly vinyl chloride

ACRONYMS (CONTINUED)

RI	Remedial Investigation
ROD	Records of Decision
SAC	Strategic Air Command
SCGs	Standards, Criteria, and Guidance Values
SI	Supplemental Investigation
STARS	Spill Technology and Remediation Series
SVI	Soil Vapor Intrusion
SVOC	semi-volatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
TAL	target analyte list
TBC	to be considered
TPH	total petroleum hydrocarbon
UST	underground storage tank
VOC	volatile organic compound
WSA	Weapons Storage Area

1.0 DECLARATION

1.1 Site Name and Location

The Fire Protection Training Area (FPTA) Area of Concern (AOC) (site identification designation FT-30) is located at the former Griffiss Air Force Base (AFB), Rome, Oneida County, New York.

1.2 Statement of Basis and Purpose

This Record of Decision (ROD) presents the selected remedial alternative for the FPTA at the former Griffiss AFB in Rome, New York. It has been developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 U.S.C. §§ 9601-9675, as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This decision is based on the Administrative Record for this site, a copy is available on-line at https://afrpaar.lackland.af.mil/ar and in the administrative record file located at 428 Phoenix Drive in the Griffiss Business and Technology Park.

The remedy for land use controls to manage the potential for Soil Vapor Intrusion (SVI) has been selected by the United States Air Force (Air Force) and the United States Environmental Protection Agency (EPA) with concurrence from the New York State Department of Environmental Conservation (NYSDEC) pursuant to the former Griffiss AFB Federal Facility Agreement (FFA).

1.3 Description of the Selected Remedy

The selected remedy of land use controls to manage the potential for soil vapor intrusion (SVI) for the FPTA AOC is protective of human health and the environment and complies with federal and state applicable or relevant and appropriate requirements (ARARs). The land use control will be implemented to minimize the exposure of any future users of the property including Air Force personnel, transferees, and construction workers to any remaining hazardous substances located on the property encompassed by the FPTA AOC.

An interim remedial action was performed in two phases at the FPTA in which the majority of soil contamination found during the previous investigations was removed. The remaining chemicals detected in the soil did not exceed NYSDEC's Technical and Administrative Memorandum (TAGM) #4046 Soil Cleanup Objectives Guidance Values, and the potential source of groundwater contamination has been removed. In addition, groundwater monitoring has confirmed that contaminants of concern (COCs) concentrations are also below New York State Groundwater Standards, Criteria, and Guidance Values (SCGs).

Given the previous contamination at the site and potential for future construction at the site, the Air Force will include a land use control requiring the property owner to evaluate the SVI

potential or to construct facilities in a manner that will eliminate the potential for SVI in the property transfer documents.

The Air Force is responsible for implementing, maintaining, monitoring, and enforcing the land use control. It is anticipated that successful implementation, operation, maintenance, and enforcement of the land use control in accordance with the terms of this ROD will achieve protection of human health and the environment and compliance with all legal requirements. Approval by the Air Force and EPA with concurrence from NYSDEC is required for any modification or termination of the land use control.

1.4 Statutory Determinations

It has been determined that no additional removal action is necessary at the FPTA AOC. The Air Force and EPA, with concurrence from the NYSDEC, have determined that the land use control to manage SVI potential is warranted for this AOC. The future landowners will be required, through the property deed, to evaluate SVI potential if construction occurs at the AOC in the future. Five-year reviews will be performed by the Air Force, in conjunction with the EPA and NYSDEC, to ensure that future land use is in compliance with the land use controls to manage the potential for SVI. These reviews will also ensure that the selected remedy is protective of human health and the environment.

1.5 Authorizing Signatures

On the basis of the remedial investigations and a successfully completed removal action performed at the FPTA AOC, there is no evidence that residual contamination at the AOC poses a current or future potential threat to human health or the environment when the SVI potential is evaluated at the AOC before any new construction. The future landowners will be required, through the property deed, to evaluate the SVI potential if construction occurs at the AOC in the future. The NYSDEC has concurred with the Selected Remedy presented in this Record of Decision.

Robert M. Moore — 22 Sep 10

ROBERT M. MOORE
Director
Air Force Real Property Agency

Date

Walter E. Mugdan — Sept. 28, 2010

WALTER E. MUGDAN
Director, Emergency and Remedial Response Division
United States Environmental Protection Agency, Region 2

Date

This page is intentionally left blank.

2.0 DECISION SUMMARY

2.1 Site Name, Location, and Description

The former Griffiss AFB covered approximately 3,552 contiguous acres in the lowlands of the Mohawk River Valley in Rome, Oneida County, New York. Topography within the valley is relatively flat, with elevations on the former Griffiss AFB ranging from 435 to 595 feet (ft) above mean sea level. Three Mile Creek, Six Mile Creek (both of which drain into the New York State Barge Canal, located to the south of the base), and several state-designated wetlands are located on the former Griffiss AFB, which is bordered by the Mohawk River on the west. Due to its high average precipitation and predominantly silty sands, the former Griffiss AFB is considered a groundwater recharge zone.

The FPTA AOC is located in the northwestern portion of the former Griffiss AFB (Figure 1). It is bounded by Taxiway 20 to the southeast, Taxiway 8 to the northeast, and Taxiway 21 to the southwest and west. The FPTA was used to simulate aircraft fuel fires for training purposes and consisted of a fire training pit (FTP), a fuel piping system, underground storage tank (UST), and oil/water separator OWS (Figure 2). Fire training activities at the FPTA ceased in 1998.

Two NYSDEC petroleum spill numbers are associated with the FPTA. NYSDEC spill number 9510184 is associated with the overall historic use of the AOC that resulted in soil staining and surface free product, as observed by the NYSDEC in 1995. Closure of NYSDEC spill number 9510184 was requested by the Air Force in August 2007 based on the interim remediation and groundwater monitoring at the AOC. NYSDEC spill number 9510187 is associated with the release of 3,000 gallons of jet fuel to the ground surface by UST 6365-2 caused by the overfilling of OWS 6365-2 in November 1995. The remedial objectives of the AOC have been achieved and closure of NYSDEC spill number 9510187 is pending the completion of the treatment of the excavated soil via bioremediation.

2.2 History and Enforcement Activities

The Former Griffiss AFB Operational History

The mission of the former Griffiss AFB varied over the years. The base was activated on February 1, 1942, as Rome Air Depot, with the mission of storage, maintenance, and shipment of material for the U.S. Army Air Corps. Upon creation of the U.S. Air Force in 1947, the depot was renamed Griffiss Air Force Base. The base became an electronics center in 1950, with the transfer of Watson Laboratory Complex (later Rome Air Development Center [1951], Rome Laboratory [1990], and then the Air Force Research Laboratory Information Directorate [1997], established with the mission of accomplishing applied research, development, and testing of electronic air-ground systems). The 49th Fighter Interceptor Squadron was also added. The headquarters of the Ground Electronics Engineering Installations Agency was established in June 1958 to engineer and install ground communications equipment throughout the world.

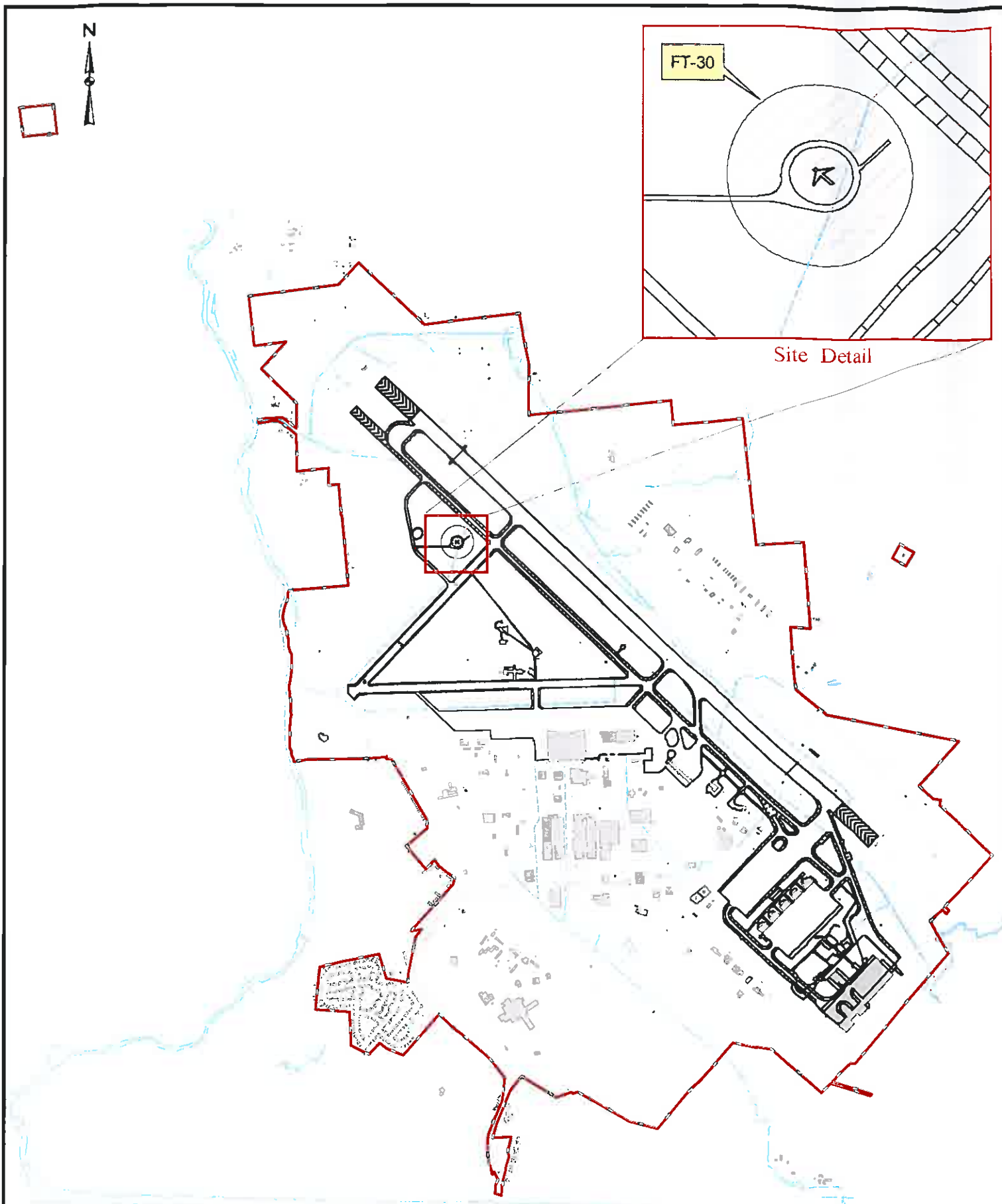
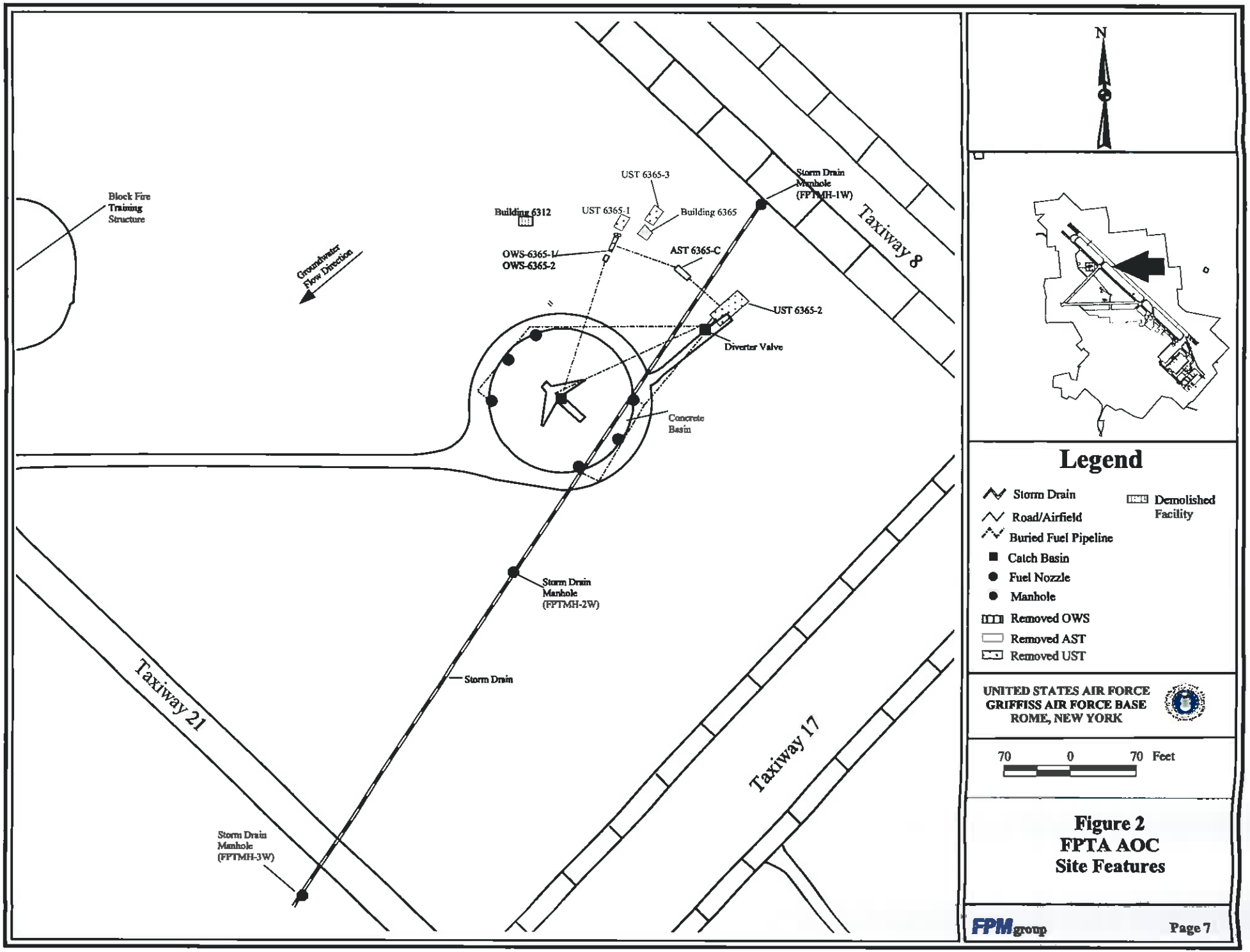


Figure 1
Fire Protection Training Area Site Location Map


Block Fire Training Structure
Groundwater Flow Direction
Building 6312
UST 6365-3
UST 6365-1
Building 6365
OWS-6365-1/
OWS-6365-2
AST 6365-C
UST 6365-2
Diverter Valve
Concrete Basin
Storm Drain Manhole (FPTMH-1W)
Taxiway 8
Storm Drain Manhole (FPTMH-2W)
Storm Drain
Taxiway 21
Taxiway 17
Storm Drain Manhole (FPTMH-3W)
N
Legend
Storm Drain
Road/Airfield
Buried Fuel Pipeline
Catch Basin
Fuel Nozzle
Manhole
Removed OWS
Removed AST
Removed UST
Demolished Facility
UNITED STATES AIR FORCE
GRIFFISS AIR FORCE BASE
ROME, NEW YORK
70 0 70 Feet
Figure 2
FPTA AOC
Site Features
FPM group
Page 7

On July 1, 1970, the 416th Bombardment Wing of the Strategic Air Command (SAC) was activated with the mission of maintenance and implementation of both effective air refueling operations and long-range bombardment capability.

Griffiss AFB was designated for closure and realignment under the Base Realignment and Closure Act in 1993 and 1995, resulting in deactivation of the 416th Bombardment Wing in September 1995. The Information Directorate at Rome Research Site and the Northeast Air Defense Sector (NEADS) will continue to operate at their current locations; the New York Air National Guard (NYANG) operated the runway for the 10th Mountain Division deployments until October 1998, when they were relocated to Fort Drum; and the Defense Finance and Accounting Services has established an operating location at the former Griffiss AFB.

Environmental Background

As a result of the various national defense missions carried out at the former Griffiss AFB since 1942, hazardous and toxic substances were used and hazardous wastes were generated, stored, or disposed at various sites on the installation. The defense missions involved, among others, procurement, storage, maintenance, and shipping of war material; research and development; and aircraft operations and maintenance.

Numerous studies and investigations under the U.S. Department of Defense Installation Restoration Program have been carried out to locate, assess, and quantify the past toxic and hazardous waste storage, disposal, and spill sites.

These investigations included a records search in 1981, interviews with base personnel, a field inspection, compilation of an inventory of wastes, evaluation of disposal practices, and an assessment to determine the nature and extent of site contamination; Problem Confirmation and Quantification studies (similar to what is now designated a Site Investigation) in 1982 and 1985; soil and groundwater analyses in 1986; a base-wide health assessment in 1988 by the U.S. Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR); base-specific hydrology investigations in 1989 and 1990; a groundwater investigation in 1991; and site-specific studies and investigations between 1989 and 1995. The ATSDR issued a Public Health Assessment for Griffiss AFB, dated October 23, 1995, and an addendum, dated September 9, 1996.

Pursuant to Section 105(a)(8)(B) of CERCLA, Griffiss AFB was included on the National Priorities List on July 15, 1987. On August 21, 1990, the agencies entered into a FFA under Section 120 of CERCLA.

2.3 Community Participation for FPTA AOC

A proposed plan for the FPTA (AFRPA, July 2009), proposing land use controls to manage the potential for SVI, was released to the public on June 13, 2009. The document was made available to the public in the Information Repository available on-line at https://afrpaar.lackland.af.mil/ar and in the administrative record file located at 428 Phoenix Drive in the Griffiss Business and Technology Park.

The notice of the availability of these documents was published in the Rome Daily Sentinel Newspaper on June 13, 2009. In addition, a 30-day public comment period was held from June 13, 2009 to July 14, 2009 to solicit public input on the final Proposed Plan for the FPTA. During this period, the public was invited to review the Administrative Record and comment on the preferred alternative being considered.

In addition, Griffiss AFB hosted a public meeting on June 18, 2009 at the Griffiss Institute located at 725 Daedalian Drive, Rome, New York 13441. The date and time of the meeting was published in the Rome Daily Sentinel Newspaper. At the meeting, the Air Force provided data gathered at the AOC, the preferred alternative, and the decision-making process. The meeting provided the opportunity for the community to comment officially on the plan. The public meeting was recorded and transcribed, and a copy of the transcript was added to the Administrative Record.

No public comments on the Proposed Plan were submitted. A responsiveness summary documenting the comment solicitation process is included as Section 3.0. Once this ROD is signed, notice of availability will be published in the Rome Daily Sentinel Newspaper; and it will be available for public inspection and copying on-line at https://afrpaar.lackland.af.mil/ar and in the administrative record file located at 428 Phoenix Drive in the Griffiss Business and Technology Park pursuant to 40 CFR 300.430(f)(6).

2.4 Scope and Role of Area of Concern

The FPTA AOC is one of several areas administered under the Griffiss AFB Installation Restoration Program (IRP). The FPTA AOC includes both previously contaminated soil in the unsaturated zone (vadose zone) and previously contaminated groundwater. Land use controls to manage the potential for SVI are recommended for the AOC.

Interim remedial actions conducted at the AOC have eliminated the source of soil and groundwater contamination. The principal contaminants at the FPTA were petroleum-related hydrocarbons dissolved within the groundwater and soil at the AOC.

2.5 Site Characteristics

Fire Training activities at the AOC have resulted in contaminated soil and groundwater at the AOC at levels above applicable SCGs. Various actions undertaken at the AOC have removed the sources of groundwater and soil contamination. Currently, no significant threat to human health is posed by the groundwater or soil at the FPTA AOC. Past investigations at the AOC (Section 2.5.1), Interim Remedial Action (Section 2.5.2), Groundwater Monitoring (Section 2.5.3), and Soil Vapor Intrusion Evaluation (Section 2.5.4) are summarized below.

2.5.1 Previous Investigations and Removal Actions

In 1992, the Air Force analyzed a sample of waste liquid from the FTP collection basin. The results indicated the presence of several petroleum hydrocarbons, oil, and grease.

A Remedial Investigation (RI) was performed in 1994. The main objective of the RI was to investigate the nature and extent of environmental contamination from historical releases at the FPTA in order to determine whether remedial action was necessary to prevent potential threats to human health and the environment from exposures that might arise under existing or expected future site conditions. The RI included a soil gas/groundwater screening survey, soil sampling, and groundwater monitoring.

Soil gas samples were collected from 2 to 4 ft below ground surface (bgs) at 30 grid nodes using a hydraulic probe, and groundwater samples were collected at 23 nodes (Figure 3). The samples were screened using gas chromatography for benzene, toluene, ethylbenzene, and xylenes (BTEX) and chlorinated volatile compounds. No volatile organic compounds (VOCs) were detected in soil gas, but several were detected in 11 groundwater samples, primarily in the western half of the grid. Quantifiable concentrations of individual volatiles were detected in two samples, SG/GW-1 and SG/GW-16 (Table 1).

Thirteen soil borings were drilled to groundwater (Figure 3). Soil samples were collected every 2 ft to a depth of 10 ft and at 5-ft intervals below 10 ft. Based on field screening results, 38 selected soil samples were analyzed at an off-site laboratory for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, cyanide, and petroleum hydrocarbons, and in April 1995, three additional soil samples were collected. Four SVOCs, 10 metals, and cyanide were detected at concentrations exceeding the TAGM soil cleanup objective (Table 2).

Three groundwater monitoring wells (FPTMW-1, -2, and -3) were installed in June 1994 and sampled in August 1994 (Figure 3). Nine VOCs, one SVOC, and four metals were detected at concentrations exceeding the most stringent criteria (Table 3). Generally, the highest levels of contaminants were found in FPTMW-1, southeast of the basin.

In 1996, in response to a fuel spill resulting from overflow of UST 6365-2 located northeast of the basin (NYSDEC spill number 9510187), approximately 2,000 cubic yards of contaminated soil were removed.

In 1997, another groundwater investigation was initiated to assess the impact of the fuel spill. Five new monitoring wells (ANGMW-1 through -5) were installed around the spill location (Figure 4) and quarterly groundwater sampling began in July 1997. The samples were analyzed for VOCs and SVOCs. In the first round, VOCs were detected in one well, ANGMW-1, and the

Figure 3
1994 Remedial Investigation Sample Locations

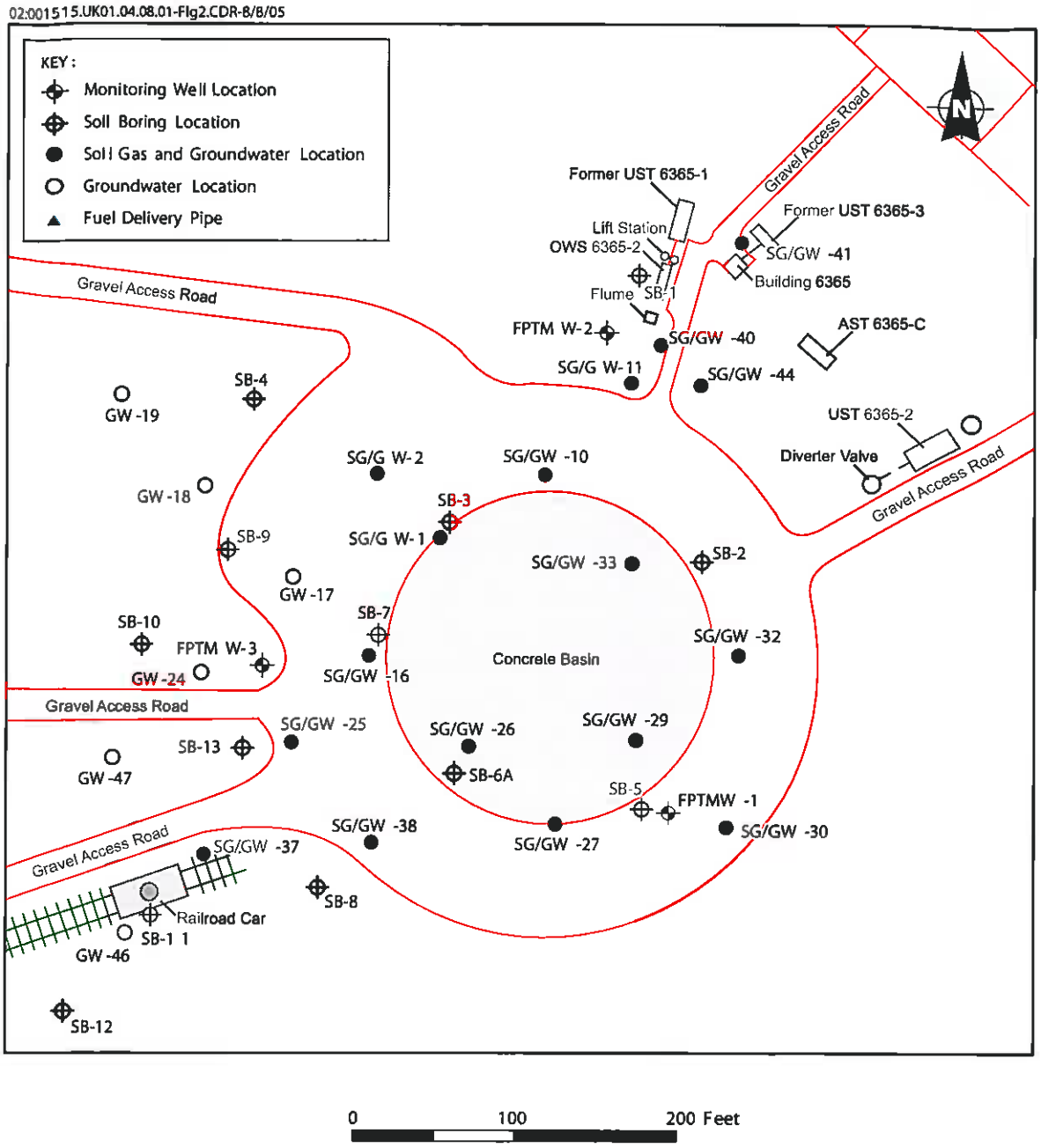


Table 1
Remedial Investigation Sampling
Groundwater Screening Sample Results Exceeding Standards and Guidance Values, May 1994

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/L)			
ethylbenzene	3.3, 29	1/23	5.0[a]
toluene	6.9	1/23	5.0[a]
xylenes	3.3, 29	1/23	5.0[a]

Notes
a = NYS Class GA groundwater standard, June 1998.

Table 2
Remedial Investigation Sampling
Soil Sample Results Exceeding Standards and Guidance Values, May 1994 and April 1995

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
SVOCs (µg/kg)			
benzo(a)anthracene	78 J – 260 J	1/41	224[a]
benzo(a)pyrene	52 J – 440 J	3/41	61[a]
chrysene	72 J – 1,200 J	2/41	400[a]
n-nitrosodimethylamine	5,000 – 7,000	2/41	110[c]
Metals (mg/kg)			
beryllium	0.33 – 0.90	1/39	0.65[b]
calcium	590 – 80,600	4/39	23,800[b]
chromium	3.3 – 37.6	2/39	22.6[b]
copper	4.9 – 127 J	4/39	43.8[b]
lead	4.8 – 54.2	2/39	36.2[b]
manganese	266 – 3,380	1/39	2,110[b]
molybdenum	5.6 – 18.1 J	6/39	6[b]
sodium	118 – 762	1/39	259[b]
strontium	2.8 – 85.3 J	1/39	55[b]
zinc	17.3 – 138	1/39	120[b]
Other (mg/kg)			
cyanide	0.1 – 1.3	1/39	1[b]

Notes
a = NYS TAGM 4046 Recommended Soil Cleanup Objective.
b = Site background screening concentration.
C = EPA Region III Risk-Based Concentration for Industrial soil.
J = estimated concentration.

Table 3
Remedial Investigation Sampling
Groundwater Sample Results Exceeding Standards and Guidance Values, August 1994

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/L)			
1,2,4-trimethylbenzene	150 D	1/3	5[a]
1,3,5-trimethylbenzene	52 D	1/3	5[a]
ethylbenzene	39 D	1/3	5[a]
isopropylbenzene	17	1/3	5[a]
n-butylbenzene	14	1/3	5[a]
n-propylbenzene	23	1/3	5[a]
p-isopropyltoluene	12	1/3	5[a]
sec-butylbenzene	9.8	1/3	5[a]
xylenes	100 D	1/3	5[a]
SVOCs (µg/L)			
1,2-diphenylhydrazine	0.03 J	1/3	ND[a]
Metals (mg/L)			
aluminum	280 – 450	3/3	50[c]
iron	1,080 – 13,400	3/3	300[b]
manganese	87 – 8,510	3/3	50[b]
thallium	0.95 J – 1.3 J	3/3	0.5[b]

Notes
a = NYS Class GA groundwater standard, June 1998.
b = NYS Class GA groundwater guidance value; June 1998.
c = EPA Federal secondary maximum contaminant level.
D = indicates the compound was identified in an analysis from a diluted sample.
J = estimated concentration.
ND = nondetect.

concentrations of five VOCs were above NYS Groundwater SCGs. In April 1998, a sixth well was installed (ANGMW-6) and again during that sampling round, VOCs and SVOCs above NYS Groundwater SCGs were detected in ANGMW-1 only. Three wells (ANGMW-2, -3, and -4) were then decommissioned and during the subsequent rounds of sampling (July 1998, October 1998, and January 1999), concentrations of VOCs and SVOCs were all below NYS Groundwater SCGs in the three remaining wells. Monitoring wells ANGMW-5 and ANGMW-6 were later decommissioned in 1999.

A supplemental investigation (SI) conducted in June 1997 consisted of a survey of the existing wells and storm drain manholes, the installation of two additional monitoring wells (FPTMW-4 and FPTVMW-5), sampling of all FPT wells (Figure 4), and collection of storm water from the two surveyed manholes (MH-1W and MH-2W). No VOCs were detected above NYS Groundwater SCGs. The SI report concluded that the storm drain channel that traverses the site acts as a drain for groundwater.

In May 1998, a site investigation was initiated to delineate residual contamination at the FPTA AOC. Twelve surface soil samples (SS1 through SS12) were collected from soil under a layer of asphalt millings surrounding the concrete basin (Figure 5). Nine VOCs and eight SVOCs in one sample were detected in surface soil at concentrations above Spill Technology and Remediation Series (STARS) soil guidance values (Table 4); one VOC and five SVOCs exceeded the TAGM soil cleanup objectives. Subsurface soil samples were collected from 13 soil boring locations generally west and south of the concrete basin (Figure 5). Eleven VOCs and eleven SVOCs were detected in the subsurface soil samples at concentrations exceeding STARS soil guidance values (Table 5); one VOC and six SVOCs exceeded the TAGM soil cleanup objectives. In October 1998, an additional 25 subsurface samples were collected up to depths of 14 ft from underneath the concrete basin at 22 soil boring locations. Ten VOCs and nine SVOCs were detected at concentrations above STARS soil guidance values (Table 6); seven VOCs and two SVOCs exceeded the TAGM soil cleanup objectives.

2.5.2 Interim Remedial Action

2.5.2.1 Interim Remedial Action Phase 1

From August 1998 through June 1999, the following Phase 1 interim remedial actions were carried out at the FPTA AOC:

- Dismantling and removal of above ground storage tank 6365-C, OWS 6365-2, and the sanitary sewer lift station.
- Removal of the concrete basin, the aircraft mock-up, and the associated building, which included transport of approximately 1,600 tons of rubble from the basin and excavation of contaminated soil up to 4 ft bgs.
- Removal of all associated piping.
- Removal and disposal of 3,305 gallons of petroleum contaminated liquid from two manholes discovered in an electrical/communication vault.
- Remediation of surficial contaminated soil identified during the site investigation.

02:001515.UK01.04.08.01-Fig2.CDR-12/13/04

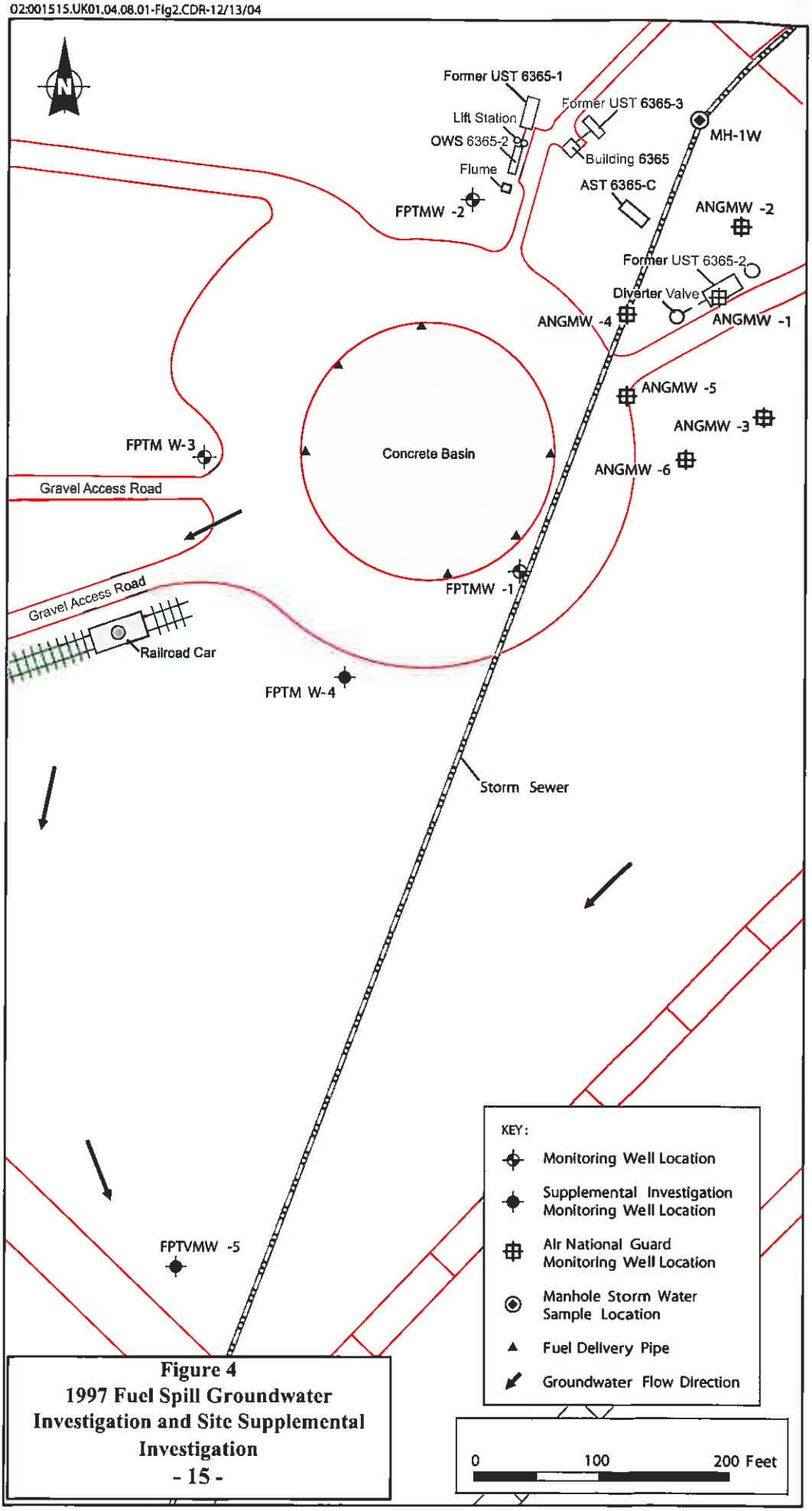


Figure 4
1997 Fuel Spill Groundwater Investigation and Site Supplemental Investigation

Figure 5
1998 Site Investigation, Soil Sampling Locations

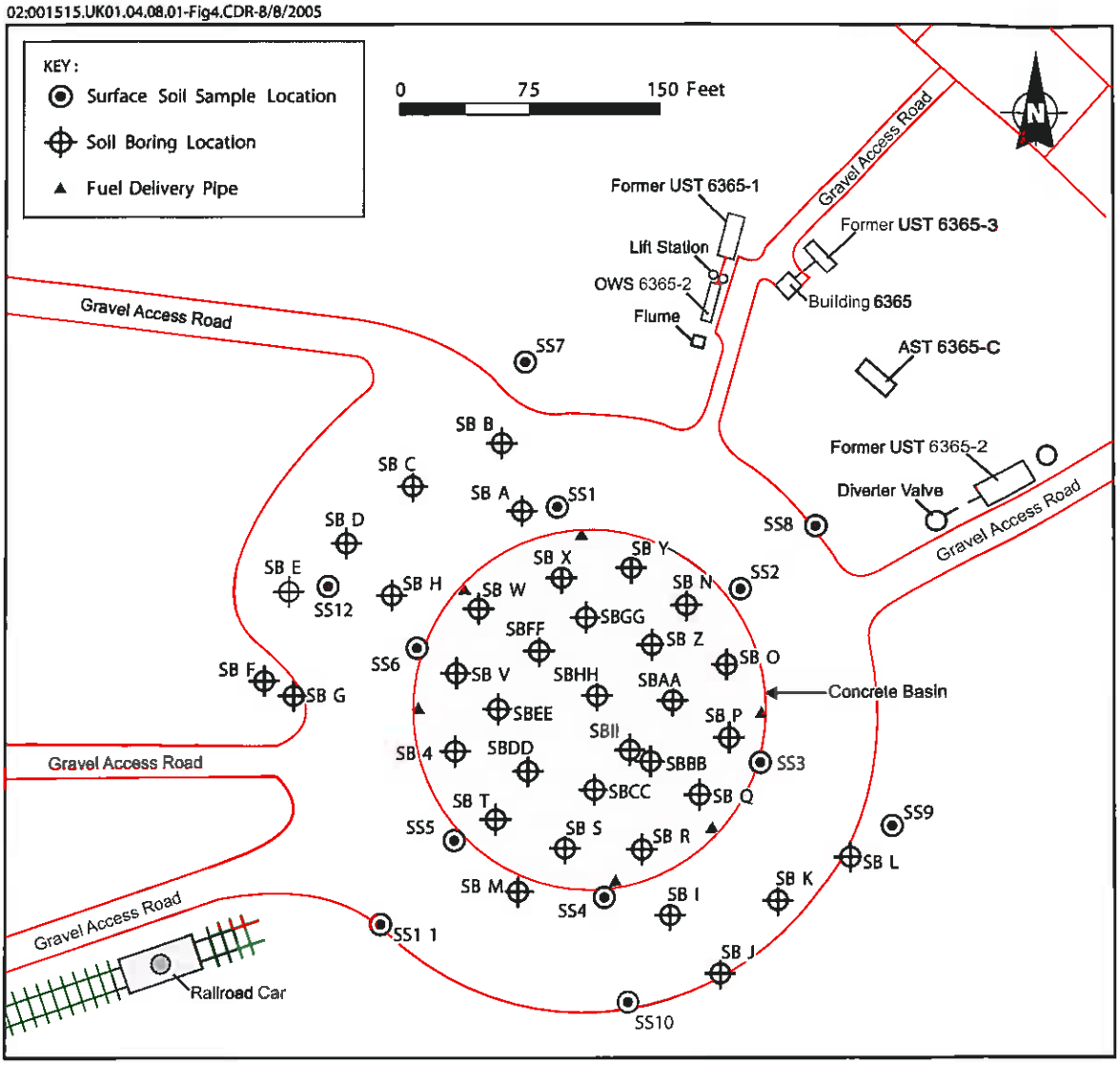


Table 4
Site Investigation Sampling
Surface Soil Sample Results Exceeding Standards and Guidance Values, May 1998

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/kg)			
1,2,4-trimethylbenzene	22,200	1/12	100[a]
1,3,5-trimethylbenzene	1,200	1/12	100[a]
isopropylbenzene	370	1/12	100[a]
n-butylbenzene	2,800	1/12	100[a]
n-propylbenzene	490	1/12	100[a]
p-isopropyltoluene	2,900	1/12	100[a]
sec-butylbenzene	3,900	1/12	100[a]
t-butylbenzene	440	1/12	100[a]
xylenes	240	1/12	100[a]
SVOCs (µg/kg)			
benzo(a)anthracene	120 F – 1,600	3/12	0.04[a]
benzo(a)pyrene	1,100 – 1,100	2/12	0.04[a]
benzo(b)fluoranthene	1,300 – 2,100	2/12	0.04[a]
benzo(k)fluoranthene	1,200 F – 1,200	2/12	0.04[a]
chrysene	1,400 – 7,390	2/12	0.04[a]
fluoranthene	99 F – 1,500	2/12	1,000[a]
naphthalene	2,600	1/12	200[a]
pyrene	1,800 – 2,900	2/12	1,000[a]

Notes
a = NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.
F = the analyte was positively identified but the associated numerical value was below the reporting limit.

Table 5
Site Investigation Sampling
Soil Boring Sample Results Exceeding Standards and Guidance Values, May 1998

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/kg)			
1,2,4-trimethylbenzene	0.73 F – 1,800	3/29	100[a]
1,3,5-trimethylbenzene	0.22 F – 1,300	4/29	100[a]
ethylbenzene	1.2 F – 640	2/29	100[a]
isopropylbenzene	85 – 2,000	3/29	100[a]
n-butylbenzene	0.89 F – 2,200	4/29	100[a]
n-propylbenzene	0.24 F – 400	4/29	100[a]
p-isopropyltoluene	0.85 F – 2,000	4/29	100[a]
sec-butylbenzene	2.3 – 5,800	4/29	100[a]
t-butylbenzene	0.32 F – 1,200	4/29	100[a]
toluene	0.07 F – 600	3/29	100[a]
xylenes	0.3 F – 1,300	3/29	100[a]
SVOCs (µg/kg)			
anthracene	1,600	1/29	1,000[a]
benzo(a)anthracene	38 F – 4,200	5/29	0.04[a]
benzo(a)pyrene	39 F – 1,900	6/29	0.04[a]
benzo(b)fluoranthene	64 F – 5,000	8/29	0.04[a]
benzo(g,h,i)perylene	31 F – 160 F	3/29	0.04[a]
benzo(k)fluoranthene	42 F – 1,600	6/29	0.04[a]
chrysene	42 F – 4,000	8/29	0.04[a]
fluoranthene	45 F – 12,000	1/29	1,000[a]
indeno(1,2,3-cd)pyrene	36 F – 240 F	3/29	0.04[a]
phenanthrene	71 F – 8,500	2/29	1,000[a]
pyrene	50 – 1,100	1/29	1,000[a]

Notes
a = NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.
F = the analyte was positively identified but the associated numerical value was below the reporting limit.

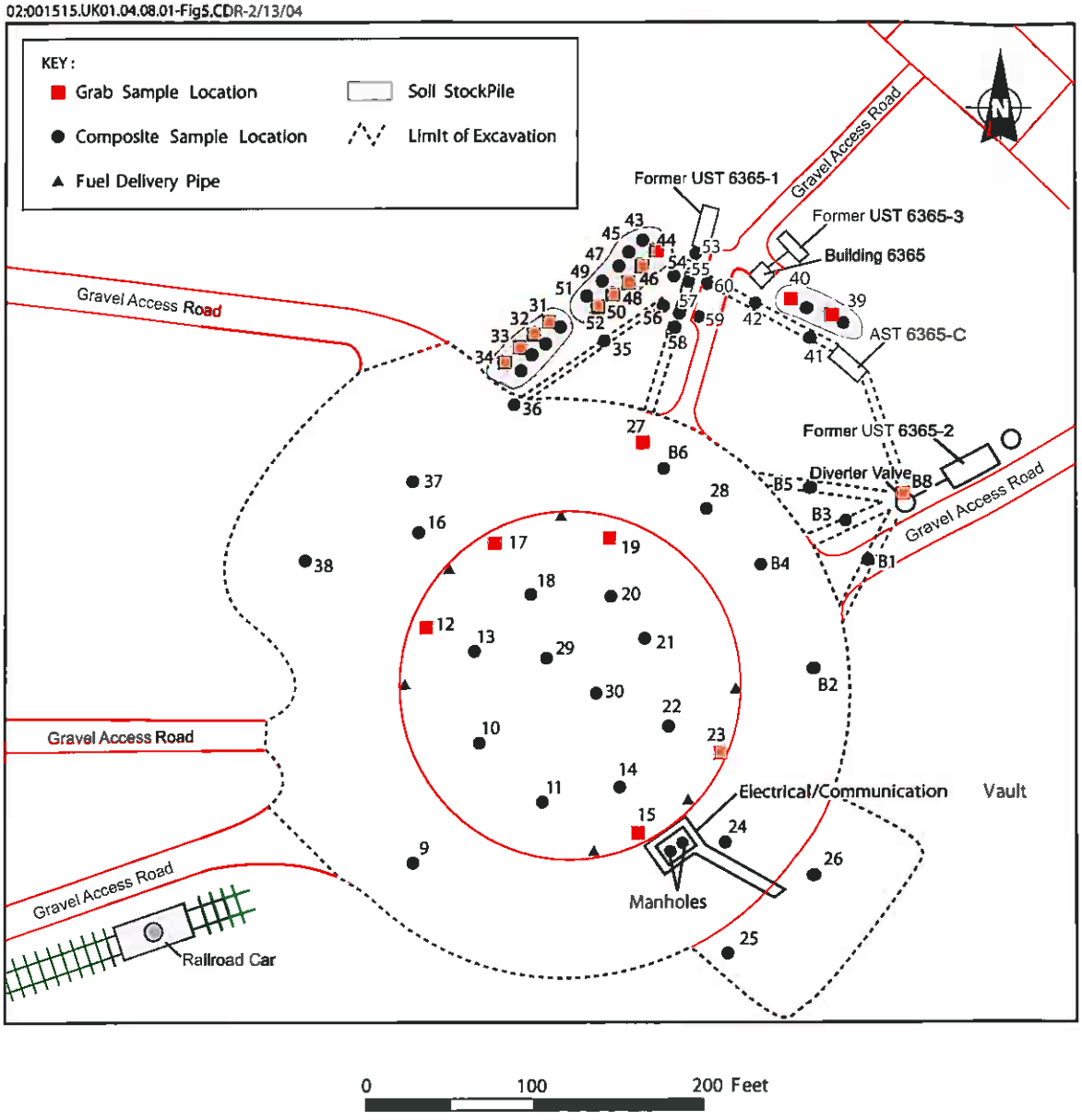
Table 6
Site Investigation Sampling
Concrete Basin Soil Sample Results Exceeding Standards and Guidance Values, October 1998

Compound	Range of Detected Concentrations	Frequency of Detection Above Most Stringent Criterion	Most Stringent Criterion
VOCs (µg/kg)			
1,2,4-trimethylbenzene	0.41 F – 56,000	3/25	100[a]
1,3,5-trimethylbenzene	0.36 F – 27,000	3/25	100[a]
ethylbenzene	0.71 F – 5,700	2/25	100[a]
isopropylbenzene	150 B – 3,800	3/25	100[a]
n-butylbenzene	062 F – 27,000	2/25	100[a]
n-propylbenzene	1.5 – 1,800	1/25	100[a]
p-isopropyltoluene	500 – 4,100	4/25	100[a]
sec-butylbenzene	0.51 F – 14,000	4/25	100[a]
t-butylbenzene	1.7 – 3,100	2/25	100[a]
xylenes	5.5 – 26,000	3/25	100[a]
SVOCs (µg/kg)			
benzo(a)anthracene	96 F	1/25	0.04[a]
benzo(a)pyrene	84 F	1/25	0.04[a]
benzo(b)fluoranthene	180 F	1/25	0.04[a]
benzo(g,h,i)perylene	57 F	1/25	0.04[a]
benzo(k)fluoranthene	40 BF	1/25	0.04[a]
chrysene	82 F	1/25	0.04[a]
dibenzo(a,h)anthracene	67 F	1/25	0.04[a]
indeno(1,2,3-cd)pyrene	64 F	1/25	0.04[a]
naphthalene	260	1/25	200[a]

Notes
a = NYSDEC STARS Memo No. 1 TCLP Alternative Guidance Value.
B = the analyte was found in an associated blank, as well as in the sample.
F = the analyte was positively identified but the associated numerical value was below the reporting limit.

Figure 6
1999 Interim Remedial Action
Confirmatory Soil Sampling Locations

02;001515.UK01.04.08.01-Fig5.CDR-2/13/04



In conjunction with the 1999 remedial actions, a total of 60 confirmatory soil samples were collected from excavations and soil stockpiles (Figure 6) and analyzed for VOCs and/or SVOCs. The concentrations of ten VOCs detected at one location (B2) were above their respective STARS soil guidance values, but none exceeded the TAGM soil cleanup objectives. Three SVOCs were also detected at concentrations above STARS soil guidance values but not detected above the TAGM soil cleanup objectives.

2.5.2.2 Interim Remedial Action Phase 2

Phase 2 activities conducted in 2001 included:

- Dismantling and removal of the former electrical/communication vault discovered adjacent to the south/southeast edge of the FPTA basin during the 1999 remediation (see Figure 6 for vault location).
- Removal of petroleum-contaminated soils associated with the vault excavation and a duct trench extending out from the east corner.

All of the contaminated soil excavated during Phase 2 (in addition to Phase 1) of remediation was transported to the Apron 1 Landfarm for treatment via bioremediation.

In December 2000, guidance was issued by NYSDEC that identified the soil cleanup objectives included in TAGM 4046 as the appropriate values to be used in determining soil cleanup levels for unexcavated soil at petroleum spill sites. During the investigations and remediation at the FPTA between 1998 and 2001, however, the guidance values given by NYSDEC in the STARS Memo No. 1 were used for comparison of both unexcavated and excavated soils.

Further clarification by NYSDEC in a series of memos issued in 2001 verified that the STARS Memo No. 1 values were to be used only for excavated soils requiring disposal or reuse. Therefore, the Final Interim Remedial Action Report for the FPTA was revised and reissued to provide a comparison of unexcavated soil concentrations to the TAGM 4046 soil cleanup objectives. This ROD for the FPTA AOC, therefore, appropriately provides a comparison to the TAGM soil cleanup objectives for unexcavated soils and the STARS soil guidance values for the excavated soils for the 2001 remedial activities.

Following excavation of the communications vault in 2001, eight confirmation samples were collected from the floor and walls of the vault excavation and the duct trench excavation. The VOC concentrations were all below the TAGM soil cleanup objectives.

Several SVOCs exceeded the TAGM soil cleanup objectives so additional soil was removed from the vault excavation and duct trench. Following excavation, six confirmation samples were collected. Benzo(a)anthracene was detected in one sample (110 micrograms per kilogram [µg/kg]) below the TAGM soil cleanup objective (224 µg/kg). No other VOCs or SVOCs were detected in the six samples. Three samples also were collected from the clean soil stockpile. All VOC and SVOC concentrations from the stockpile samples were nondetect. The excavations were backfilled with clean fill, compacted, and contoured to match the existing grade.

2.5.3 Groundwater Monitoring

Due to the potential for contamination in saturated subsurface soils at 8 to 14 ft bgs, four additional monitoring wells (FPTAMW-6, -7, -8, and -9) were installed in November 2003 under NYSDEC spill number 9510184. During installation, there were no visible signs of contamination and photoionization detector (PID) readings remained at background concentrations. Groundwater monitoring was performed from November 2003 through September 2004 at the four newly installed monitoring wells and at four existing wells (FPTMW-3, -4, FPTVMW-5, and ANGMW-1) to confirm the presence/absence of groundwater contamination caused by the residual subsurface soil contamination. Sampling locations are illustrated on Figure 7. Sampling results indicate that no VOC detections were reported at any of the FPTA wells except for ANGMW-1. ANGMW-1 was also sampled in March 2005, March 2006, and April 2007. Sampling results for ANGMW-1 are provided in Table 7. 1,2,4-Trimethylbenzene was reported in exceedance of the NYS Groundwater SCGs in the November 2003 through March 2005 sampling rounds. A naphthalene exceedance was also reported during the November 2003 and September 2004 sampling rounds. In summer 2005, in-well Oxygen Release Compound (ORC®) treatment was performed at ANGMW-1. ORC® releases oxygen into a contaminated area to promote the aerobic biodegradation of the petroleum contamination. Treatment was continued at ANGMW-1 for six months until the March 2006 sampling round. The March 2006 sampling results confirmed the absence of VOC detections in the ANGMW-1 groundwater sample above New York State Groundwater SCGs. ORC® treatment was again performed at ANGMW-1 in fall 2006. March 2007 sampling data confirmed the absence of VOC detections above NYS Groundwater SCGs.

2.5.4 Soil Vapor Intrusion Evaluation

Although known contamination sources have been removed from the FPTA AOC, the Air Force evaluated the potential for SVI. The evaluation concluded that there are no structures located on the AOC that can be occupied. Consequently, SVI sampling was not performed. The AOC is located within the boundary of the operational County Airport. Federal Aviation Administration regulations prohibit construction within the AOC boundary. However, a land use control will be implemented requiring future property owners to perform a SVI evaluation prior or mitigation during, construction of a new facility within the FT-30 IRP Site boundary (Figure 7) should the Airfield close. Any such mitigation or evaluation will be coordinated with the EPA and NYSDEC. The need for the SVI Land Use Control (LUC) will be evaluated as part of the 5-Year Review process.

2.6 Current and Potential and Future Land and Resource Use

Oneida County is responsible for maintaining property and developing facilities, as necessary, to promote airport reuse. The planned future land use designations for the FPTA AOC are aviation support. The runway/flightline area, located west of the AOC (Figure 1), is part of the relocated Griffiss International Airport, and thus the FPTA AOC will be subject to Federal Aviation Administration restrictions including Federal Aviation Regulations 14 CFR Part 77 (Objects Affecting Navigable Airspace)

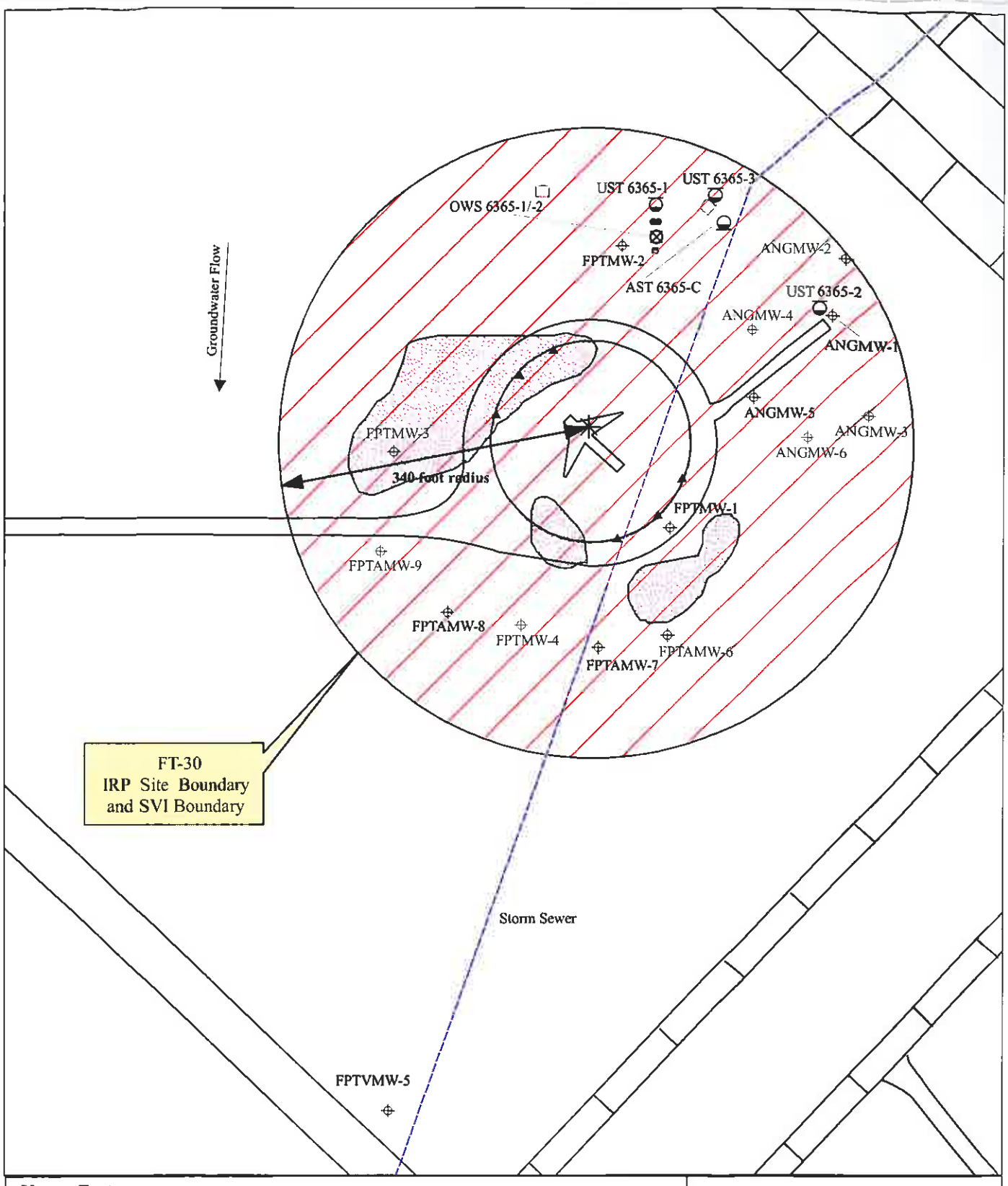


Figure 7
FPTA
Groundwater Monitoring Network

Table 7
Fire Protection Training Area AOC
LTM Detected Groundwater Results (ANGMW-1)
November 2003 – April 2007

Sample ID	NYS Groundwater Standard	ANGM 0111AA	ANGM0 111BA	ANGM01 11CA	ANGM01 11DA	ANGM01 11EA	ANGM01 11FA	ANGM01 11GA
Date of Collection		Nov 03	Apr 04	Jun 04	Sep 04	Mar 05	Mar 06	Apr 07
VOCs (µg/L)								
1,2,4-trimethylbenzene	5	4.5	2.6	U	3.1	1.7	U	U
1,3,5-trimethylbenzene	5	20	15	6.7	16	7.8	U	U
ethylbenzene	5	3.0	2.2	1.1	2.4	1.5	U	0.43 F
isopropylbenzene	5	1.1	1.2	0.64	1.1	0.84	U	0.32 F
m,p-xylene	5	2.5	1.65	1.4	1.8	0.84	U	U
naphthalene	10	20	10	4.9	11	5.9	U	3.13
n-propylbenzene	5	1.6	1.7	0.84	1.6	1.1	U	0.41 F
o-xylene	5	0.84	0.51	U	0.52	U	U	U
p-isopropyltoluene	5	1.4	0.25 F	U	0.47 F	4.1	U	1.96
sec-butylbenzene	5	1.4	1.4	0.68	1.4	1.3	U	0.61 F
t-butylbenzene	5	0.76	0.41	0.38 F	0.78	0.71	U	0.36 F

Notes
X – Exceedance of NYS Groundwater Standards.
F – The analyte was detected above the Method Detection Limit, but below the Reporting Limit.
U – The analyte was analyzed for but not detected above the Method Detection Limit.

2.7 Summary of Site Risks

Previous investigations, source removals, and groundwater monitoring have confirmed that contamination has been removed from the AOC. Given that Federal Aviation Administration regulations prohibit construction within the AOC boundary, the selected remedy for land use controls to manage SVI at the AOC is protective of human health and the environment.

2.8 Documentation of Significant Changes

There are no significant changes between the preferred alternative presented in the Proposed Plan for the FPTA AOC (FT-30) and the selected remedy presented in this ROD.

This page is intentionally left blank.

3.0 RESPONSIVENESS SUMMARY

On June 13, 2009, AFRPA, following consultation with and concurrence of EPA and NYSDEC, released for public comment the proposed plan for the FPTA AOC located at the former Griffiss AFB. The release of the proposed plan initiated the public comment period, which concluded on July 14, 2009.

During the public comment period, a public meeting was held on June 18, 2009 at the Griffiss Institute located at 725 Daedalian Drive, Rome, New York 13441. The selected remedy for the FPTA AOC was presented at the public meeting and a court reporter recorded the proceedings of the meeting. Copies of the transcript and attendance list are included in the Administrative Record. The public comment period and the public meeting were intended to elicit public comment on the proposed plan for the FPTA AOC.

No verbal or written comments were received at the public meeting or during the public comment period.

This page is intentionally left blank.

4.0 REFERENCES

AFCEE, Basewide Environmental Baseline Survey, Griffiss Air Force Base, New York, September 1994.

AFCEE, Model Field Sampling Plan, Griffiss Air Force Base, New York, September 1994.

AFCEE, Quality Assurance Project Plan, Version 3.1, August 2001.

EPS, January 1999 Quarterly Groundwater Monitoring Report, Griffiss MEA-Rome, New York, January 1999.

FPM Group Ltd., Draft Monitoring Report, On-Base Groundwater AOCs, Revision 1.0, November 2004.

FPM Group, Ltd., Draft Report, AOC Long-Term Monitoring Baseline Study, Griffiss Air Force Base, Revision 1.0, July 2000.

FPM Group, Ltd., Monitoring Report, On-Base Groundwater AOCs Monitoring Program, Former Griffiss Air Force Base, Rome, New York, Revision 0.0, August 2005.

FPM Group, Ltd., Monitoring Report, On-Base Groundwater AOCs Monitoring Program, Former Griffiss Air Force Base, Rome, New York, Revision 0.0, August 2006.

FPM Group, Ltd., Monitoring Report, On-Base Groundwater AOCs Monitoring Program, Former Griffiss Air Force Base, Rome, New York, Revision 0.0, August 2007.

FPM Group, Ltd./PEER, Final Interim Remedial Action Report for the Fire Protection Training Area (FT-30), Former Griffiss Air Force Base, Rome, New York, July 2003.

Law, Draft-Final Primary Report: Volume 28, Remedial Investigation Fire Protection Training Area of Concern, Griffiss Air Force Base, New York, December 1996.

PEER, Draft Preliminary Report: Underground Storage Tank and Oil/Water Separator Site Investigations, Griffiss Air Force Base, New York, September, 1998.

This page is intentionally left blank.

GLOSSARY

Administrative Record: A file established and maintained in compliance with section 113(K) of the Comprehensive Environmental Response, Compensation, and Liability Act consisting of information upon which the lead agency bases its final decisions on the selection of remedial method(s) for a site. The Administrative Record is available to the public.

Applicable Requirements: Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent that federal requirements may be applicable. See also Relevant and Appropriate Requirements.

Aquifer: A water-bearing formation or group of formations.

Chlorinated Hydrocarbons: Organic compounds that contain chloride such as trichloroethene (TCE) and dichloroethene (DCE). Also referred to as chlorinated solvents.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act requires federal agencies to investigate and remediate releases of hazardous substances.

Contaminant Plume: A volume of contaminated groundwater with measurable horizontal and vertical dimensions. Plume contaminants are dissolved in and move with groundwater.

Environmental Impact Statement: A study conducted to provide information on potential environmental impacts that could result from a proposed action.

Feasibility Study (FS): An evaluation to identify and evaluate appropriate remedial goals and remedial alternatives for a site based upon United States Environmental Protection Agency criteria.

Groundwater: Water found beneath the earth's surface that fills pores within materials such as sand, soil, gravel, and cracks in bedrocks, and often serves as a source of drinking water if found in an adequate quantity.

Hazard Index: A quantitative measure of non-carcinogenic risk associated with exposure to chemicals. The hazard index is determined for all chemicals of concern affecting a particular organ or acting by a common mechanism. If the sum of all hazard indices is less than 1 for a particular exposure scenario, the risk of adverse health effects is considered acceptable.

Hydrogeologic: Pertaining to subsurface waters and the related geologic aspects of subsurface waters.

Installation Restoration Program (IRP): The United States Air Force subcomponent of the Defense Environment Restoration Program (DERP) that specifically deals with investigating and remediating sites associated with suspected releases of toxic and hazardous materials from past activities. The DERP was established to clean up contaminated sites at Department of Defense facilities nationwide.

Monitoring: Ongoing collection of information about the environment that helps gauge the effectiveness of a cleanup action. Information gathering may include groundwater well sampling, surface water sampling, soil sampling, air sampling, and physical inspections.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The NCP provides the organization, structure and procedures for preparing for and responding to discharges of oil

and releases of hazardous substances, pollutants, and contaminants. The NCP is required under CERCLA and the Clean Water Act, and USEPA has been delegated the responsibility for preparing and implementing the NCP. The NCP is applicable to response actions taken pursuant to the authorities under CERCLA and the Clean Water Act.

National Priorities List: USEPA's list of the most serious uncontrolled or abandoned sites with hazardous substance contamination identified for possible long-term remedial action under the Superfund program.

Organic Compounds: Any chemical compounds built on the carbon atom, i.e., methane, propane, phenol, etc.

Polychlorinated Biphenyl (PCB): An organic pollutant that was formerly used in electrical transformers and capacitors, their manufacture was banned in 1979. There are 210 different PCB compounds that typically have 40% to 60% chlorine by weight.

Polycyclic Aromatic Hydrocarbons (PAHs): Compounds often associated with combustion process and distillation tars.

Proposed Plan: A public document that solicits public input on a recommended remedial alternative to be used at a site. The Proposed Plan is based on information and technical analysis generated during the RI/FS. The recommended remedial action could be modified or changed based on public comments and community concerns.

Record of Decision (ROD): A public document that selected and explains the remedial alternative to be used at a CERCLA site. The ROD is based on information and technical analysis generated during the remedial investigation, and on consideration of the public comments and community concerns received on the Proposed Plan. The ROD includes a Responsiveness Summary of public comments.

Remedial Action: An action that stops or substantially reduces a release or threat of a release of hazardous substances that is serious but not an immediate threat to human health or the environment.

Remedial Alternatives: Options evaluated to address the source and/or migration of contaminants to meet health-based or ecology-based remediation goals.

Remedial Investigation (RI): An investigation that determines the nature and extent and composition of contamination at a hazardous waste site. It is used to assess the types of remedial options that are developed in the feasibility study.

Risk Assessment: A systematic scientific process of determining risk estimates based on the presence of contaminants in the environment and who might be exposed to the contaminants.

Semivolatile Organic Compounds (SVOCs): Organic constituents which are generally insoluble in water and are not readily transported in groundwater.

Source: Area at a hazardous waste site from which contamination originates.

To Be Considered (TBC): Federal and state policies, advisories, and other non-promulgated health and environment criteria, including numerical guidance values, that are not legally binding. TBCs are used for the protection of public health and the environment if no specific ARARs for a chemical or other site conditions exist, or if ARARs are not deemed sufficiently protective.

Toxicity: The quality or condition of a destructive, deadly, or poisonous substance.

Vadose Zone: The volume located between the ground surface and the water table. Also known as the unsaturated zone.

Volatile Organic Compounds (VOCs): Organic constituents which tend to volatilize or to change from a liquid to a gas form when exposed to the atmosphere. Many VOCs are readily transported in groundwater.

Water Table: The surface of a body of unconfined groundwater at which the water pressure is equal to that of the atmosphere.

This page is intentionally left blank.

APPENDIX B

STANDARD OPERATING PROCEDURES
SOIL VAPOR SAMPLING
FORMER GRIFFISS AFB

TABLE OF CONTENTS

SECTION **PAGE**

1 Soil Vapor Sampling (soil vapor, sub-slab vapor, indoor air, and outdoor air)

The purpose of this section is to define the SOP for collecting soil vapor samples at the former Griffiss AFB using electrical drills and soil vapor probes. This SOP describes the equipment, field procedures, and QA/QC procedures implemented for soil vapor sampling.

The sampling methodologies provided below were adapted from the NYSDOH SVI guidance document (NYSDOH, October 2006). Site-specific details and modifications have been implemented through the Sub-Slab Vapor Mitigation Design Work Plan.

Applicable SOPs are listed below:

SOP No. 2, Sample Handling, Documentation, and Tracking

SOP No. 3, Decontamination

1.1 Equipment and Materials List

The following equipment and materials should be on site for soil sampling:

Summa® canisters, minicans, or similar

PID (ppbRAE or similar)

Regulator for vapor sample canister preset to the appropriate sample duration

Vacuum pump (manual or electric)

Stainless steel or PE vapor implants with 'speedfit' push fitting

PE tubing

Box cutter

Tee's for duplicate sample collection

Field logbook

Field Sampling Forms

Digital camera

Waterproof and permanent marking pens

Appropriate health and safety equipment, as specified in the SSHP

Appropriate decontamination supplies, as specified in SOP No. 8

1.2 Locating the Sampling Points

The indoor, outdoor, and sub-slab vapor sample locations will be predetermined in accordance with the site-specific sampling WP.

1.3 Soil Vapor Sampling Procedures

1.3.1 Soil Vapor Sampling

1.3.1.1 Temporary Soil Vapor Probe Installation and Abandonment

The installation and abandonment procedure is as follows:

- A Geoprobe® shall be employed to attain a depth of at least 5 ft below ground surface (bgs) for each soil vapor probe. A 2.5-inch coring machine shall be used to core through the concrete prior to engaging the Geoprobe. If necessary; a hollow-stem auger can be used to attain the desired depth;
- Once the target depth is reached, the rods will be pulled up one foot, exposing the void space, and the sampling apparatus will be set up in the borehole;
- New ¼-inch laboratory grade polyethylene tubing equipped with a threaded stainless steel fitting will be attached to a disposable soil vapor drive point to prevent infiltration of the atmospheric air present at land surface directly above the soil boring (ambient air);
- A clay seal will then be placed at land surface in the annular space between the Geoprobe® rods and the concrete surface, as well as between the tip of the rods and the sample tubing;
- The sampling tubing will be connected to a 'T' connector three-way valve assembly, with one end of the 'T' connector leading to a vacuum pump and the other end leading to a pre-evacuated summa canister with a calibrated regulator;
- The soil vapor sample tubing will then be purged of approximately two volumes of the sample tubing using a vacuum pump set at a rate of approximately 0.2 liters per minute;
- After sampling is completed, the borehole shall be abandoned by being tremie grouted to land surface using a bentonite grout.

1.3.1.2 Soil Vapor Sample Collection

The sampling procedure described below shall be followed at each location to minimize discrepancies between sampling points:

- Prior to formal sample collection, a tracer gas (i.e., helium) shall be used to verify the integrity of the soil vapor probe seal. To do so:
  - ✓ The immediate vicinity of the area where the probe intersects the ground surface shall be exposed to tracer gas using a garbage bag, cardboard box, or plastic pail;
  - ✓ At least one implant volume (i.e., the volume of the sample probe and tube) shall be purged using a flow rate of not more than 0.2 L/min;
  - ✓ Using the same flow rate as the purge (i.e., less than 0.2 L/min), a vapor sample shall be collected from the probe using a Tedlar bag;
  - ✓ The Tedlar bag shall be fitted with a portable monitoring device (i.e., a Gas Check 3000 meter, which measures the rate of the helium leakage at the land surface) and screened for helium. The enriched area (i.e., within the garbage bag/cardboard box/plastic pail) will also be screened for helium.

- ✓ If the concentration of helium is greater than 20% of the helium detected in the enriched area, the seal is not adequate and should be reset. The sample rods will be purged again until the helium is no longer detected at levels greater than 20% of the enriched area located directly above the borehole.

- Once the integrity of the seal has been verified, to ensure samples collected are representative, three implant volumes (i.e., the volume of the sample probe and tube) must be purged prior to collecting the sample;
- Flow rates for both purging and collecting shall not exceed 0.2 L/min to minimize outdoor air filtration during sampling;
- Following the purging, the valve leading to the pump will be closed, the pump will be turned off, and the soil vapor will be directed to a 100% certified 1-L Summa® canister provided by the laboratory. The sample shall be collected using the canister's regulator to restrict the sample collection rate.
- After sample collection, the soil vapor will be screened using a photoionization detector (PID), calibrated daily with a 100 parts per million (ppm) isobutylene standard.

The field sampling team must maintain a sample log sheet summarizing the pertinent sample information, and any relevant observations such as odors and readings from field instrumentation.

1.3.2 Sub-slab Vapor Sampling

1.3.2.1 Temporary Sub-slab Vapor Probe Installation and Construction

As noted in the NYSDOH guidance document, during colder months, heating systems should be operating at least 24 hours prior to and during the scheduled sampling time to maintain normal indoor air temperatures. Prior to installation of the sub-slab vapor probes, the building floor should be inspected and any penetrations (i.e., cracks, floor drains, utility perforations, sumps, etc.) should be noted and recorded. Probes should be installed at locations where the potential for ambient air infiltration via floor penetrations is minimal.

The installation procedure is as follows:

- A rotary hammer drill will be used to create 1-inch diameter holes through concrete and into sub-slab material (e.g., sand or sand and gravel). Drilling into sub-slab material will create an open cavity to prevent obstruction of probes by small pieces of gravel;
- Probes will be constructed from dedicated ¼ inch-diameter laboratory grade polyethylene tubing;
- Tubing shall not extend further than 2 inches into the sub-slab material;
- The implant shall be sealed to the surface with permagum grout, melted beeswax, putty, or other non-VOC-containing and non-shrinking product;
- After sampling is completed, the borehole shall be abandoned in accordance with the procedures described in Section 5.5.3, in the UFP QAPP for Performance Based-Remediation at the Former Griffiss AFB (CAPE/FPM, November 2011).

1.3.2.2 Sub-slab Vapor Sample Collection

The sampling procedure described below shall be followed at each location to minimize discrepancies between sampling points:

- To ensure samples collected are representative, three implant volumes (i.e., the volume of the sample probe and tube) must be purged prior to collecting the sample;
- Flow rates for purging shall not exceed 0.2 L/min to minimize outdoor air filtration during sampling. Purge air shall be collected in a Tedlar bag so it is not released into the building;
- Samples shall be collected over an 24-hour time period, consistent with concurrent indoor and outdoor air samples, if possible;
- Samples shall be collected in 100% certified 6-L Summa® canisters provided by the laboratory.

The field sampling team must maintain a sample log sheet summarizing the pertinent sample information, the uses of VOCs in commercial or industrial processes and/or during building maintenance, weather conditions and ventilation conditions, and any relevant observations such as spills, floor stains, odors and readings from field instrumentation.

In addition, floor plan sketches should be drawn that include the floor layout with sample locations, chemical storage areas, garages, doorways, stairways, location of basement sumps or subsurface drains and utility perforations through building foundations, HVAC system air supply and return registers, compass orientation (north) and any other pertinent information. If possible, photographs should accompany floor plan sketches.

1.3.3 Indoor/Outdoor Air Sampling

1.3.3.1 Pre-sampling Inspection and Documentation

As noted in the NYSDOH guidance document, during colder months, heating systems should be operating at least 24 hours prior to and during the scheduled sampling time to maintain normal indoor air temperatures. Prior to collecting indoor air samples, a pre-sampling inspection should be performed prior to each sampling event to identify conditions that may affect or interfere with the proposed testing. The inspection should evaluate the type of structure, floor layout, physical conditions, and airflows of the building(s) being studied. The inspection information should be identified on the attached Indoor Air Quality Questionnaire and Building Inventory form. In addition, potential sources of chemicals of concern should be evaluated within the building by conducting a product inventory.

In addition, floor plan sketches should be drawn that include the floor layout with sample locations, chemical storage areas, garages, doorways, stairways, location of basement sumps or subsurface drains and utility perforations through building foundations, HVAC system air supply and return registers, compass orientation (north) and any other pertinent information should be documented. If possible, photographs should accompany floor plan sketches.

Finally, outdoor plot sketches should be drawn that include the building site, area streets, outdoor air sample locations, the location of potential interferences (e.g., gasoline stations, factories, other facilities, lawn mowers, etc.), compass orientation (north), footings that create separate foundation sections, and paved areas. Significant activities in the vicinity of the sample locations (e.g., operation of heavy equipment) should be recorded.

1.3.3.2 Indoor/Outdoor Air Sample Collection

Indoor air samples shall be collected in the vicinity of the sub-slab samples from a height above the ground to represent the breathing zone when occupants normally are seated (i.e., 5 ft.). The locations of the outdoor samples shall be chosen from areas away from wind obstructions, and at a height above the ground to represent the breathing zone (i.e., 3 to 5 ft.).

For either indoor or outdoor air samples, the sampling procedure described below shall be followed at each location to minimize discrepancies between sampling points:

- Samples should be collected during normally occupied periods to be representative of typical exposure;
- Sample collection intakes should be located to approximate the breathing zone for building occupants (i.e., 5 feet above the floor level where occupants are normally seated);
- To ensure that an air sample is representative of the conditions being tested and to avoid undue influence from sampling personnel, samples should be collected for a period of twenty-four (24) hours, and personnel should avoid lingering in the immediate area of the sampling device while samples are being collected;
- The sampling team members should avoid actions (e.g., fueling vehicles, using permanent marking pens) that can cause sample interference in the field;
- Flow rates for collecting samples shall not exceed 0.2 L/min to be consistent with concurrent sub-slab sampling;
- Samples shall be collected in 100% certified 6-L Summa® canisters provided by the laboratory; and
- Indoor and outdoor samples should be collected simultaneously;
- Ideally, samples shall be collected over the same period of time as concurrent sub-slab samples.

The field sampling team must maintain a sample log sheet summarizing the pertinent sample information, the uses of VOCs in commercial or industrial processes and/or during building maintenance, weather conditions and ventilation conditions, and any relevant observations such as spills, floor stains, odors and readings from field instrumentation.

1.4 Field Quality Assurance/Quality Control Samples

Field QA/QC samples are designed to help identify potential sources of external sample contamination and evaluate potential error introduced by sample collection and handling. All QA/QC samples will be labeled with QA/QC identification numbers and sent to the laboratory with the other samples for analyses.

1.4.1 Duplicate Samples

Duplicate samples are samples collected to assess precision of sampling and analysis. Duplicate samples will be collected at the same time and for the same parameters as the initial samples. A nylon T-barb will be installed in the PE tubing to allow for sampling of one airstream from one sampling point with two vapor sample canisters simultaneously. The rate of duplicate sample collection is specified in the UFP-QAPP (Worksheet #20).

1.4.2 Matrix Spikes and Matrix Spike Duplicates

MS and MSD analysis are used to assess the potential for matrix effects. The MS/MSD sample will be collected from a randomly selected normal sample by the lab. Following the normal analysis, the lab spikes the normal sample canister with the matrix spike and analyses the air in the canister. The rate of MS/MSD collection is specified in the UFP-QAPP (Worksheet #20).

1.5 Field Documentation

The most important aspect of field documentation is thorough, organized, and accurate record keeping. This includes proper preservation and storage of all field documentation. Field documentation for sub-slab vapor sampling includes field logbooks and field forms. The field forms, described in section 6.5.2, include the sub-slab vapor probe monitoring form, indoor/outdoor air monitoring form, weather observation form, and the NYSDOH Indoor Air Quality Questionnaire and Building Inventory Center for Environmental Health form.

1.5.1 Field Logbook

All information pertinent to sub-slab sampling will be recorded in a bound field logbook with consecutively numbered pages. The field sampling team must maintain a sample log sheet summarizing the pertinent sample information, the uses of VOCs in commercial or industrial processes and/or during building maintenance, weather conditions and ventilation conditions, and any relevant observations such as spills, floor stains, odors and readings from field instrumentation. Refer to SOP No. 7 for detailed procedures regarding documentation in the field logbook.

1.5.2 Field Forms

<u>Sub-slab Probe Monitoring Form</u>

The Sub-slab Probe Monitoring Form contains the following minimum information:

Date

Time

Sample identification

Sample depth

Field personnel

Instruments

Tracer gas identified and concentration

Sample purge volume

Volume of soil vapor extracted

Summa canister: vacuum before sampling and vacuum after sampling

Apparent moisture content

Comments and observations during sampling

Weather conditions, including the outdoor temperature, barometric pressure, precipitation, ventilation conditions, heating system active?, and windows closed

Indoor/Outdoor Air Monitoring Form

The Indoor/Outdoor Air Monitoring Form contains the following minimum information:

Date

Time

Sample identification

Sample height

Field personnel

Instruments

Type of sample

Duration of air sampled

Volume of sample

Summa canister: vacuum before sampling and vacuum after sampling

Comments and observations during sampling

VOCs used during normal operations of facility

Weather conditions, including the outdoor temperature, barometric pressure, precipitation, ventilation conditions, heating system active?, and windows closed

Weather Observation Form

The Weather Observation Form contains the following minimum information:

Location

Date

Field Personnel

Instruments

Time

Conditions collected prior to sampling, mid-day, and end of sampling include:

Precipitation

Atmospheric pressure

Temperature

Wind speed

NYSDOH Indoor Air Quality Questionnaire and Building Inventory Center for Environmental Health Form

The NYSDOH Indoor Air Quality Questionnaire and Building Inventory Center for Environmental Health Form contains the following minimum information:

Preparer's name

Date/Time

Preparer's affiliation

Phone number

Field Personnel

Occupant

Name

Address

Phone Number

Number of occupants in building and age

Owner or landlord

Name

Address

Phone Number

Building Characteristics

Type of Building

Property type

Multiple units

Air flow

Basement and Construction Characteristics

Heating, Venting, and Air Conditioning information

Occupancy

Factors that may influence indoor air quality
Water and sewer information
Relocation information
Floor Plans
Outdoor plot
Product inventory form

National Priorities List: USEPA's list of the most serious uncontrolled or abandoned releases of hazardous substance identified for possible long-term remedial action under the Superfund program.
Organic Compounds: Any chemical compounds built on the carbon atom, i.e., methane, propane, phenol, etc.
Polychlorinated Biphenyl (PCB): An organic pollutant that was formerly used in electrical transformers and capacitors, their manufacture was banned in 1979. There are 210 different PCB compounds that typically have 40% to 60% chlorine by weight.
Polycyclic Aromatic Hydrocarbons (PAHs): Compounds often associated with combustion process and distillation tars.
Proposed Plan: A public document that solicits public input on a recommended remedial alternative to be used at a site. The Proposed Plan is based on information and technical analysis generated during the RI/FS. The recommended remedial action could be modified or changed based on public comments and community concerns.
Record of Decision (ROD): A public document that selected and explains the remedial alternative to be used at a CERCLA site. The ROD is based on information and technical analysis generated during the remedial investigation, and on consideration of the public comments and community concerns received on the Proposed Plan. The ROD includes a Responsiveness Summary of public comments.
Remedial Action: The action which is chosen to address a release of hazardous substances that is serious but not an immediate threat to human health or the environment.
Remedial Alternatives: Options evaluated to address the source and/or migration of contaminants to meet health-based or ecology-based remediation goals.
Remedial Investigation (RI): An investigation that determines the nature and extent and composition of contamination at a hazardous waste site. It is used to assess the types of remedial options that are developed in the feasibility study.
Semivolatile Organic Compounds (SVOCs): Organic constituents which are generally insoluble in water and are not readily transported in groundwater.
Source: Area at a hazardous waste site from which contamination originates.
Vadose Zone: The volume located between the ground surface and the water table. Also known as the unsaturated zone.
Volatile Organic Compounds (VOCs): Organic constituents which tend to volatilize or to change from a liquid to a gas form when exposed to the atmosphere. Many VOCs are readily transported in groundwater.
Water Table: The surface of a body of unconfined groundwater at which the water pressure is equal to that of the atmosphere.

SOIL VAPOR PROBE MONITORING FORM

DATE: _____ TIME: _____

SAMPLE IDENTIFICATION: _____

SAMPLE DEPTH: _____

FIELD PERSONNEL: _____

INSTRUMENTS (model and serial number):

PUMP: _____

CGI: _____

TRACER GAS VERIFIED: □ Yes □ No TRACER GAS CONC. (%): _____

SAMPLE PURGE VOLUME: _____

VOLUME OF SOIL VAPOR EXTRACTED: _____

SUMMA CANISTER: VACUUM BEFORE SAMPLING: _____

VACUUM AFTER SAMPLING: _____

APPARENT MOISTURE CONTENT: (DRY/MOIST/SATURATED/ETC.)

_____

Comments/Observations during sampling (odor, other instrument readings):

_____

_____

If sampling near an industrial/commercial building, VOCs used during normal operations of facility:

_____

_____

Weather conditions: Outdoor temperature: _____

Barometric pressure: _____

Wind speed/direction: _____

WEATHER OBSERVATION FORM

LOCATION: _____

DATE: _____

FIELD PERSONNEL: _____

INSTRUMENTS (model and serial number):

Thermometer: _____

Anemometer: _____

	Time (military)	Precip. (in)	Atmospheric pressure (in)	Temp. (degrees F)	Wind (mph)	Comments
Prior to Sampling						
Mid Day						
End of Sampling						

Notes: Additional measurements should be taken in case of weather condition changes.
Air sampling will be postponed if conditions move outside the acceptable range.

Sampling Event Acceptable Range:
1. Precipitation: dry while conducting sampling.
2. Atmospheric pressure: 29.7 – 30.4 in Hg.
3. Temperature: 35 – 95 degrees F. The ground must be completely thawed.
4. Wind: <10 mph.