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

SEP 26 2018

Mr. Robert E. Moriarty, P.E., Director
Installations Directorate
Air Force Civil Engineer Center
2261 Hughes Avenue, Suite 155
JBSA
Lackland, TX 78236-9853

Re: Record of Decision (ROD) – SS-004 (Flightline), EPA Operable Unit 7, Former Plattsburgh Air Force Base, Plattsburgh, New York

Dear Mr. Moriarty:

This is to inform you that after reviewing the Final Record of Decision (ROD), responsiveness summary, and other supporting documents, the U.S. Environmental Protection Agency (EPA) concurs with the Final ROD, dated September 2018, for the SS-004 (Flightline) Operable Unit (OU), EPA OU 7, located at the former Plattsburgh Air Force Base (AFB) in Plattsburgh, New York. Therefore, on behalf of EPA, I have co-signed the ROD, a copy of which will be mailed directly to David Farnsworth at Plattsburgh AFB.

The ROD for this OU calls for No Further Action under CERCLA for SS-004 (Flightline), EPA OU 7. Groundwater contamination beneath SS-004 is being addressed as part of the larger FT-002 Groundwater OU.

Please note this ROD addresses only the above-mentioned area of concern and that all other areas at the former Plattsburgh AFB are being or have been addressed under separate RODs and/or OUs.

If you have any questions regarding the subject of this letter, please contact me or have your staff contact Robert Morse of my staff at (212) 637-4331.

Sincerely,

A. Carpenter

Angela B. Carpenter, Acting Director
Emergency and Remedial Response Division

Enclosures

cc: David S. Farnsworth, AFCEC/CIBE-Plattsburgh, w/encl.
John B. Swartwout, NYSDEC, w/encl.

FINAL
RECORD OF DECISION

FLIGHTLINE (SS-004)

FORMER PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK

Air Force Civil Engineer Center
Building 171
2261 Hughes Avenue, Suite 155,
Joint Base San Antonio Lackland, TX

September 2018

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ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
Air Force	United States Air Force
ARS	aircraft refueling system
BCT	BRAC Cleanup Team
BRAC	Base Realignment and Closure
CDI	chronic daily intake
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CPC	chemicals of potential concern
cy	cubic yards
ECL	Environmental Conservation Law
FFA	Federal Facility Agreement
FS	Feasibility Study
ft/ft	feet per foot
FT-002	Fire Training Area
HI	hazard index
HQ	hazard quotient
IEUBK	Integrated Exposure Uptake Biokinetic
IRP	Installation Restoration Program
mg/kg	milligrams per kilogram
µg/dL	micrograms per deciliter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
RAB	Restoration Advisory Board
RBSC	risk-based screening concentration
RfD	reference dose
RI	remedial investigation
ROD	Record of Decision

SF	slope factor
SI	site inspection
SS-004	Flightline
SVOC	semi-volatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
TRV	threshold reference value
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

1.0 DECISION SUMMARY

DECLARATION FOR THE RECORD OF DECISION

Site Name and Location

Former Plattsburgh Air Force Base
Flightline (SS-004)
Plattsburgh, Clinton County, New York
EPA ID # NY4571924774

This Record of Decision (ROD) presents the selected remedy for the Flightline (SS-004) at the former Plattsburgh Air Force Base (AFB) in Plattsburgh, New York. It has been developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the Administrative Record supporting this remedial decision. Copies of documents may be obtained at the following address:

AFCEC
8 Colorado Street, Suite 121
Plattsburgh, New York 12903
(518) 563-2871

The Administrative Record for this ROD is also available on-line at:

https://afcec.publicadmin-record.us.af.mil

The remedy has been selected by the United States Air Force (Air Force) and the United States Environmental Protection Agency (USEPA) and with the concurrence of the New York State Department of Environmental Conservation (NYSDEC) consistent with the Federal Facility Agreement (FFA) executed among the parties pursuant to Section 120 of CERCLA, dated July 10, 1991. Plattsburgh AFB was placed on the National Priorities List (NPL) in 1989 (USEPA CERCLIS ID: NY4571924774). A copy of the NYSDEC concurrence letter is included as Appendix A of this ROD.

1.1 Statement of Basis and Purpose

This ROD presents the selected remedy for SS-004 at the former Plattsburgh AFB in Plattsburgh, New York. It has been developed in accordance with the CERCLA, 42 U.S.C. §§ 9601-9675, as amended, and the NCP, 40 C.F.R. Part 300. This decision is based on the Administrative Record for this site, which is available on-line at https://afcec.publicadmin-record.us.af.mil.

1.2 Description of the Remedy

The Air Force and USEPA selects No Action as the remedy for SS-004. Chemicals detected in soil at SS-004 are a result of jet engine emissions, which do not fall within CERCLA jurisdiction or authority, and surface water and sediment contamination pose no present or future unacceptable human or ecological risk. In addition, groundwater contamination at SS-004, including potential soil vapor intrusion into buildings from groundwater, is being addressed as part of a separate, prior remedy selected for the Fire Training Area (FT-002)/Industrial Area Groundwater Operable Unit (OU).

1.3 Statutory Determination

No action is necessary at SS-004 under CERCLA Sections 104 or 106 as the chemicals detected in surface soils at the site are a result of jet engine emissions. It should be noted that emissions from engine exhaust of aircraft are exempt from the definition of a "release" under CERCLA, and because of this exemption in Section 101(22)(B) of CERCLA, actions taken solely to address such emissions do not fall within the jurisdiction of CERCLA and are not appropriate.

1.4 Authorizing Signatures

On the basis of the remedial investigations (RIs) performed at SS-004, no action is necessary at the site under CERCLA as the chemicals detected in soil at the site are a result of jet engine emissions, which do not fall within CERCLA jurisdiction or authority. The NYSDEC has concurred with the Selected Remedy presented in this ROD.

SEP 19 2018

ROBERT E. MORIARTY, P.E., SES, DAF — Date

Director

Installations Directorate

Air Force Civil Engineer Center

9.26.18

ANGELA B. CARPENTER — Date

Acting Director, Emergency and Remedial Response Division

United States Environmental Protection Agency, Region 2

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2.0 SITE NAME, LOCATION, AND DESCRIPTION

The former Plattsburgh AFB is located in Clinton County along the western shore of Lake Champlain in northeastern New York (Figure 1). The base was closed on September 30, 1995 during the third round of base closures mandated by the Defense Base Closure and Realignment Act of 1993. As part of the Air Force's Installation Restoration Program (IRP) and the Base Realignment and Closure (BRAC) program, the Air Force initiated activities to identify, evaluate, and remediate identified hazardous material disposal and spill sites. The IRP at the former Plattsburgh AFB was implemented according to a FFA, Docket No.: II-CERCLA-FFA-10201, signed on July 10, 1991, by the Air Force, USEPA and NYSDEC. The Air Force is the lead agency for the IRP. Plattsburgh AFB was placed on the NPL in 1989 (USEPA CERCLIS ID: NY4571924774). Cleanup of the base is being funded by the Air Force.

In June 2007, the Clinton County Airport relocated to the base and flight operations began for the Plattsburgh International Airport. The airport property was transferred to Clinton County by deed via a finding of suitability for early transfer in April 2012 (AFRPA, 2012). As of September 2012, all of the property within the former base boundaries had been transferred from the Air Force to public and private use.

SS-004 consists of most of the concrete flightline ramp and immediately adjacent grass covered areas to the east, south, and west of the ramp. The most prominent feature within SS-004 is the concrete and asphalt flightline ramp, which was used for aircraft staging and refueling during the period from 1954 to 1995. It is approximately 7,800 feet long by 1,500 feet wide (Figure 1) and slopes from northwest to southeast, with more than 70 feet of relief change between its northern (higher) end and the southern (lower) end. The area of SS-004 is about 266 acres.

The ramp was originally constructed with two parallel trench drains running lengthwise down the ramp, approximately 300 feet and 700 feet from its eastern edge (see Figure 2). The trench drains were 12 inches wide by 32 inches deep, constructed of reinforced concrete, and covered with steel grating. Catch basins were located at the intersections of the trench drains with lateral drain lines, which discharged to a storm drain located parallel to the eastern edge of the ramp. The trench drains were filled with concrete in the 1960s (URS, 2007).

During four decades of base operations, fuel spills resulted from aircraft fueling and defueling, and from expansion of fuel tanks in aircraft. Solvents were also reportedly used in conjunction with pressure

washers to degrease heavily soiled portions of aircraft. Spills that occurred on the flightline ramp could have migrated to longitudinal drainage trenches, to storm sewers along the perimeter of the ramp, or to soils along the perimeter of the ramp. Additional potential contaminant sources include aircraft exhaust particulates (URS, 2007). Drainage features in the vicinity of SS-004 are shown on Figure 2.

An underground Aircraft Refueling System (ARS) was also present beneath the ramp (Figure 3). The distribution system consisted of eight pump houses with underground storage tanks (USTs) located along the western edge of the flightline, and 22 lateral fuel distribution lines running underneath the ramp from west to east. Fuel stored at the Bulk Fuel Storage Area on Connecticut Road was transmitted underground to the pump houses.

In November 1968, a fire destroyed Pump House 3, located along the ramp's western edge. It was reported that JP-4 jet fuel might have been released as a result of the fire. The USTs associated with Pump House 3 continued to be used until 1994. Beginning in 1956, the tanks were used for jet fuel storage, and from the early 1970s until 1994 they were used to store heating fuel and waste fuels. These tanks were tightness tested annually, from 1991 through 1994, and found to be intact. In 1994, seven USTs at Pump House 3 were removed.

The ARS was dismantled in 1996 and officially closed in 2000 (URS, 2007). The buried pipelines from the Bulk Fuel Storage Area to the flightline ramp were abandoned in place, and the distribution piping along the west and south sides of the ramp (Figure 3) were removed, in accordance with New York State requirements. All but two of the lateral fuel supply lines under the ramp were filled with grout; two of the laterals were filled with polyurethane foam so that they could be used as utility conduits in the future if needed (URS, 2007).

Also, as part of the ARS closure, the remaining seven pump houses (1, 2, and 4 through 8) were demolished and the USTs, anode beds, and transformers associated with the pump houses were removed. An attempt was made to remove all petroleum-contaminated soils, which were taken to an on-site treatment cell for bioremediation. More than 17,000 cubic yards (cy) of soil were removed during the pump house closures (URS, 2007). The SS-004 RI concluded that petroleum-contaminated soil sources at the former pump house sites had been adequately cleaned up even though some confirmation soil samples showed minor and sporadic detections of fuel-related compounds (URS, 2007).

Based on environmental sample data gathered during the pump house closures, the most significant issues related to the pump houses appear to be petroleum-contaminated groundwater near the former

location of Pump House 2 and residual petroleum-contaminated soil, possibly contributing to groundwater contamination, in the vicinity of the former Pump House 3 (URS, 2007). Groundwater monitoring at both of these locations is included in the prior remedy that has already been selected (and is being implemented) for the FT-002/IA Groundwater OU.

3.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

Investigation and sampling of groundwater, soil, surface water, and sediment have been ongoing at SS-004 site since 1985. Historical events related to SS-004 are listed in the historical site chronology in the table that follows. The identified events are illustrative, not comprehensive. These activities are provided in detail in the *Final Flightline (SS-004) RI Report* (URS, 2007), a copy of which can be found in the Administrative Record (https://afcec.publicadmin-record.us.af.mil).

Date	Event	Description
1985	Phase I Records Search (Radian, 1985)	Review of available base records for SS-004 to identify possible environmental contamination.
1987	Site Inspection (E.C. Jordan Co., 1989)	Preliminary investigation of SS-004 geology and hydrogeology.
1993	Remedial Investigation (URS, 1995)	Detailed investigation of surface soils, subsurface soils, surface water, sediments, and groundwater; human health and ecological risk assessments.
1995/1996	Aircraft Refueling System Closure (OHM, 2000)	Product transmission pipelines abandoned in place or removed; lateral fuel pipelines below ramp abandoned in place; Pump Houses 1, 2, and 4 - 8 demolished; USTs and contaminated soil excavated and replaced (Pump House 3 was destroyed by fire in 1968).
1996	Geoprobe Investigation of Fuel-Related Soil Contamination Below Ramp (OHM, 1996)	Twelve Geoprobe borings along each lateral fuel line on the ramp; 258 subsurface soil samples collected.
2001/2002	Supplemental Remedial Investigation (URS, 2007)	Additional surface soil samples at edge of ramp; subsurface soil samples below ramp; sediment samples; updated human health and ecological risk assessments.

Date	Event	Description
2007	Final Remedial Investigation Report	Combines the 1993 RI and the 2001/2002 Supplemental RI into a single document.
2016	Draft Final Focused Feasibility Study	Evaluated Remedial Alternatives for SS-004
2017	Technical Memorandum, Evaluation of metals in Surface Soil at SS-004	Evaluation of Surface Soil Contaminants

4.0 COMMUNITY PARTICIPATION

The Air Force has kept the community informed regarding progress at the Site SS-004 and other base IRP sites during annual Restoration Advisory Board (RAB) meetings that are open to the public. This board consists of the BRAC Cleanup Team (BCT) members (key representatives from the Air Force, USEPA, and NYSDEC) and several representatives from municipalities, community organizations, and associations including community members with environmental/engineering expertise. The RAB, which was chartered in 1995, serves as a forum for the community to become familiar with the restoration activities ongoing at the former Plattsburgh AFB and to provide input to the BCT.

Copies of documents related to SS-004 may be obtained at the following address:

AFCEC
8 Colorado Street, Suite 121
Plattsburgh, New York 12903
(518) 563-2871

The Administrative Record for this decision is also available on-line at:

https://afcec.publicadmin-record.us.af.mil

The *Flightline (SS-004) Proposed Plan* was issued in March 20, 2018 (AFCEC, 2018). A notice of availability of the proposed plan was published in the Plattsburgh *Press Republican* newspaper on March 20, 2018, and a 30-day public comment period was held from March 20, 2018 to April 20, 2018. The notice of availability published in the Plattsburgh *Press Republican* newspaper is provided in

Appendix B. During this period, the public was invited to review the Administrative Record and comment on the preferred alternative being considered in the proposed plan.

In addition, the Air Force hosted a public meeting at the Clinton County Government Center located at 137 Margaret Street in Plattsburgh, New York on April 3, 2018 at 7:00 pm. The date and time of the meeting was published in the Plattsburgh *Press Republican* newspaper. The meeting was divided into two segments. In the first segment, data gathered regarding SS-004, the preferred alternative set forth in the proposed plan, and the decision-making process were described to the public. In the second segment, immediately after the informational presentation, the Air Force, USEPA and NYSDEC held a formal public meeting to accept comments about the remedial alternative proposed for SS-004. The meeting provided the opportunity for people to comment officially on the plan. A transcript of the public meeting is included in this ROD as Appendix C. No verbal or written comments were received at the public meeting or during the public comment period on the preferred alternative.

5.0 SCOPE AND ROLE OF OPERABLE UNIT

SS-004 is one of 41 sites administered as part of the Air Force's IRP for Plattsburgh AFB. RODs have been signed for 18 other OUs at the base and SS-004 is the last site for which a ROD will be prepared. The SS-004 RI (URS, 2007) concluded that no unacceptable risk is posed to human receptors as a result of potential exposure to surface soil, subsurface soil, surface water, or sediment or to ecological receptors as a result of potential exposure to subsurface soil, surface water, or sediment at SS-004. Chemicals detected in surface soil at the site, which pose risks to ecological receptors, are a result of jet engine emissions which do not fall within CERCLA jurisdiction or authority. Therefore, no action is required for these media under CERCLA. Groundwater contamination at SS-004 is being addressed as part of the above-mentioned remedy for the FT-002/IA Groundwater OU (URS, 2014).

6.0 SITE CHARACTERISTICS

6.1 Surface Water and Groundwater

6.1.1 Surface Water Hydrology

The former Plattsburgh AFB lies within the Lake Champlain drainage basin. The dominant surface water features in the vicinity of the base are the Saranac River to the north, the Salmon River to the south, and Lake Champlain to the east (see Figure 1). The Saranac and Salmon rivers, which discharge into Lake

Champlain, originate in the Adirondack Mountains to the west. A network of drainage ways at SS-004 carries surface water runoff from the site into sewers and streams that ultimately discharge into these water bodies. Lake Champlain is classified by the NYSDEC as a Class A water body suitable as a source of drinking water. The Saranac River and Salmon River in the vicinity of the base are classified by the NYSDEC as Class C(T) streams suitable for trout fishing (URS, 2007).

6.1.2 Site Drainage

The surface drainage at Site SS-004 is largely controlled both by topography and by drainage features engineered during the base's construction. Site drainage features are shown on Figure 2. A surface water divide is located along the west side of the flightline ramp. The land west of this divide slopes to the southwest. In this area, surface water flows as runoff from the impervious flightline ramp into perimeter drainage ditches, which then carry the surface water southwest. Eventually, the surface water flows through the drainage ways near the former Weapons Storage Area (Figure 1), which discharge to the Salmon River. All drainage ways on the base are classified by the NYSDEC as Class D streams, the lowest New York State stream classification, which are streams that are suitable for fishing but do not support fish propagation.

Topography east of the drainage divide slopes to the southeast. Because the flightline ramp slopes to the southeast, large amounts of runoff flowing toward the southeast are generated during rainfall events. Surface water runoff from the flightline ramp flows into both storm sewers and perimeter drainage ditches located east and south of the ramp. Surface water runoff from erosional features in the green space immediately east of the flightline is diverted into storm sewers or perimeter drainage ways that eventually discharge into the Golf Course drainage area, which discharges into Lake Champlain. At the north end of the ramp, surface water flows northeast into perimeter ditches or sewers, eventually discharging into the Saranac River (URS, 2007).

6.1.3 Hydrogeologic Setting

The former Plattsburgh AFB is located within the St. Lawrence-Champlain Lowlands physiographic province of New York State (Van Diver, 1985; Isachsen and Fisher, 1970). The base lies within the Lake Champlain Valley, which trends north-south between the Adirondack Mountains to the west and the Green Mountains to the east. Stratigraphy in the SS-004 area consists of four generalized geologic units: glaciomarine and glaciolacustrine sand (sand unit); glaciomarine and glaciolacustrine silt and clay (clay unit); glacial till (till unit); and bedrock. Hydrologically, the stratigraphic sequence can be

divided into the following units: the unsaturated zone, the unconfined sand aquifer, the clay-confining layer (aquitard), the confined till water-bearing zone, and the confined bedrock aquifer (URS, 2001).

The unsaturated zone lies between the ground surface and the water table. It is entirely within the sand unit at SS-004. The unsaturated thickness within SS-004 ranges from approximately 25 feet in the northern portion of the site to approximately 1-foot near the southern portion of the site.

The unconfined aquifer (water table aquifer), contained in the sand unit, has the water table as its upper boundary and the clay confining layer as its lower boundary. The saturated thickness of the aquifer is more than 50 feet in the northwest and north-central portions of the base and decreases to the north, east, and south, to less than 5 feet in the vicinity of the southern end of the flightline ramp. The morphology of the water table surface closely resembles the surface topography and the topography of the underlying silt and clay deposits (URS, 2001).

A north-south ridge in the underlying clay confining layer approximately bisects the site. Groundwater flow above the top of this ridge, at the north end of the ramp near the new airport terminal (Figure 1), is toward the north (i.e., toward the Saranac River), northeast, and east at a horizontal gradient of approximately 0.004 feet per foot (ft/ft). Groundwater flow on the eastern side of the flightline ramp, or along the eastern flank of the confining layer ridge, is to the east toward Lake Champlain and the Golf Course drainage area, at a horizontal gradient of approximately 0.012 ft/ft. Within the Golf Course drainage area (where the sand unit thins), shallow groundwater discharges to wetlands, drainage channels, and a system of ponds. This drainage system ultimately discharges to Lake Champlain. On the western side of the confining layer ridge, extending south of the new airport terminal to the southern end of the runway, groundwater flow is to the south and southwest at gradients ranging from approximately 0.007 to 0.013 ft/ft. This groundwater most likely discharges into a tributary of the Salmon River (NYSDEC Water Index Number C-21-1) that originates in a topographic basin near the former Weapons Storage Area. The hydraulic properties of the unconfined aquifer have been found to vary, primarily in the vertical direction. Generally, the unconfined aquifer becomes finer textured and less permeable with depth.

The clay unit forms a low permeability confining layer (aquitard) that separates the sandy unconfined aquifer from the underlying till water-bearing zone and bedrock aquifer. The clay confining layer is believed to be continuous beneath the base (URS, 2001). It is known to be absent only in the Saranac River valley, at a bedrock outcrop in the Barracks Golf Course, and in areas west and east of the base.

The till unit is a conductive, water-bearing zone confined by the overlying clay unit. It is isolated from the unconfined sand aquifer above, but is in immediate contact with the underlying bedrock aquifer. During the FT-002/IA Groundwater OU RI drilling program, artesian water flow frequently occurred when drilling penetrated the till (URS, 2001).

The bedrock aquifer is isolated from the unconfined sand aquifer by the overlying clay unit. Groundwater movement in the bedrock is controlled by physical characteristics of the rock such as porosity, fractures, faults, bedding planes, joints, and solution cavities.

6.2 Summary of Previous Site Activities

6.2.1 Records Search/Site Inspection

In 1985, Radian Corporation completed a Phase I records search for Plattsburgh AFB (Radian 1985). The purpose of the records search was to identify sites with possible environmental contamination resulting from past practices. As a result of the records search, a site inspection (SI) was conducted in 1987, consisting of a soil gas survey, advancing and sampling five soil borings, and installing and sampling six monitoring wells (E.C. Jordan Co., 1989). The SI recommended that additional investigations be conducted at Site SS-004.

6.2.2 1993 Remedial Investigation

Because of the large and complex nature of SS-004, the RI effort focused on investigating potential soil contaminant sources beneath and along the perimeter of the flightline ramp. The first phase of the SS-004 RI field activities was conducted in 1993 and included collecting surface soil, subsurface soil, surface water, and sediment samples.

The *Draft-Final Flightline (SS-004) RI Report* (URS 1995) concluded that soil contamination, primarily polycyclic aromatic hydrocarbons (PAHs), appeared to be confined to near surface soils along the edge of the flightline ramp. No unacceptable human health risk, based on an anticipated future industrial/aviation use, was determined to be associated with the surface soil contamination. An ecological risk assessment concluded that there was a possible risk to terrestrial species represented by mice and raccoons from exposure to soil and sediments; however, population level effects were deemed unlikely.

Several groundwater samples were also collected during the 1993 RI, and the observed groundwater contamination detected at SS-004 was primarily attributed to the upgradient FT-002 site. In studies subsequent to the RI, spills through the former trench drains in the ramp also were considered a potential source. Consequently, the Air Force, in consultation with the USEPA and NYSDEC, decided to address groundwater contamination beneath SS-004 separately, including it as part of the FT-002/IA Groundwater OU. Therefore, groundwater contamination beneath SS-004 is not addressed or discussed further in this SS-004 OU ROD. A ROD was signed for the FT-002/IA Groundwater OU in 2014 (URS, 2014).

6.2.3 1995 Aircraft Refueling System (ARS) Closure

In 1995/1996, the ARS (Figure 3) was decommissioned; it was officially declared closed in 2000 (OHM, 2000). Buried 8-inch fuel transmission lines along the west and south sides of the flightline ramp were removed along with about 600 cy of soil. The portions of the pipelines below the taxiways and access roads to the ramp were sealed and abandoned in place. The lateral fuel supply pipe lines under the concrete ramp were filled with grout and abandoned in place except for two lines that were saved for future use as electrical or communication conduit.

Pump House 3 on the west side of the flightline ramp was destroyed by fire in 1968. The remaining seven pump houses and all associated ancillary equipment were removed. Underground fuel storage tanks at the seven pump stations were removed or cleaned, filled with soil, and abandoned in place. The underground tanks at Pump House 3 had already been removed in 1994. Approximately 17,300 cy of potentially contaminated soil were removed during the tank/pipeline removals and were bioremediated on-base using landfarming.

The Bulk Fuel Storage Area on the south side of Connecticut Avenue was also decommissioned.

6.2.4 1996 Geoprobe Investigation

In 1996, a Geoprobe investigation was conducted to delineate the horizontal extent of fuel-related soil contamination below the flightline ramp (OHM, 1996). For each of the 22 lateral fuel pipelines in the ramp, a sampling grid of 12 sample points was established with the sample points spaced every 100 feet along the pipe and offset 2 to 5 feet from the pipe. Subsurface soil samples were collected from each sample point at 6 to 8 feet below ground surface, except six locations at which shallow refusal to the Geoprobe occurred. A total of 258 subsurface samples were collected for analysis.

6.2.5 2001/2002 Supplemental Remedial Investigation

Supplemental RI field activities were performed in December 2001 and April 2002 to address issues identified in USEPA and NYSDEC comments on the *Draft-Final RI Report* (URS, 1995). The objectives of the Supplemental RI were to:

1. Evaluate the extent of PAH contamination in surface soil along the eastern and southern edges of the flightline ramp and in sediment in the drainage way southeast of the ramp;
2. Evaluate potential sources in the soils underlying the ramp for the volatile organic compounds (VOCs) in groundwater; and,
3. Provide additional data to update the human health and ecological risk assessments that were documented in the *Draft-Final SS-004 RI Report* (URS, 1995).

Supplemental RI activities included collecting surface soil samples along the east and south side of the ramp; collecting subsurface soil samples from beneath the ramp; and collecting sediment samples from the drainage way immediately adjacent to the southeast corner of the flightline ramp. In 2007, the results from the RI and Supplemental RI were consolidated into a single *Final RI Report* (URS, 2007).

6.3 Nature and Extent of Contamination

SS-004 is wholly included within the boundaries of the Plattsburgh International Airport. SS-004 consists of most of the concrete flightline ramp and immediately adjacent grass covered areas to the east, south, and west of the ramp.

The primary sources of contamination at SS-004 are fuel spills resulting from fueling and defueling of aircraft when the base was active and also airborne particulates from jet engine exhaust. Residual contaminants from both spills and exhaust particulates have migrated in surface runoff from the flightline ramp to adjacent areas. The cumulative effect of this has been minor contamination of surface soil, subsurface soil, and sediments. Detailed discussion of the contamination detected in these media is provided in the SS-004 RI Report (URS, 2007) and the Focused Feasibility Study (URS, 2016). Groundwater contamination at SS-004 is being addressed as part of the FT-002/IA Groundwater OU ROD (URS, 2014).

During the RI, concentrations of compounds detected in surface and subsurface soil samples were compared to the recommended soil cleanup objectives presented in NYSDEC's *Technical and Administrative Guidance Memorandum (TAGM) 4046* (NYSDEC 1994). In 2010, NYSDEC rescinded the TAGM 4046 soil cleanup objectives (NYSDEC, 2010) and replaced them with new soil cleanup objectives presented in *Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR) Part 375* (NYSDEC, 2006). The 6 NYCRR Part 375 soil cleanup objectives are dependent upon the intended use of the site, which for SS-004 is aviation/aviation support (i.e., industrial); residential use is prohibited because of institutional controls placed on Site SS-004 as part of the FT-002/IA Groundwater OU ROD (URS, 2014).

The statutory authority for 6 NYCRR Part 375, as cited in the regulation, is the New York State Environmental Conservation Law (ECL). Article 27, Title 13, Section 27-1301.b of the ECL excludes as hazardous waste "the residue of emissions from gasoline engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine…" This same language, excluding exhaust emissions as hazardous waste, also appears in 6 NYCRR Part 375. As a result, the regulation and its soil cleanup objectives do not apply at SS-004 for which the RI (URS, 2007) concluded that aircraft exhaust emissions were the primary source of soil contamination. It should be noted that emissions from engine exhaust of aircraft are exempt from the definition of a "release" under CERCLA, and because of this exemption in Section 101(22)(B) of CERCLA, actions taken solely to address such emissions do not fall within the jurisdiction of CERCLA and are not appropriate.

6.3.1 Groundwater Contamination

Most groundwater contamination beneath the flightline ramp originally emanated from the upgradient FT-002 site. In consultation with the USEPA and NYSDEC, the Air Force has made the decision that groundwater contamination at SS-004 will be addressed as part of the FT-002/IA Groundwater OU (URS, 2014). Consequently, groundwater contamination will not be discussed further in this SS-004 ROD.

6.3.2 Surface Soil Contamination

Low levels of VOCs, pesticides, and polychlorinated biphenyls (PCBs) were sporadically detected in the surface soil samples collected at the edge of the flightline ramp; however, none of the detected surface soil VOC, pesticide, or PCB concentrations exceeded TAGM 4046 soil cleanup objectives. The occurrence of PCBs is normally associated with electrical transformer oil spills. No PCBs were detected in the background sample (URS, 2007).

PAHs and metals were also detected in surface soil. The RI (URS, 2007) concluded that the PAH and metals contamination observed in surface soils was most likely the result of the combustion of fossil fuel by jet aircraft. Since jet engines are typically located 8 to 10 feet above the ground surface and the prevailing wind direction is from west to east, airborne exhaust particulates were probably directly transported to areas east of the ramp. These particulates could also accumulate on the flightline ramp and migrate to the eastern edge of the ramp with surface runoff during rain or snow melt events. Aircraft support vehicular traffic (and exhaust emissions) was also generally confined to the eastern edge of the flightline ramp. PAH compounds and metals in the exhaust particulates then became adsorbed to organic matter present in surficial soils around the perimeter of the flightline ramp. Since the PAH and metals contaminants are relatively insoluble, they remain adsorbed to organic material in the surface soil near the edge of the flightline ramp.

The RI concluded that semi-volatile organic compounds (SVOCs), primarily polycyclic aromatic hydrocarbons (PAHs), and metals (arsenic, cadmium, chromium, and lead) contamination observed in surface soils was most likely the result of the combustion of fossil fuel by jet aircraft (URS, 2007). This was further confirmed in an evaluation performed by the Air Force in a Technical Memorandum submitted to the USEPA and NYSDEC in 2017 (AFCEC, 2017). The 2017 Technical Memorandum included the results of several studies (USEPA, 1979; Shabad, 1980; Smirnov, 1970). These studies and the 2017 Technical Memorandum indicate that the presence of these metals is attributable to both impurities and additives in fuel stock including turbine fuels. These results support the RI conclusion that the metals detected in surface soil at the site are the result of jet engine emissions (AFCEC, 2017). The USEPA concurs with these findings of the evaluation, as indicated in the June 15, 2017 correspondence.

6.3.3 Subsurface Soil Contamination

Low levels of VOCs, semi-volatile organic compounds (SVOCs), two pesticides, one PCB, and metals were detected in the subsurface soil samples around the ramp. VOC concentrations were slightly higher in subsurface soil samples as compared to concentrations in surface soil samples. SVOC contamination consisted primarily of PAH compounds. Concentrations of PAHs and metals were significantly lower in subsurface soils as compared to surface soils. Subsurface soils beneath the ramp did not appear to be significantly impacted by fuel spills on the ramp which may have been discharged to the trench drain system in the ramp.

6.3.4 Surface Water and Sediment Contamination

Surface water and sediment samples collected around the perimeter of the flightline ramp also appear to show impacts from jet aircraft exhaust particulates. While low concentrations of VOCs and pesticides were detected in some surface water and sediment samples, the primary contaminants of concern in these media are PAH compounds and metals. There were no exceedances of NYSDEC's surface water quality criteria (NYSDEC, 2008) in the surface water samples. There were a number of exceedances of NYSDEC's sediment quality screening criteria (NYSDEC, 1999) in sediment samples.

7.0 CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USE

According to the *Final Environmental Impact Statement for the Disposal and Reuse of Plattsburgh Air Force Base* (Tetra Tech, 1995), the best use of SS-004 is as an airfield and associated aviation support in an industrial setting. On February 23, 2003, via a public benefit conveyance, Clinton County was granted the right to re-locate the Clinton County Airport, renamed the Plattsburgh International Airport, to the former Plattsburgh AFB. The airport property was transferred to Clinton County by deed in April 2012. SS-004 lies entirely within the boundaries of the Plattsburgh International Airport. It is unlikely that the current land use for SS-004 will change in the foreseeable future.

8.0 SUMMARY OF SITE RISKS

This section summarizes the results of baseline risk assessments conducted as part of the SS-004 RI. These assessments estimated the risks associated with current and potential future planned industrial and hypothetical residential land use conditions. A baseline risk assessment estimates the human health and ecological risk that could result from contamination at a site if no remedial action is taken. A more detailed discussion of the baseline risk assessments is presented in the *Final Flightline (SS-004) RI Report* (URS, 2007).

8.1 Human Health Risk Assessment Process

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario. Step 1 - *Hazard Identification* – identifies the contaminants of concern at a site based on several factors such as toxicity, frequency of occurrence, and concentration. Step 2 - *Exposure Assessment* – estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated soil) by which humans are

potentially exposed. Step 3 - *Toxicity Assessment* – determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). Step 4 - *Risk Characterization* – summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks.

For carcinogens, risks are generally expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the carcinogen. Excess lifetime cancer risk is calculated using the following equation:

$$Risk = CDI \times SF$$

where: risk = a unitless probability of an individual developing cancer
CDI = chronic daily intake averaged over 70 years in milligrams per kilogram (mg/kg)-day
SF = slope factor expressed $(mg/kg\text{-}day)^{-1}$

The resulting risk is a probability that is usually expressed in scientific notation (e.g., 1×10^{-6}). An excess lifetime cancer risk of 1×10^{-6} indicates that an individual has a 1 in 1-million chance of developing cancer as a result of site-related exposure. The risk is referred to as an excess lifetime cancer risk because it would be in addition to the risk of cancer individuals face from other causes. Under USEPA regulations, for known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess lifetime cancer risk to an individual of between 1×10^{-4} and 1×10^{-6} (USEPA, 1990).

The potential for noncarcinogenic effects is evaluated by comparing an exposure level over a specified time period (e.g., lifetime) with a reference dose (RfD) derived for a similar time period. An RfD represents a level at or below which an individual may be exposed that is not expected to cause any deleterious effect. The ratio of exposure to toxicity is called a hazard quotient (HQ), calculated as follows:

$$HQ = CDI/RfD$$

where: CDI = chronic daily intake
RfD = reference dose

CDI and RfD are expressed in the same units and represent the same exposure period; i.e., chronic, sub-chronic, or short-term. An HQ less than 1.0 indicates that a receptor's dose of a single contaminant is less than the RfD, and that toxic noncarcinogenic effects from that chemical are unlikely.

The Hazard Index (HI) is calculated by adding the HQs for all chemicals of concern that affect the same target organ or that act through the same mechanism within a medium or across all media to which a given individual may reasonably be exposed. An HI less than 1.0 indicates that, based on the sum of all HQs from different contaminants and exposure routes, toxic noncarcinogenic effects from all contaminants are unlikely. Conversely, a potential noncarcinogenic risk is indicated if the HI exceeds 1.0 (USEPA, 1991).

8.2 Human Health Risk Assessment

According to the *Final Environmental Impact Statement for the Disposal and Reuse of Plattsburgh AFB* (Tetra Tech, 1995), the best reuse of SS-004 is as an airfield and associated aviation support in an industrial setting. The airfield is currently being used in this capacity as the Plattsburgh International Airport and it is secured by fencing with locked gates.

The risk assessment for SS-004 is based upon the analytical results for environmental media sampled during the 1993 RI (URS, 1995), the Geoprobe investigation on the ramp investigation (OHM, 1996) and the 2001/2002 Supplemental RI (URS, 2007). Given the current and expected future use of the site as an airport, surface soil and subsurface soil were identified as media of concern. Also included were some of the surface water and sediment sample data where potential direct exposure was considered potentially significant (URS, 2007). Groundwater was also identified as a media of concern using the only groundwater constituent that could be positively identified as a SS-004 contaminant, ethylene glycol. Ethylene glycol is a noncarcinogen and the hazard index was identified below the acceptable value of 1. Potential exposures to the other contaminants detected in wells at SS-004 are addressed under the FT-002/IA Groundwater OU ROD (URS, 2014). Exposure pathways for SS-004 were developed for current and potential future land use scenarios. Given the current conditions, adult and teenage trespasser exposure to site-related chemicals of potential concern (CPCs) could occur through incidental ingestion of, or dermal contact with, surface soil (0 to 2 feet depth). However, fencing and security patrols limit trespassing so that the trespasser scenario is marginal. Since the site is almost entirely concrete, inhalation of fugitive dust and soil vapors are unlikely to be a significant pathway, although some exposure through these pathways is possible.

The human health risk assessment considered an airfield/aviation support exposure scenario in two phases. The first phase is a transitional period (short-term exposure) in which new construction and earth-moving activities are possible. Construction workers are identified as the potentially exposed population in this phase. The second phase is long-term (airfield/aviation support) use of the area during which industrial workers are the exposed population. Industrial workers involved in aviation support would likely engage in activities similar to those of base personnel prior to the base's closure.

A future residential scenario was also evaluated in order to determine if deed restrictions prohibiting residential use of the property are required. Pathway analysis for assumed future land use conditions identified potential exposure pathways for construction and industrial workers (aviation/aviation support) and residents through incidental ingestion of, and dermal contact with, excavated or re-graded soil.

Construction workers also could be exposed via inhalation of fugitive dust during intrusive activities, and industrial workers could be exposed during outdoor activities. Inhalation of dust by residents is unlikely to be a significant pathway although some exposure to contaminants from this pathway is possible.

Volatilization of organic compounds from soil at SS-004 also was examined as a potential exposure pathway. During construction activities, construction workers may be exposed to volatile CPCs in soil. Industrial worker and residential exposure to volatiles is possible if vapors were to infiltrate through cracks in foundations of houses or buildings.

The total excess cancer risk to exposure to site soils for each potential receptor considered falls below or within the range of risk (i.e., 10^{-4} to 10^{-6} excess cancer risk) that is acceptable under current USEPA regulations (USEPA, 1990). The cancer risk equaled 2×10^{-5} for an adult trespasser, 8×10^{-6} for a teenage trespasser, 4×10^{-5} for a resident, 8×10^{-6} for an industrial worker, and 3×10^{-7} for a construction worker. Non-cancer risk for the soil pathway also falls below the USEPA specified HI of 1.0. An unacceptable potential non-cancer risk is indicated if the HI exceeds 1.0 (USEPA, 1991). The non-cancer risk equaled 0.002 for an adult trespasser, 0.002 for a teenage trespasser, 0.6 for a resident, 0.4 for an industrial worker, and 0.8 for a construction worker.

The concentration of lead is elevated above the Plattsburgh Air Force Base background level of 79.4 mg/kg (URS, 1996); however, there are no accepted toxicity values to assess the risk posed by lead. The RI qualitatively assessed the human health risk of exposure to lead in soils using the USEPA's screening level concentration of 400 mg/kg for residential scenarios at CERCLA sites (URS, 2007). The 400 mg/kg

screening level concentration is based on soil-lead exposure by the most sensitive residential populations, young children (URS, 2007). Screening levels are selected to provide human health protection without knowledge of the exposure conditions at the site.

The mean surface soil concentration for lead was 202 mg/kg for samples collected during the 1993 RI and 146 mg/kg for combined surface and subsurface soil samples. There were only five of 62 surface soil and subsurface samples with concentrations exceeding the 200 mg/kg screening level (URS, 2016). Based on these results, since the use of the site was and will likely remain industrial, the RI concluded that no significant future or current health risk was likely posed by the lead concentrations observed in soils at SS-004 (URS, 2007). Furthermore, there were only two exceedances of the USEPA's screening level of 800 mg/kg for lead for commercial/industrial sites. Since the human health risk assessment was finalized, new scientific studies have indicated that adverse health effects are evident at lower blood lead levels. USEPA OSWER Directive 9355.4-12 (1994) identifies a residential soil screening value of 400 mg/kg to determine if additional investigation is needed at sites with lead contaminated soil. This screening level was derived using the Integrated Exposure Uptake Biokinetic (IEUBK) model with a target blood lead level of 10 micrograms per deciliter (μg/dL), consistent with the CDC blood lead action level at that time. As provided in the December 2016 Office of Land and Emergency Management Directive 9200.2-167, however, recent toxicological studies suggest that adverse health effects are associated with blood lead levels less than 10 μg/dL in children; specifically, with mean blood lead levels between 2 and 8 μg/dL (USEPA, 2016). In support of such findings, an average concentration of 200 mg/kg was selected, in consultation with the USEPA Lead Technical Review Workgroup, to reflect IEUBK modeling results based on a target blood lead level of 5 μg/dL. Data collected during the RI indicate that lead had an average concentration at SS-004 of 202 mg/kg. Since the lead average is so close to the current screening level and the land is along a runway, further evaluation of lead is not considered necessary for characterizing human health risk at the site.

The RI also concluded that exposure to surface water and sediment at the SS-004 site is highly unlikely; however, risks posed by these media were examined separately from the primary human health risk assessment. This evaluation indicated that exposure to chemicals in these media do not present an excess non-carcinogenic or an unacceptable carcinogenic risk to human populations (URS, 2007).

8.3 Ecological Risk Assessment

This section summarizes the results of the screening level risk assessment performed during the SS-004 RI. A more detailed discussion is provided in the *Final Flightline (SS-004) RI Report* (URS, 2007).

Six indicator species were selected for the ecological risk assessment: the short-tailed shrew, meadow jumping mouse, red fox, raccoon, American robin, and the red-tailed hawk. Each of these species was identified as occurring in habitats present around the site (URS, 2007). Compounds detected in surface soil and sediment were considered CPCs. Because water quality standards were not exceeded in surface water samples, surface water was not considered a media of concern.

A two-step approach was used to evaluate the potential impact to these terrestrial species from exposure to surface soil and sediments at SS-004. The first step was to compare the maximum concentrations of the compounds detected in surface soils and sediments to risk-based screening concentrations (RBSCs) developed from a search of available toxicity data in the literature. The RBSC is a concentration above which the terrestrial receptor is adversely impacted by exposure to a given contaminant. If the concentrations exceeded the RBSCs, further evaluation of exposure to that compound was made following USEPA's HQ approach (USEPA, 1989 and USEPA, 1997). The RBSCs are listed in Tables L-1 and L-3, respectively, of the SS-004 RI Report (URS, 2007) for sediments and surface soils used in the screening level ecological risk assessment.

Concentrations in sediment samples were all less than the RBSCs and consequently there are no potential risks associated with exposure to sediments. For surface soils, all of the concentrations of compounds detected were less than the RBSCs except for the following five metals: arsenic, barium, cadmium, chromium, and lead. These metals were evaluated further using the HQ approach.

The HQ approach presumes that exposure to a given compound can occur for a given species at levels less than a threshold reference value (TRV) with no measurable effect on the receptor. The HQ was determined by dividing the estimated daily bioaccumulation of a given contaminant into animal tissue divided by the TRV. The resulting HQ is unitless and a HQ of 1.0 represents the threshold for toxicological effects for that compound; hence a HQ of less than 1.0 indicates that there is no unacceptable risk. When the toxicological endpoints of various compounds are similar, the individual HQs can be added, resulting in a HI which can be used to assess the potential risk of a mixture of chemicals having similar effects (URS, 2007).

The HI was less than 1.0 for the red fox, raccoon, and the red-tailed hawk so there is no risk to these species from surface soils along the flightline. The HI for the short-tailed shrew, the meadow jumping mouse, and the American robin were all greater than 1.0, meaning there are potential risks to these species from exposure to surface soils. The potential risks were due to the metals arsenic, barium, cadmium,

chromium, and lead. However, these chemicals are attributable to petroleum jet engine exhaust and do not fall within CERCLA jurisdiction or authority.

9.0 STATUTORY AUTHORITY

No action is necessary at SS-004 under CERCLA Sections 104 or 106 as the chemicals detected in surface soils at the site are a result of jet engine emissions. It should be noted that emissions from engine exhaust of aircraft are exempt from the definition of a "release" under CERCLA, and because of this exemption in Section 101(22)(B) of CERCLA, actions taken solely to address such emissions do not fall within the jurisdiction of CERCLA and are not appropriate.

10.0 DOCUMENTATION OF SIGNIFICANT CHANGES

There are no significant changes between the preferred alternative presented in the SS-004 Proposed Plan and the selected remedy presented in this ROD.

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11.0 RESPONSIVENESS SUMMARY

The Air Force, following consultation with and concurrence of EPA and NYSDEC, released for public comment the proposed plan for SS-004 on March 20, 2018. The release of the proposed plan initiated the public comment period, which concluded on April 20, 2018.

During the public comment period, a public meeting was held on April 3, 2018 at the Clinton County Government Center located at 137 Margaret Street in Plattsburgh, New York. The preferred remedial alternative for SS-004 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 Appendix C of this ROD and the Administrative Record.

The public comment period was intended to elicit public comment on the preferred remedial alternative for SS-004. No verbal or written comments were received at the public meeting or during the public comment period on the preferred alternative. The selected remedy is what was proposed as the preferred alternative in the Proposed Plan.

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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 Superfund 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 are more stringent than federal requirements may be applicable. See also Relevant and Appropriate Requirements.

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

Bedrock: Rock that underlies soil or other unconsolidated material.

Carcinogenic: Chemicals which, when exposure occurs at a particular level, may produce cancer.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law passed in 1980. The act requires *inter alia* that federal agencies investigate and remediate abandoned or uncontrolled hazardous waste sites.

Confining Layer: A body of impermeable or distinctly less permeable material adjacent to an aquifer or water-bearing zone.

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

Drainage Basin: A region or area that gathers water originating as precipitation and contributes it to a particular stream channel, system of channels, lake, reservoir, or other body of water.

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

Hazard Quotient (HQ). The ratio of a single substance exposure level over a specified time period (e.g., chronic) to a reference dose for that substance derived from a similar exposure period.

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 cleanup hazardous waste disposal and spill 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 (NPL): USEPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program.

Operable Unit (OU): A separate and distinct remedial project that is part of a large, complex hazardous waste site. Each OU has its own ROD, RI, FS, design and construction.

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

Overburden: The loose soil, silt, sand and gravel, or other unconsolidated material overlying bedrock.

Pesticide: Chemical compounds used to control insects, rodents, plants, etc. Two classes of organic pesticides include chlorine (chlorinated) or organic phosphorous (organophosphorous).

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 NPL 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 explains the remedial alternative to be used at a NPL site. The ROD is based on information and technical analysis generated during the RI, and on consideration of the public comments and community concerns received on the Proposed Plan. The ROD includes a Responsiveness Summary of public comments.

Relevant and Appropriate Requirements: These 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, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site, address problems or situations sufficiently

similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are identified by a state in a timely manner and are more stringent than federal requirements may be relevant and appropriate. See also Applicable Requirements.

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 FS.

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.

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

Solvents: Organic liquids used to dissolve grease and other oil-based materials. Many solvents are toxic at high concentrations.

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

Stratigraphic: Pertaining to the arrangement of consolidated or unconsolidated geologic materials as to geographic position and chronologic order of sequence.

Superfund: The trust fund, created by CERCLA out of special taxes, used to investigate and clean up abandoned or uncontrolled hazardous waste sites. Out of this fund USEPA either: (1) pays for site remediation when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work or (2) takes legal action to force parties responsible for site contamination to cleanup the site or pay back the federal government for the cost of the remediation. Federal facilities are not eligible for Superfund monies.

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 that 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.

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FIGURES

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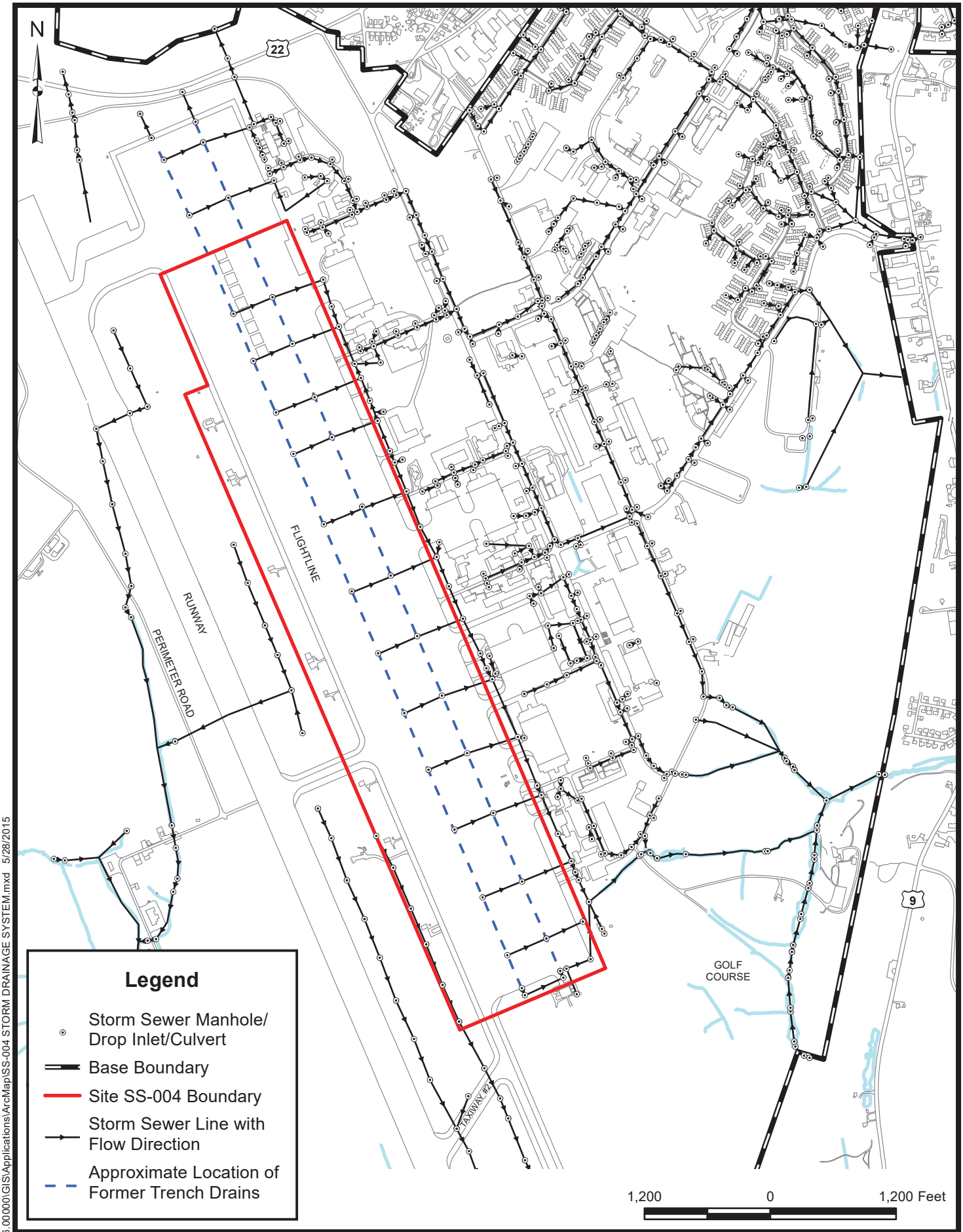
FORMER PLATTSBURGH AIR FORCE BASE
SITE LOCATION

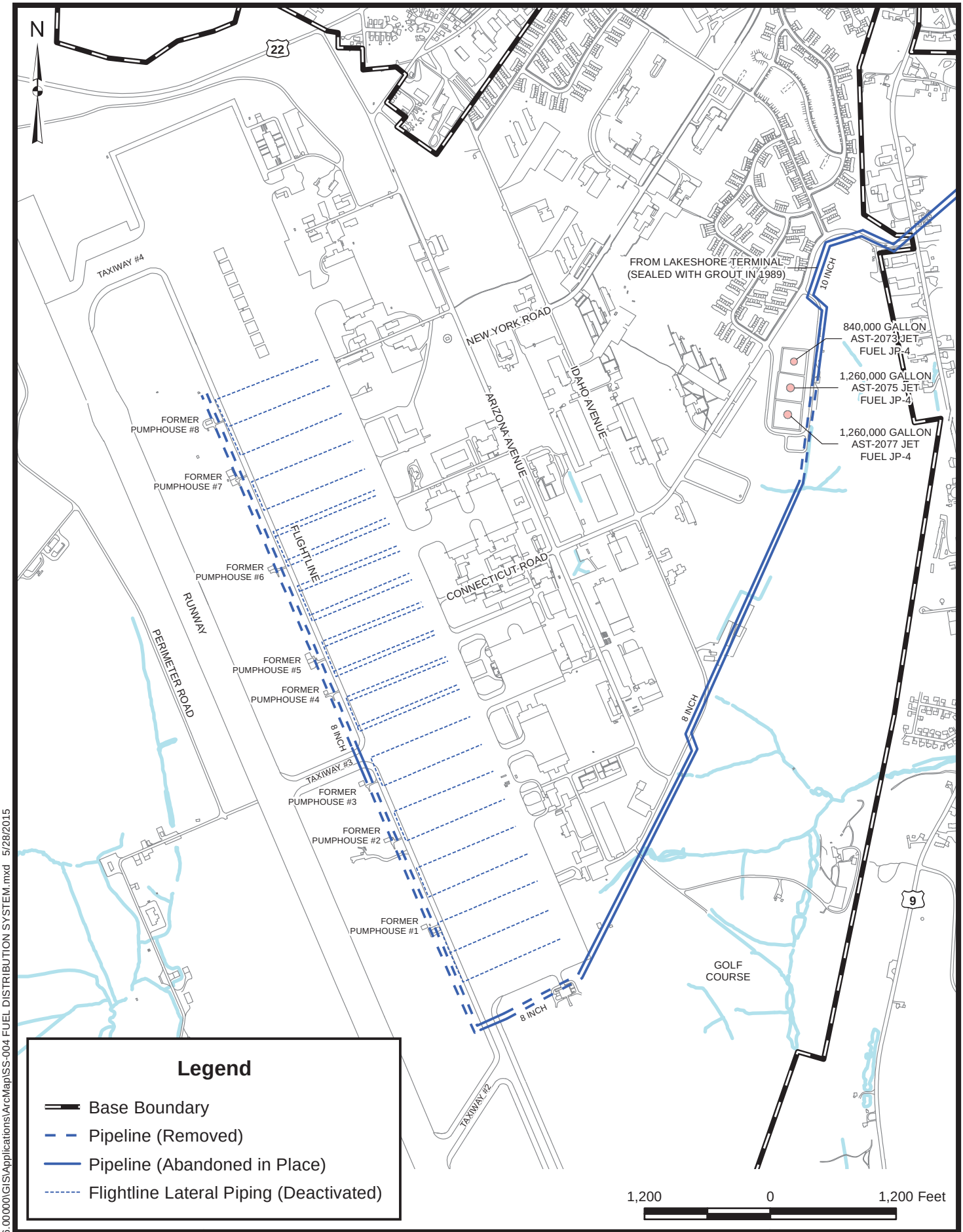
FIGURE 1



J:\Projects\111168476.00000\GIS\Applications\ArcMap\SS-004 STORM DRAINAGE SYSTEM.mxd 5/28/2015

FORMER PLATTSBURGH AIR FORCE BASE - SS-004
SITE DRAINAGE FEATURES

FIGURE 2



J:\Projects\11168476.00000\GIS\Applications\ArcMap\SS-004 FUEL DISTRIBUTION SYSTEM.mxd 5/28/2015

FORMER PLATTSBURGH AIR FORCE BASE - SS-004
AIRCRAFT REFUELING SYSTEM

FIGURE 3

APPENDIX A

NYSDEC CONCURRENCE LETTER

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation
625 Broadway, 12th Floor, Albany, New York 12233-7011
P: (518) 402-9706 | F: (518) 402-9020
www.dec.ny.gov

June 29, 2018

Mr. David Farnsworth
Air Force Civil Engineering Center
8 Colorado Street, Suite 121
Plattsburgh, NY 12903

Re: Plattsburgh Air Force Base, Site No. 510003
Letter of Concurrence for Record of Decision
Flightline (SS-004)

Dear Mr. Farnsworth:

The New York State Department of Environmental Conservation (DEC) has reviewed the Record of Decision (ROD), dated May 2018, for the referenced site. In summary review, the Flightline (SS-004) is located in the heart of the airport property and consists of most of the concrete flightline ramp and immediately adjacent grass covered areas to the east, south, and west of the ramp. The most prominent feature within SS-004 is the concrete and asphalt flightline ramp which was used for aircraft staging.

The primary source of contamination for the Flightline SS-004 site is determined to be aircraft exhaust emissions. The statutory authority for 6 NYCRR Part 375, as cited in the regulation, is the New York State Environmental Conservation Law (ECL), Article 27, Title 13. Section 27-1301.b of the ECL excludes as hazardous waste "the residue of emissions from gasoline engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine…" This same language, excluding exhaust emissions as hazardous waste, also appears in 6 NYCRR Part 375.

The selected remedy in the described in the May 2018 ROD as for the Flightline SS-004 site is:

> No Action as the selected remedy for SS-004. Chemicals detected in soil at the site are a result of jet engine emissions, which do not fall within CERCLA jurisdiction or authority, and surface water and sediment contamination pose no present or future unacceptable human or ecological risk. In addition, groundwater contamination at Site SS-004, including potential Soil Vapor Intrusion into buildings from groundwater, is being addressed as part of the Fire Training Area (FT-002)/Industrial Area Groundwater Operable Unit.

Outside of CERCLA, the Department does have the authority under the Navigation Law to require remediation of the soil and/or to have institutional controls (ICs) placed on the property. However, based on the current use and expected future use, we do not see a need to seek remediation or ICs at this time. This would have to be re-evaluated if the area was ever proposed for residential use.

Based on the information presented in the ROD, we concur with the selected remedial alternative for SS-004.

Sincerely,

Michael J. Ryan, P.E.
Director
Division of Environmental Remediation

ec: R. Morse, USEPA (morse.bob@epa.gov)
M. Ryan
E. Obrecht
J. Swartwout
C. Bethoney
W. Kuehner
D. Eaton

APPENDIX B

NOTICE OF AVAILABILITY

THAT SCRAMBLED WORD GAME
by David L. Hoyt and Jeff Knurek

THE BIRD THAT ACCIDENTALLY FLEW INSIDE THE HOUSE ---

Now arrange the circled letters to form the surprise answer, as suggested by the above cartoon.

(Answers tomorrow)

GLORY VISION PARDON

...per was successful in practice, but ...rried he was — OVERDOING IT

Notices

...in classes ...rgh State? ...dmissions ...64-2040.

...R SELL ...HING!

...e in the ...AILY ...CTION ...ORK! ...wspapers, ...ertions, ...MILLION ...ERS ...$525! ...Sally at ...5-4170 ...hail: ...d@ ...lican.com

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...ublican ...unity & ...rce For ...sex, and

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30-DAY PUBLIC COMMENT PERIOD

PROPOSED PLAN FLIGHTLINE (SS-004)
at the former
PLATTSBURGH AIR FORCE BASE, PLATTSBURGH, NY

The Air Force invites public comment on **Proposed Plan for the Flightline (SS-004).**

The Proposed Plan identifies the preferred alternative for the Flightline (SS-004) site located at the former Plattsburgh Air Force Base. The public is invited to review and comment on the Proposed Plan during a 30-day public comment period that will run from March 20, 2018 through April 20, 2018.

The Proposed Plan may be obtained online from the Administrative Record for this site at **https://afcec.publicadmin-record.us.af.mil** or by contacting:

Mr. David Farnsworth
BRAC Environmental Coordinator
Air Force Center for Engineering and the Environment (AFCEC)
8 Colorado Street, RM 121
Plattsburgh, NY 12903
518-563-2871

Written comments for the Proposed Plan may be submitted at any time during the comment period, but they must be postmarked or hand-delivered no later than April 20, 2018. Comments should be submitted to the Air Force at the above address, and/or may also be presented orally or in writing at a Public Meeting to be held:

April 3, 2018 at 7 p.m.
Clinton County Government Building
First Floor Conference Room
137 Margaret Street
Plattsburgh, NY 12901

The Air Force will hold an Information Session at the beginning of the Public Meeting to explain the Proposed Plan and will accept and answer questions at that time. After the public comments are carefully reviewed and considered, the final remedial decision will be issued in a Record of Decision (ROD). Copies of the ROD will be available for review at the Plattsburgh AFCEC office or from the Administrative Record.

APPENDIX C

TRANSCRIPT OF PUBLIC MEETING

Air Force Environmental Restoration Activities – 4-3-18

PROPOSED PLAN FLIGHTLINE

AT THE FORMER PLATTSBURGH AIR FORCE BASE,

PLATTSBURGH, NEW YORK

DATE: April 3, 2018

LOCATION:

37 Margaret Street
Plattsburgh, New York

Air Force Environmental Restoration Activities - 4-3-18

MR. FARNSWORTH: Good evening. I am David Farnsworth, the Program Manager for the Air Force Environmental Restoration Activities at the former Plattsburgh Air Force Base, New York.

The purpose of this evening's meeting is to allow for public comment on proposed activities in Site S.S. zero zero four, the Flightline area, former Plattsburgh Air Force Base.

A presentation will be given by Mr. Neils Van Hoesel --

MR. VAN HOESEL: Hello.

MR. FARNSWORTH: -- and Mr. Dan -- Mr. Van Hoesel and Mr. Dan Baldyga, with F.P.M. Remediations. After which, an opportunity for questions and comments will be provided.

Also present this evening are Mr. Daniel Eaton, with New York State Department of Environmental Conservation and Mr. Robert Morse with the United State Environmental Protection Agency.

Before starting, I ask that everyone sign in on the sign-in sheet. And with that, I'd like to turn the meeting over to Mr. Van Hoesel.

MR. VAN HOESEL: Thank you, David.

UNIDENTIFIED SPEAKER: Does it matter that your computer's unplugged from the chord?

MR. FARNSWORTH: Huh?

UNIDENTIFIED SPEAKER: Your laptop. The second chord is not plugged in to your --

MR. FARNSWORTH: Oh. It's --

UNIDENTIFIED SPEAKER: -- console.

MR. FARNSWORTH: -- it's good. I've got a --

UNIDENTIFIED SPEAKER: You've got it?

MR. VAN HOESEL: Okay. Slide number one, is the cover page and we're going to discuss the proposed plan for the Flightline and it -- which is called Site S.S. zero zero four.

Slide number two, please.

If you have any comments, comments can be provided either orally, or written, at the end of this meeting and they can be mailed or emailed to Mr. David Farnsworth and the address is provided on slide number two.

Slide number three is the agenda for today's meeting. We'll go over the project -- the proposed plan process, the site background, the risk assessment and then the preferred alternative.

Air Force Environmental Restoration Activities - 4-3-18

Slide number four is the proposed plan process. Site inspections, remedial investigations and supplementary investigations are performed and the sampling data is reviewed by the U.S.E.P.A. and the New York State D.E.C. and comparisons are made to errors and guidance values. Also, if warranted, site-specific risk assessments are conducted and based on the results from the above investigations, the site is then categorized as either no further action, or a remedial action, or response action.

Slide number five, a draft proposed plan is then developed with U.S.E.P.A. and N.Y.S.D.E.C. consultation and the proposed plan is issued to the public for input and all public comments are addressed.

A response summary to the public comments, if there are any, is prepared and incorporated in the Record of Decision, or ROD and the ROD is executed by the Director of the Air Force Civil Engineer Center, or AFCEC and the U.S.E.P.A. Regional Administrator with D.E.C. concurrence.

Slide number six, the site

Air Force Environmental Restoration Activities - 4-3-18
background. The Flightline, or Site S.S. zero zero four is two hundred and sixty-six acres and it consists of the concrete Flightline ramp and the grass-covered areas to the east, south and west of the ramp.

The ramp was originally constructed with two parallel trench drains, running lengthwise down the ramp, approximately three hundred feet and seven hundred feet from the eastern edge. Catch basins were located at the intersections of the trench drains, with lateral drain lines, which discharged to a storm drain, located parallel to the eastern edge of the ramp and the trench drains were filled with concrete in the 1960s. Slide number seven goes into the site background and shows a figure, with the outline of the Flightline, or S.S. zero zero four.

Slide number eight, site -- site history. The primary sources of contamination at S.S. zero zero four, are fuel spills, resulting from fueling and defueling aircraft, when the base was active and airborne particulates from jet-engine exhaust.

Residual contamination from both

spills and exhaust particulates have migrated in surface run-off from the Flightline ramp to adjacent areas. The cumulative effect of this has been minor contamination of surface soil, sub-surface soil and sediments.

Slide number nine, ground-water contamination at S.S. zero zero four is being addressed, as part of the F.T. zero zero two I.A. ground-water operable unit. The ROD for this ground-water O.U., was signed by the E.P.A. in September 2014.

Slide number ten, the Flightline, S.S. zero zero four previous investigations were a phase-one record search in 1985, a site inspection in 1987, a remedial investigation in 1993, aircraft-refueling system closure in '95 and '96, a geo-probe investigation in '96, a supplemental remedial investigation in 2001 and 2002, with a final remedial investigation report submittal, in 2007.

Slide number eleven, the previous investigation results for sub-surface soils, low levels of V.O.C.s, S.V.O.C.s, pesticides, P.C.B.s and metals, were detected in the sub-surface soil

samples collected around the ramp, at various depths between two and twelve feet below ground surface.

Slide number twelve, previous investigation results for surface water and sediment. Low concentrations of V.O.C.s and pesticides were detected in some surface water and sediment samples and the primary contaminants of concern in these media are P.A.H.s, polycyclic aromatic hydrocarbons and metals.

There were no exceedances of D.E.C. surface-water quality criteria in the surface water samples. There were exceedances of the D.E.C. sediment-quality screening criteria in sediment samples, but human-health risk and ecological-risk assessment, determined that there was no unacceptable risk associated with human or terrestrial, ecological-receptor exposure to the contaminated sediments.

Slide number thirteen, previous investigation results for surface soils. Low level of V.O.C.s, pesticides and P.C.B.s were sporadically detected in the surface-soil samples collected at the edge of the ramp, generally from

up to six inches below ground surface.

The R.I. concluded that S.V.O.C.s, primarily P.A.H.s and metal contamination observed in surface soils, were most likely the result of the combustion of fossil fuel by jet aircraft and this conclusion was further confirmed in an evaluation performed by the Air Force, in 2017. The findings of this evaluation indicate that these metals are both impurities and additives to fuel stock, including turbine fuels. The U.S.E.P.A. concurred with the findings of the evaluation, on June 15th, 2017.

Slide number fourteen, the human-health risk assessment. Human-health risk assessment considered an air-field aviation-support exposure scenario for construction and industrial workers. A future residential scenario was also evaluated, in order to determine if DEET restrictions prohibiting residential use of the property are required and the results of the human-health risk assessment for exposure to site soils, indicate that the total-access cancer risk for each potential receptor considered, falls below or within the acceptable range of one times ten to the

minus four, to one times ten to the minus six. The lung-cancer risk for the soil pathway, also falls below the U.S.E.P.A. specified hazard index of one.

Slide number fifteen, ecological-risk assessment. Six indicated species were selected for the ecological-risk assessment. The short-tailed shrew, the meadow jumping mouse, red fox, raccoon, red-tailed hawk and the American robin. Each of these species was identified as occurring in habitats present around the site.

The hazard index, which is the sum of the hazard coercions for the five metals, was less than one for the red fox, the raccoon and the red-tailed hawk. The hazard index for the short-tailed shrew, the meadow jumping mouse and the American robin, were all greater than one. The potential risks are due to the metals arsenic, barium, cadmium, chromium and lead.

However, these chemicals are attributed -- attributable to petroleum jet-engine exhaust and do not fall within the jurisdiction, or authority.

Slide number sixteen, the preferred alternative. The Air Force recommends no action as

Air Force Environmental Restoration Activities - 4-3-18

the preferred alternative for S.S. zero zero four. The chemicals detected in the soil at the site, are the result of jet-engine emissions, which do not fall within jurisdiction or authority and the surface-water and sediment contamination pose no present, or future unacceptable human or ecological risk.

In addition, ground-water contamination at site zero zero four, including potential S.V.I. into buildings from groundwater, is being addressed as part of the F.T. zero zero two I.A. ground-water operable unit.

Slide number seventeen, the schedule. The proposed-plan public notice was published on March 20th, 20128. The public meeting, today, is April 3rd, 2018. The end of the comment period is April 20th, 2018. Then, the public comments will be reviewed prior to documentation of the selected remedy, in the Record of Decision and the Record of Decision is scheduled for the spring of 2018.

If you have any comments, on -- on slide number eighteen, you can provide them orally or written, at the end of this public meeting, or mail, or email your comments, no later than April

20th, to Mr. David Farnsworth and his address and contact information is provided on slide eighteen.

That concludes this public meeting and I will turn the meeting over, back to Mr. David Farnsworth, of the Air Force.

MR. FARNSWORTH: And again, if anyone has any comments, after the meeting they are welcome to provide them to the address shown in the briefing, no later than April 20th, 2018.

Thank you very much.

(The meeting concluded.)

Air Force Environmental Restoration Activities - 4-3-18

STATE OF NEW YORK

I, HOWARD HUBBARD, do hereby certify that the foregoing was reported by me, in the cause, at the time and place, as stated in the caption hereto, at Page 1 hereof; that the foregoing typewritten transcription consisting of pages 1 through 11, is a true record of all proceedings had at the hearing.

IN WITNESS WHEREOF, I have hereunto subscribed my name, this the 13th day of April, 2018.

HOWARD HUBBARD, Reporter

SS-004 Proposed Plan
Public Meeting

4/3/18

name	organization	Phone #
Dan Baldyga	FPM	315-336-7721
Bob Morse	USEPA	212-637-4331
Dan Eaton	NYSDEC	518-402-9563
Dave Farnsworth	US Air Force	518-563-2871
Niels van Hoesel	FPM	315-336-7721