May 13, 2022

David S. Farnsworth, DAF
Program Manager/BRAC Environmental Coordinator
Air Force Civil Engineer Center (AFCEC/CIBE-Plattsburgh)
8 Colorado Street, Suite 121
Plattsburgh, NY 12903

Re: Final Letter Work Plan Site SS062 Supplemental Investigation
Former Griffiss Air Force Base, Rome, New York
Contract No. FA8903-20-D-0001

Dear Mr. Farnsworth:

Bhate Environmental Associates, Inc. (Bhate) is pleased to submit this Letter Work Plan to conduct Supplemental Investigation activities at SS062, located at the former Griffiss Air Force Base in Rome, New York. Overall, the following activities outlined within this Work Plan are intended to delineate the unexcavated soil source and to update the current SS062 conceptual site model (CSM) and to assess groundwater cleanup timeframes for the site.

If you should have any questions regarding the information contained in this work plan, please do not hesitate to contact me at (720) 463-3903.

Sincerely,

Frank Gardner, PG
Program Manager

FINAL
LETTER WORK PLAN
SITE SS062 SUPPLEMENTAL INVESTIGATION
FORMER GRIFFISS AIR FORCE BASE
ROME, NEW YORK

PREPARED FOR:	Mr. David Farnsworth/Former Griffiss Air Force Base, Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) and Contracting Officer's Representative (COR)
PREPARED BY:	Bhate Environmental Associates, Inc.
COPIES:	Mr. Robert Morse, United States Environmental Protection Agency Heather Bishop, New York State Department of Environmental Conservation
DATE:	May 2022

Environmental Chemical Corporation (ECC) and team member Bhate Environmental Associates, Inc. (Bhate) were retained by the Air Force Civil Engineer Center (AFCEC), under Contract Number FA8903-20-D-0001, to conduct environmental remediation activities at the former Griffiss Air Force Base (AFB). Under this contract, Bhate has prepared this Letter Work Plan (Work Plan) for a Supplemental Investigation (SI) at Site SS062 (Area of Concern [AOC] 9) at the former Griffiss AFB located in Rome, Oneida County, New York (**Attachment A - Figure 1**). The site is being addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.

The primary goal of the SI outlined in this Work Plan is to delineate the extent of the unexcavated contaminated soil source at Site SS062 (AOC 9).

Site Background

Site SS062 (AOC 9) is located in the southwestern portion of the former Weapon Storage Annex (WSA) and northwest of the Griffiss International Airport runway (**Attachment A - Figure 2**). The site extends to the northeast into the former WSA and the southeastern portion of the site is situated within the restricted airport flightline area. Within the restricted flight area, Perimeter Road bisects the site and Six Mile Creek flows through the southwestern edge of the site. A small retention pond previously used for aqueous film-forming foam (AFFF) storage is located between the airline fence and Perimeter Road.

The area was farmland in the 1930s, before base construction. In the 1940s and 1950s, the first landfill for the base was located beneath the northern portion of the former WSA and extended south between Perimeter Road and Six Mile Creek. Based on aerial photographs, it was determined that the landfill was used between 1943 and 1957 but no later than 1960 (Ecology &

Environment Engineering, P.C. [E&E], May 2004). The type of material buried at this site is unknown; however, it is reported that large quantities of the landfill material were removed during construction of the WSA. Two former WSA bunkers, Buildings 912 and 913, are still present at the site. The bunkers are not occupied and currently are used for storage. In addition, two munitions storage igloos were erected between Perimeter Road and Six Mile Creek in the early 1950s. One of the igloos was removed in the late 1970s (before 1981) and the other igloo was removed in 1992 (E&E, May 2004). Although the bunkers were initially used for munitions storage, they were later used to store hazardous materials. The site was assigned AOC status in 1998 due to the presence of elevated chlorinated solvents in groundwater samples collected during an Expanded Site Investigation.

Investigation and remedial activities performed under the previous Performance Based Remediation (PBR) contract are documented in the following reports:

- *Final 2016 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss AFB, New York.* (Bhate, July 2017)
- *Final 2017 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York.* (Bhate, June 2018)
- *Final 2018 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York.* (Bhate, October 2019)
- *Revised Final 2019 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York.* (Bhate, September 2021)
- *Final 2020 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York.* (Bhate, August 2021)
- *Draft Fourth Five-Year Review Report, Former Griffiss Air Force Base, Rome, New York.* (Bhate, September 2020)

The significant remedial and investigation activities at SS062, summarized below, are taken from the *Final Interim Remedial Action Completion Report for Remedy-in-Place and Construction Complete for the Area of Concern 9 (SD-62) at the Former Griffiss Air Force Base* (E&E, January 2015), the *Draft Final Demonstration of Remedial Actions Operating Properly and Successfully at AOC 9, Former Griffiss Air Force Base, Rome, New York* (E&E, April 2016), the *Draft Fourth Five-Year Review Report, Former Griffiss Air Force Base, Rome, New York* (Bhate September 2020), and the *Final 2020 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York* (Bhate, August 2021).

- In 1994, the results of a groundwater sample showed low levels of chloromethane.
- In 1995, groundwater sample results indicated the presence of chlorinated hydrocarbons in the groundwater.
- In 1997, groundwater results indicated the presence of benzene; chlorobenzene; cis-1,2-dichloroethene (DCE); 1,2-dichlorobenzene (DCB); 1,3-DCB; 1,4-DCB; tetrachloroethene (PCE); and trichloroethene (TCE) at concentrations that exceeded screening criteria.
- In 2000 and 2002, groundwater results from two Supplemental Site Investigations indicated the presence of volatile organic compounds (VOCs) exceeding the most stringent screening criteria.

- In 2002 a Bedrock Groundwater Study concluded that groundwater contamination observed in the overlying overburden aquifer did not appear to have migrated downward into the underlying bedrock at the site.
- In 2002, results of in-situ chemical oxidation (ISCO) bench-scale studies for treatment of groundwater contamination found that Fenton-based treatment indicated a 99.9% destruction of VOCs.
- In 2002 and 2003, field pilot-scale studies initially indicated that conditions at the site would be conducive to treating groundwater containing chlorobenzene and other VOCs within the dissolved phase plume. However, a rebound of contaminant levels was observed following the completion of the pilot study.
- In late 2006, a series of three Pre-Design Investigations (PDIs) began that ultimately identified the soil east of Building 913 as the source of the groundwater contamination. A Feasibility Study recommended ISCO as the preferred alternative.
- In 2009, an addendum to the final Feasibility Study was prepared to address the change in the nature and extent of contamination that was identified during the PDIs. It was determined that ISCO would not be the optimal treatment alternative due to the presence of a previously uncharacterized source of chlorobenzene in the soil. The preferred alternative would include removal of this source of contamination in addition to chemical oxidation of the groundwater.
- In 2010, the Record of Decision (ROD) established the active remedy components as excavation of the source area soils and treatment of groundwater using ISCO.
- In 2010, the source removal portion of the remedy was completed involving the excavation of approximately 9,987 tons of contaminated soil and removal of approximately 465,354 gallons of contaminated water (**Attachment A - Figure 3**). Prior to the backfilling of the excavation, sodium persulfate and an iron chelate activator were applied to the bottom of the excavation to oxidize any residual low level contamination.
- In 2013, a PermeOx® Plus mixture was injected into the groundwater plume to enhance aerobic bioremediation.
- In 2017 a series of Oxygen BioChem® (OBC®) ISCO injections were performed along the central portion of the groundwater plume to directly oxidize contaminants of concern (COCs) and to release oxygen to support aerobic bioremediation (**Attachment A - Figure 3**).
- In 2018, a follow on OBC® injection event was performed in the central and upgradient/source areas of the plume (**Attachment A - Figure 3**).

Following the 2018 injections, the chlorobenzene concentration in upgradient monitoring well AOC9MW-19 increased by an order of magnitude, indicating that an area of contaminated soil may remain in the upgradient source area. The injection interval of injection point SS062IP-26 (located just upgradient of AOC9MW-19) was mostly within the backfill of the former excavation but likely extended into the underlying unexcavated soils (**Attachment A - Figure 4**). Whether unexcavated contaminated soils are located underneath or to the northeast of the former excavation is unknown and it was determined that further investigation was needed to identify the remaining contaminated soil source.

Conceptual Site Model Summary

The site lies in the Mohawk Valley Lowland, just north of the Allegheny Plateau. The Mohawk River and the New York State Barge Canal lie south of the property. The landforms in the area are a product of glacial deposition and erosion, and the erosion and the depositional processes of the Mohawk River that produced features such as valleys, floodplains, and terraces.

Much of the landfill material was removed from the area in the 1950s as the WSA was constructed. The geology of the area generally consists of three overburden layers and a bedrock layer. Where present, the upper layer is fill composed of rounded gravel and brown very fine to coarse sand with varying amounts of silt. The next layer is 15-20 feet in thickness and is composed of very fine-to-medium grained, stratified, brown sand and discontinuous gravel seams. The contaminated groundwater is found within this sand layer. Within this layer, a zone of discolored or stained sand associated with a contaminant smear zone has previously been observed. The third layer is at least 5 feet thick and is made up of gray glacial till and weathered shale. The bedrock across the site is made up of the Utica Shale. Contamination has not been found in the bedrock.

The ground surface slopes gently downward toward Six Mile Creek and groundwater flows southwest through the site, toward the creek. Depth to groundwater is approximately 10 to 12 feet but is closer to the ground surface between Perimeter Road and Six Mile Creek. There are several locations in this area where shallow groundwater discharges to the surface.

The contaminated groundwater plume consists primarily of chlorobenzene, TCE, and DCE and extends downgradient from AOC9MW-19 for approximately 1,500 feet and the leading edge has reached Six Mile Creek. The lateral extent of the plume is approximately 400 feet and the vertical extent ranges from ground surface to the top of bedrock, which is about 20 feet below ground surface (bgs). Chlorobenzene and 1,2-DCB have been detected in Six Mile Creek surface water samples at very low concentrations. However, no site COCs have been detected at concentrations exceeding the screening criteria.

The excavation was presumed to have removed the majority of the contaminated soil source. However, the increase in concentrations in AOC9MW-14 and AOC9MW-19 following the 2018 injections indicate that a significant mass may remain in the area of the former excavation.

- The first area of possible remaining contaminant mass was identified as the original upgradient source area. Only one injection point, SS062IP-26, was advanced near AOC9MW-19 in 2018. Given the order of magnitude increase in chlorobenzene at this well following the injection, it is likely that a remaining contaminant mass exists in the soil within the radius of influence of the injection point. The injection point was near the northeastern edge of the limit of the excavation and extended a short distance below the total depth of the excavation (see **Attachment A - Figure 3** and **Attachment A - Figure 4**, respectively). Residual soil contamination is likely to exist below the maximum excavation depth or just beyond the excavation limits to the northeast (see **Attachment A - Figure 4** and **Attachment A - Figure 3**, respectively).
- A second area of possible remaining contaminant mass was identified as northeast of Building 913 and just beyond the northwestern edge of the limit of the excavation during

a review of the Additional PDI data (E&E, November 2007) and the excavation report (E&E, April 2016). During the additional PDI, significant groundwater contamination was identified in the area northeast of Building 913. However, a significant soil source was not identified at that time and the excavation did not extend westward into the area. Groundwater data in the area is not available.

- A third area of possible remaining contaminant mass was identified as being near the southeast corner of Building 913 during a review of the PDI data (E&E, November 2007) and the excavation report (E&E, April 2016). However, a significant soil source was not identified at that time and the excavation did not extend westward into the area. The increase in chlorobenzene concentrations observed at AOC9MW-14 following the 2018 injections, may be due to any of the 2018 injections placed upgradient and within the former excavation. Groundwater data is not available for the majority of the excavation or for upgradient areas. Additional groundwater data within the former excavation area and also near the exit area of the former excavation are necessary to identify the mass flux of dissolved phase chlorobenzene leaving the upgradient area.

Investigative Approach

In order to investigate the chlorobenzene groundwater concentrations in the three areas discussed above, temporary (1-inch) and permanent (2-inch) monitoring wells will be installed.

Eleven exploratory temporary wells will be advanced to approximately 25 feet bgs using hollow stem auger (HSA) and continuous coring (**Attachment B - Table 1**). The temporary wells will be focused within the areas of known groundwater impact discussed above. Specifically the temporary wells will be placed within the former excavation and in adjacent areas that have been identified as possible unexcavated soil sources (**Attachment A - Figure 3**).

Five permanent groundwater monitoring wells will be installed to a depth of 25 feet bgs using HSA and continuous coring (**Attachment B - Table 1**). The permanent monitoring wells will be installed following at least one round of sampling of the temporary well locations. The final decision on the placement of these wells will incorporate the data from the first round of temporary well sampling. The three currently proposed permanent well locations (AOC9MW-20 thru AOC9MW-22) are considered likely candidates for the permanent wells, but are not final (**Attachment A - Figure 3**). Proposed locations are not presented for AOC9MW-23 and AOC9MW-24 on **Attachment A - Figure 3**.

Soil cores from temporary and permanent monitoring wells will be screened with a photoionization detector and visually assessed for staining or other indications of contamination and may be sampled and analyzed as described in **Attachment B - Table 1**. **Attachment B - Table 1** also presents the approximate maximum depth of the former excavation at each proposed location as well as the screened interval for the temporary wells.

- Original Upgradient Source Area:
    - Two temporary wells, AOC9TW-201 and AOC9TW-202, will be placed immediately upgradient of AOC9MW-19 and SS062IP-26 but within an area where the excavation reached the maximum depth. AOC9TW-201 will be screened only

above the elevation of the maximum depth of the excavation.AOC9TW-202 will be screened only below the same depth.

- One temporary well, AOC9TW-203, will be placed immediately upgradient of AOC9MW-19, SS062IP-26, AOC9TW-201, and AOC9TW-202 but just beyond the area where the excavation reached the maximum depth. The temporary well will be completed to a depth beyond that of the former excavation.
- Two temporary wells, AOC9TW-207 and AOC9TW-208, will be placed immediately downgradient and slightly side gradient of AOC9MW-19 and SS062IP-26 but within the area where the excavation reached the maximum depth. These temporary wells will be screened only below the maximum depth of the excavation.
- One temporary well, AOC9TW-209, will be placed mid-way between AOC9MW-19 and upgradient well AOC9MW-18, which has been historically clean. The temporary well will be completed to a depth beyond that of the former excavation.
- One of the temporary wells, AOC9TW-210, will be placed downgradient of AOC9MW-19 and just upgradient of SS062IP-25. The temporary well will be completed to a depth beyond that of the former excavation.

- Potential Northwestern Source Area:
  - Three temporary wells, AOC9TW-204 through AOC9TW-206, will be placed to the northwest of the area where the excavation reached the maximum depth. These temporary wells will be completed to depths beyond that of the former excavation.

- Excavation and Excavation Exit Area:
  - One of the temporary wells, AOC9TW-211, will be placed just upgradient of SS062IP-24 and within the former excavation. The temporary well will be completed to a depth beyond that of the former excavation.
  - One permanent groundwater monitoring well, AOC9MW-20, will likely be placed within the chlorobenzene plume and just downgradient of SS062IP-25, within the former excavation. The monitoring well will be completed to a depth beyond that of the former excavation.
  - One permanent groundwater monitoring well, AOC9MW-21, will likely be placed downgradient of SS062IP-24 and just beyond the former excavation. The monitoring well will be completed to a depth beyond that of the former excavation.
  - One permanent groundwater monitoring well, AOC9MW-22, will likely be placed adjacent to AOC9MW-11BR (which is screened within the bedrock). The monitoring well will be completed to a depth beyond that of the former excavation but will not extend into the till or bedrock.

In order to ensure sample consistency, two groundwater samples will be collected from each of the temporary wells over a period of at least two separate events. In order to establish a baseline

for the new permanent monitoring wells and to further delineate the chlorobenzene groundwater plume in the former excavation and excavation exit areas, one round of groundwater samples will be collected from each of the newly installed permanent monitoring wells following development.

Groundwater sampling of temporary wells will be conducted using a peristaltic pump and low-flow sampling techniques. Groundwater sampling of permanent wells will be conducted using a submersible or peristaltic pump and low-flow sampling techniques. For both temporary and permanent wells, an in-line flow through cell and water quality meter will be used to record water quality field parameters including temperature, pH, dissolved solids, and turbidity. Groundwater samples will be submitted for laboratory analysis of VOCs and also for per- and polyfluoroalkyl (PFAS) constituents.

Collection of all investigation derived waste (IDW) generated during the investigation will be stored in labelled steel 55-gallon drums prior to analytical characterization and disposal. IDW will also be analyzed for PFAS per New York State Department of Environmental Conservation (NYSDEC) guidance.

Following completion of the SI field efforts, a Technical Memorandum will be prepared documenting the field effort, data assessment, and the updated Conceptual Site Model. The Technical Memorandum will also present the determination of estimated groundwater cleanup timeframes and path forward and remedial optimization recommendations. The Technical Memorandum will include a cross section, potentiometric surface map, groundwater contamination plume map, contaminant trend charts, and other materials as appropriate.

References

Bhate. July 2017. *Final 2016 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss AFB, New York*.

Bhate. June 2018. *Final 2017 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York*.

Bhate. October 2019. *Final 2018 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York*.

Bhate. September 2021. *Revised Final 2019 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York*.

Bhate. August 2021. *Final 2020 Annual Performance Monitoring Report, On-Base Groundwater Remediation, Former Griffiss Air Force Base, Rome, New York*.

Bhate. September 2020. *Draft Fourth Five-Year Review Report, Former Griffiss Air Force Base, Rome, New York*.

E&E. May 2004. *AOC 9: Weapons Storage Area (WSA) Landfill Final 2002 Remedial Investigation Report, Former Griffiss Air Force Base, Rome, New York.*

E&E. November 2007. *Final Additional AOC 9 Predesign Investigation Data Summary Report, Former Griffiss Air Force Base, Rome, New York.*

E&E. January 2015. *Final Interim Remedial Action Completion Report for Remedy-in-Place and Construction Complete for the Area of Concern 9 (SD-62) at the Former Griffiss Air Force Base*.

E&E. April 2016. *Draft Final Demonstration of Remedial Actions Operating Properly and Successfully at AOC 9, Former Griffiss Air Force Base, Rome, New York*.

ATTACHMENT A – FIGURES

Former Griffiss Air Force Base
Site Location Map

Attachment A - Figure 1

Letter Work Plan for Site SS062
Supplemental Investigation
Former Griffiss Air Force Base, Rome, New York

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DATE: 2/23/2022

SCALE: As Shown

PROJECT NO: MSC2021.0012 .0003.0003

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SS062 AOC 9 WSA Landfill Site Map

Attachment A - Figure 2

Letter Work Plan for Site SS062
Supplemental Investigation
Former Griffiss Air Force Base, Rome, New York

DRAWN BY: MRM

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A1A

Six Mile Creek

Intermittent Stream

Six Mile Creek

Former Storage Igloo Location

Former Storage Igloo Location

Approximate Location of Former Remedial Excavation Area

Pond

SS062

AOC9MW-08

AOC9MW-13

AOC9MW-12

AOC9MW-15 (498.89)

AOC9MW-16

AOC9MW-17 (484.35)

AOC9MW-18 (514.47)

AOC9MW-19 (512.85)

AOC9MW-14 (506.04)

AOC9TW-26

AOC9TW-95

AOC9MW-11BR

AOC9MW-05

AOC9MW-9BR

AOC9MW-06

AOC9MW-07 (481.98)

G009-MW01

G009-MW02

G009-MW03

G009-MW04

WSAMW-4

AOC9-SW01

AOC9-SW02

AOC9-SW03

0905 0906 0907 0912 0913 0930 0917 0915 0916 0829 0832 6364 0848 0844

CONNEX

505.00 500.00 495.00 490.00 485.00 510.00

Notes:
Only well locations with indicated groundwater elevations were measured.

This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 75 150 300 Feet

Legend:

- 2020 Performance Monitoring Sample Location
- Monitoring Well Location
- Temporary Monitoring Well Location
- Surface Water Sample Location
- (481.98) Potentiometric Surface Elevation in Feet Above Mean Sea Level (October 2020)
- Potentiometric Surface Contour
- Direction of Groundwater Flow
- Installation Restoration Program (IRP) Area
- Base Boundary
- Parcel Boundary
- LUC Boundary
- 5657 Building Number
- 0781 Demolished Building Location
- Surface Water Location
- Electrical Line
- Communications Line
- Abandoned Utility
- Hydrant

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Notes:
(56) - Chlorobenzene Concentration Reported in mg/L (October 2020)
µg/L - Micrograms per liter
D - Dilution
ND - Not detected

Line of Cross Section A - A'
(See Attachment A - Figure 4)

Approximate Benzene Plume

Approximate Location of Former Remedial Excavation Area

Former Storage Igloo Location

Approximate Direction of Groundwater Flow

Approximate Chlorobenzene Plume

Approximate TCE (Trichloroethene) Plume

Former Storage Igloo Location

Pond

Six Mile Creek

Intermittent Stream

SS062

AOC9MW-11BR
AOC9TW-26
AOC9TW-95
AOC9MW-22
AOC9TW-204
TW40
SS062IP-26
AOC9TW-205
AOC9TW-207
AOC9TW-209
AOC9TW-206
SS062IP-24
AOC9TW-203
TW39
AOC9TW-202
AOC9TW-201
AOC9MW-18 (ND)
AOC9MW-19 (390 D)
AOC9TW-210
SS062IP-25
TW83
AOC9MW-20
AOC9TW-208
AOC9MW-21
AOC9TW-211
SS062IP-22
AOC9MW-14 (450 D)
SS062IP-09
SS062IP-20
SS062IP-08
SS062IP-18
SS062IP-16
AOC9MW-08
SS062IP-10
SS062IP-23
SS062IP-21
AOC9MW-13
SS062IP-14
AOC9MW-12
SS062IP-19
SS062IP-07
SS062IP-12
SS062IP-17
SS062IP-05
G009-MW01
AOC9MW-15 (56)
SS062IP-15
WSAMW-4
SS062IP-11
SS062IP-13
SS062IP-06
AOC9-SW01
AOC9MW-16
AOC9MW-17 (70)
G009-MW02
AOC9-SW02 (ND)
G009-MW03
AOC9MW-07 (51)
G009-MW04
AOC9-SW03 (ND)
AOC9MW-05
AOC9MW-9BR
AOC9MW-06
0905
0906
0907
0930
0912
0913
0917
0915
0832
0829
0916
0846
0848
0844
6384

Notes:
Only well locations with indicated results were sampled.

This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 75 150 300 Feet

Legend:
- 2022 Proposed Monitoring Well Location
- 2022 Proposed Temporary Well Location
- DPT Injection Point - Completed (July 2018)
- DPT Injection Point - Completed (June 2017)
- 2020 Performance Monitoring Sample Location
- Monitoring Well Location
- Select Temporary Monitoring Well Location
- Temporary Monitoring Well Location
- Surface Water Sample Location
- Installation Restoration Program (IRP) Area
- 5657 Building Number
- 0781 Demolished Building Location

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

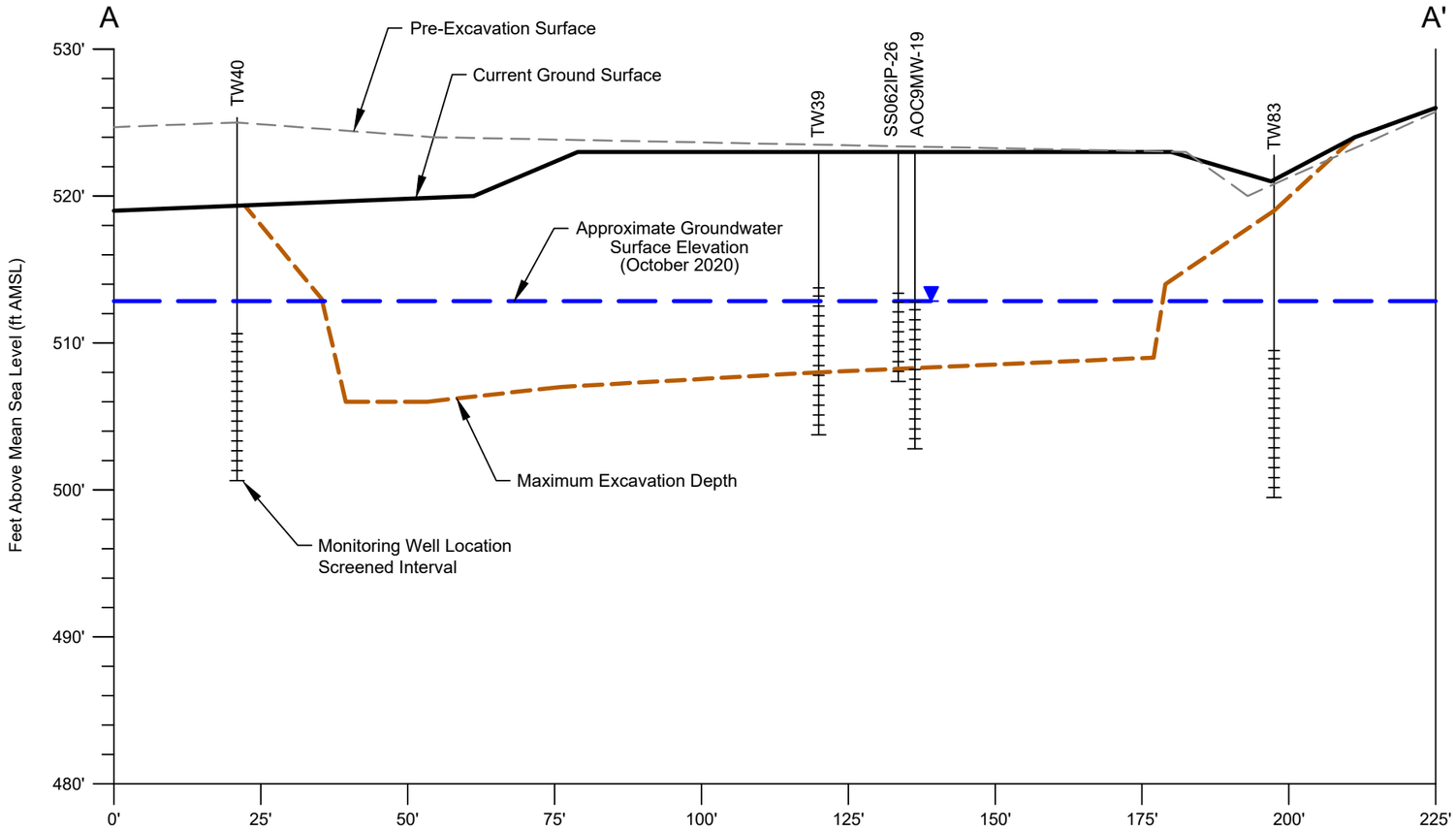
SS062 AOC 9 WSA Landfill
Supplemental Investigation

Attachment A - Figure 3

Letter Work Plan for Site SS062
Supplemental Investigation
Former Griffiss Air Force Base, Rome, New York

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Cross Section A - A'

Notes:
This information is depicted to provide visual aid within the context of this document and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

Legend

▼ Potentiometric Surface Elevation (ft AMSL) (October 2020)

Cross Section A - A'

Attachment A - Figure 4

Letter Work Plan for Site SS062
Supplemental Investigation
Former Griffiss Air Force Base, Rome, New York

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ATTACHMENT B – TABLE

Attachment B - Table 1
Proposed Well Locations
Letter Work Plan for Site SS062
Supplemental Investigation
Former Griffiss Air Force Base, Rome, New York

Well Location	East	North	Excavation Maximum (feet amsl)	As-Built Surface (feet amsl)	Screened Interval (feet bgs)	Analytes	Rationale
AOC9TW-201	1134433.454	1182025.236	507.8	523.8	5.5 - 15.5	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Source zone excavation depth check
AOC9TW-202	1134438.142	1182025.887	507.8	523.8	16.5 - 26.5	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Source zone excavation depth check
AOC9TW-203	1134453.506	1182039.559	518.5	524.0	6.5 - 26.5	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Source zone excavation areal extent check
AOC9TW-204	1134405.503	1182141.816	520.7	519.5	7.5 - 22.5	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Historic groundwater contamination check
AOC9TW-205	1134290.92	1182053.708	518.1	523.4	7.5 - 22.5	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Historic groundwater contamination check
AOC9TW-206	1134379.461	1182047.371	512.0	518.2	7.5 - 22.5	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Historic groundwater contamination check
AOC9TW-207	1134342.569	1182108.395	507.8	522.2	14.9 - 24.9	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Source zone excavation depth check
AOC9TW-208	1134393.35	1181995.982	507.8	523.2	15.9 - 25.9	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Source zone excavation depth check
AOC9TW-209	1134501.423	1182075.409	NA	524.2	6.5 - 26.5	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Upgradient control
AOC9TW-210	1134304.288	1182009.449	505.0	516.9	12.4 - 22.4	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Downgradient source area check
AOC9TW-211	1134174.6	1181968.824	505.1	516.2	11.6 - 21.6	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x2), PFAS (x2)	Downgradient source area check
AOC9MW-20	1134252.725	1181993.824	506.1	516.9	5.8 - 20.8	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x1), PFAS (x1)	Mid-excavation monitoring
AOC9MW-21	1134110.538	1181939.137	NA	520.8	7.8 - 27.8	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x1), PFAS (x1)	Excavation exit monitoring
AOC9MW-22	1134140.225	1181998.512	NA	523.1	8.1 - 28.1	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x1), PFAS (x1)	Historic groundwater contamination check
AOC9MW-23	TBD	TBD	TBD	TBD	TBD - TBD	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x1), PFAS (x1)	TBD
AOC9MW-24	TBD	TBD	TBD	TBD	TBD - TBD	Soil - VOCs (as needed, maximum 1), PFAS (as needed, maximum 1) Water - VOCs (x1), PFAS (x1)	TBD

amsl - above mean sea level
NA - not applicable
PFAS - perfluoroalkyl and polyfluoroalkyl substances
TBD - to be determined
VOCs - volatile organic compounds