# FINAL INTERIM REMEDIAL MEASURE WORK PLAN
# Defense Fuel Support Point Verona

## Verona, New York

**Prepared for:**
**Defense Logistics Agency - Energy**
**8725 John J Kingman Road, Suite 2945**
**Fort Belvoir, VA 22060**

**August 2020**

**Prepared by:**

**719 Hale Street**
**Beverly, MA 01915**

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**FIGURES**

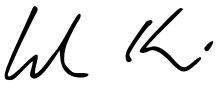
# Abbreviations/Acronyms

| | |
|---|---|
| AST | aboveground storage tank |
| bg | below grade |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| COC | chain of custody |
| COVID-19 | Corona-virus Disease |
| DFSP | Defense Fuel Support Point |
| DLA – Energy | Defense Logistics Agency – Energy |
| DPT | direct push technology |
| EPA | Environmental Protection Agency |
| FID | flame-ionization detector |
| GPS | Global Positioning System |
| HASP | Health and Safety Plan |
| IRM | Interim Remedial Measure |
| LIF | laser induced florescence |
| MCLs | maximum contaminant levels |
| mg/L | milligrams per liter |
| mg/m3 | milligrams per cubic meter |
| NYSDEC | New York State Department of Environmental Conservation |
| PFAS | Per- and Poly-fluoroalkyl substances |
| PPE | personal protection equipment |
| ppm | parts per million |
| QA | Quality Assurance |
| QC | Quality Control |
| RCRA | Resource Conservation and Recovery Act |
| RSL | USEPA Regional Screening Level |
| SOP | standard operating procedure |
| TAL | target analyte list |
| TK&K | TK&K Services |
| ug/kg | micrograms per kilogram |
| UST | underground storage tank |
| VOCs | Volatile Organic Compounds |

**REMEDIAL ACTION WORK PLAN**
**DEFENSE FUEL SUPPORT POINT**
**VERONA, NEW YORK**

## SIGNATURE PAGE

This Interim Remedial Measure (IRM) Work Plan was prepared by TK&K Services (an authorized representative of DLA-Energy) on the behalf of DLA-Energy.



Edward Kurja, PE
Project Manager

8/25/2020
Date

Eric Blomberg
Project Hydrogeologist

**8/25/2020**
Date

# 1.0 INTRODUCTION

This Interim Remedial Measure (IRM) Work Plan has been prepared by TK&K Services (TK&K) on behalf of the Defense Logistics Agency – Energy (DLA-Energy) for the former Defense Fuel Support Point (DFSP) Verona (the Site) Verona, New York (**Figure 1**). This work plan describes a proposed excavation activity for removal of soil containing per- and polyfluoroalkyl substances (PFAS) that may be acting as a source of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) to groundwater at the Site (**Figure 2**).

## 1.1 Project Background

DFSP Verona was constructed in 1959 as a fuel storage and transfer facility on previously undeveloped land. Historically, there have been four field constructed aboveground storage tanks (ASTs) on site that covered a significant portion of the DFSP Verona service facility (Tanks 1, 2, 3, and 4). Each of the four ASTs, the fuel loading rack, and the fuel pump house were connected to an automated firefighting foam system. DLA-E has identified that aqueous film forming foam (AFFF) was stored and used at the DFSP from the mid-1980s through the 2000s. Fueling operations ceased at the facility as of September 2014 and DLA-E permanently closed the DFSP in August 2017.

In November 2016, the Department of Defense initiated an evaluation of the Site's drinking water for PFOA and PFOS due to prior storage and use of AFFF on site. Sampling drinking water at locations with AFFF storage has become common at DoD facilities in recent years to identify exposures to PFAS contamination. DFSP Verona groundwater is not a source of potable water or irrigation at the Site. The source of municipal water is Glenmore Reservoir on Florence Creek, located twenty miles from the facility. A drinking water sample was obtained by TK&K from the first spigot after the municipal supply line enters DFSP Verona's administrative building and analyzed via EPA Method 537 for the determination of 14 PFAS in drinking water. All results were below detectable laboratory limits for PFOA and PFOS at 9 and 15 nanograms per liter (ng/l), respectively. The drinking water results were provided in a report entitled *Analytical Report for Perfluorinated Compounds Sampling in Drinking Water DFSP Verona*, TK&K Services (December 2016).

In June and July 2017, DLA-E collected groundwater samples from several site monitoring wells and one soil sample near the former SPDES discharge point for the oil/water separator for laboratory analysis of PFAS. Laboratory results indicated groundwater from monitoring wells at the facility were impacted by PFAS. The highest concentrations of PFAS in groundwater were detected in monitoring wells MW-10R (1,300 ng/l of PFOS

and 62 ng/l of PFOA) and MW-27 (670 ng/l PFOS and 16 ng/l PFOA). Both wells are located downgradient of the loading rack. PFAS concentrations were detected further downgradient in wells MW-5 (6.2 ng/l of PFOS and 92 ng/l of PFOA) and MW-9 (190 ng/l of PFOS and 18 ng/l of PFOA), located near the western fence line. PFAS concentrations diminished upgradient of the loading rack at well MW-24 (61 ng/l of PFOS and 1.8 ng/l of PFOA), but increased significantly in the furthest upgradient well, MW-13 (1,000 ng/l PFOS and 15 ng/l of PFOA). The soil sample collected to evaluate the potential for the facility's storm water to contact and transport PFAS (VER-SED-01) contained 6.2 micrograms per kilogram (ug/kg) of PFOS indicating that water passing through the storm water system likely contacted PFAS although it does not appear to be a significant ongoing transport mechanism. Sampling locations and laboratory results are depicted on **Figure 3**. The results of groundwater and soil testing were provided in a report entitled DFSP *Verona PFAS Groundwater Sampling Report*, TK&K Services, (September 2017).

The AFFF fire suppression system was decommissioned in August 2017 prior to the NYSDEC's Chemical Bulk Storage (CBS) regulations (6NYCRR Parts 596-599) that went into effect on April 25, 2018. All AFFF foam product on Site was removed and flushed from the system, and properly disposed off-Site. AFFF decommissioning activities were documented in the *DFSP Verona Aqueous Firefighting Foam System Closure Report*, TK&K Services (November 2017).

The NYSDEC was notified by DLA-E of their findings. NYSDEC opened Spill Number 17-08575 in response and conducted State-led private well sampling in the surrounding community for PFAS in groundwater. TK&K obtained laboratory results but no narrative report of the NYSDEC private well sampling results. Using online imaging, TK&K mapped locations of the samples collected using addresses provided on the laboratory chain of custody. Laboratory results indicated there were no impacts of PFOS or PFOA detected above the health advisory level (HAL) of 70 ng/l. Of the eight private wells sampled, only one sample, located approximately 2,400 feet to the northwest of the Site and across Stoney Creek, had a detection of PFOA at 5.8 ng/l. All other private well results were Not Detected (ND) for PFAS.

A *Site Characterization Work Plan*, TK&K Services (November 2018) for the investigation of PFAS was submitted to the NYSDEC and approved via a call with TK&K personnel on December 3, 2018. During that call, the NYSDEC requested that monitoring well (MW-10R) be re-sampled during the site characterization field work to confirm the concentration from the summer 2017 sampling event. Field work for the Site Characterization was performed in December 2018 and January 2019. Supplemental site characterization activities have been recommended for the delineation of the PFAS groundwater plume.

## 1.2 Geology and Hydrogeology

Soil classification performed by TK&K during the Site Characterization confirmed that there are three glacially derived unconsolidated units of variable composition, thickness, and extent at DFSP Verona. The first unit occurs across the majority of the site and consists of silt and clay with a trace of sand and gravel (glacial till). The second unit occurs predominantly in the southern half of the site and consists of silt, clay, sand, and trace amounts of gravel. The third unit is highly variable in extent and consists of sand and gravel (glacial outwash).

Underlying the unconsolidated glacial deposits is gray shale (bedrock) of the Clinton Group. Bedrock is highly weathered for the upper few feet; below the weathered zone is massive shale with minimal fracturing. Bedrock was encountered at 20 feet bgs. in the southern part of the Site and within a few feet of the surface within the wetlands of Stony Creek. In 1995, three bedrock monitoring wells (MW-20D, MW-21D, and MW-22D) were to be installed to determine if facility-related contaminants were infiltrating the shallow bedrock. However, during the installation of MW-21D, no groundwater was encountered in bedrock at 90 feet below grade (70 feet into bedrock). Due to the lack of groundwater, no samples were available for analysis and bedrock monitoring wells MW-20D and MW-21D were abandoned by grouting with a bentonite and cement mixture.

Groundwater contour maps have been prepared from data collected from on-site monitoring wells. The groundwater contour map included in the *DFSP Verona, Groundwater Sampling Report*, TK&K Services (May 2016) indicated that the direction of groundwater flow in the overburden aquifer to be generally northwest, toward Stony Creek. The same groundwater flow direction was determined by Engineering-Science (ES) in 1995. **Figure 4** is a groundwater contour map prepared from the data collected in January 2019, which confirms the regional flow of groundwater toward Stoney Creek. Stoney Creek is classified as Class C by the NYSDEC, with best uses listed as fishing and is considered suitable for propagation and primary and secondary contact recreation.

## 1.3 Remedial Objectives

The objective of this IRM is to satisfy the requirements of Section 1.11 of DER-10, Technical Guidance for Site Investigation and Remediation (May 2010). Per Section 1.11 (c), this IRM has been prepared to contain and stabilize, to the extent possible, a source area of PFAS in soil to reduce PFAS migration in groundwater. The source removal action level for PFOA or PFOS in soil was calculated as 126 ug/kg using the USEPA Regional Screening Level (RSL) calculator and a hazard quotient of 0.1 for a residential exposure.

This IRM is considered a non-emergency IRM that is not time critical and the remedial alternative (soil excavation with off-site disposal) is considered a straightforward and reliable method. Therefore, a remedial design in accordance with Section 5.2 is not required. This IRM has been planned as appropriate for the level of complexity of the work proposed, in accordance with the Section 5.3, guidance for a remedial action work plan.

# 2.0 RESOURCES AND PROJECT ORGANIZATION

This Section details the responsibilities of the TK&K project team to be used during the work at DFSP Verona.

## 2.1 Project Team

TK&K will mobilize operational personnel to perform on-site activities based upon nearest available resources. Field administrative support, project management, scheduling, and technical support for this Task Order will be based from TK&K's office located in Beverly, MA. TK&K subcontractors and vendors will be used to supply the specialty services and materials needed for project completion.

TK&K and subcontractor contact information is provided below in **Table 3-1.**

**Table 3-1**
**TK&K PROJECT MANAGEMENT PERSONNEL**

| *Project Title* | *Name* | *Contact Information* |
|---|---|---|
| Project Manager/Safety Officer | Ed Kurja | Edward.Kurja@tkandk.com<br>978.653.4138 x103 |
| Task Order Manager/Senior Hydrogeologist | Eric Blomberg | Eric.Blomberg@tkandk.com<br>850-294-1233 |
| Senior Hydrogeologist/QA-QC Officer | Brian Emery | Brian.Emery@tkandk.com<br>978.653.4138 x104 |
| Field Scientist/Field Safety Officer | Cameron Po | Cameron.Po@tkandk.com<br>978.653.4138 x114 |

# 3.0 IRM ACTIVITIES

## 3.1 Pre-Construction Activities

Pre-construction activities consist of developing required plans, initiating procurements, and conducting pre-construction meetings.

### 3.1.1 Plans and Procurement

Upon approval of the IRM documents, TK&K will initiate the procurement of equipment, materials, and subcontractors as necessary for the execution of this project. Subcontractors anticipated to be used include excavation and backfilling, truck transportation, a fence subcontractor, soil disposal, and analytical testing.

### 3.1.2 Pre-Construction Meeting

Prior to mobilization, TK&K will coordinate a pre-construction meeting with DLA-Energy and subcontractors. TK&K will use the meeting to discuss the following topics:

- Access/security requirements.
- Schedule and specific tasks included.
- Review of IRM and associated documents.
- Utility checks prior to intrusive activities.
- Site layout and logistics.
- Overall approach to remediation activities.

## 3.2 Mobilization and Site Preparation

Upon receiving an approved IRM, TK&K will schedule a start date to implement the IRM activities. TK&K and its subcontractors will mobilize equipment and personnel. The primary purpose of the site prep work will be to remove the perimeter fence and the subsurface structures within the proposed excavation area, such as the former AFFF piping and sump. Site setup will include utility mark-out, installation of erosion and sediment controls, layout of excavation area, removal of the perimeter fence, and preparation of stockpile areas for management of excavated material and backfill material. Temporary sanitary facilities will be located so that they are in close proximity to the work area.

### 3.2.1 Utility Mark Out

Underground utilities at the site include inactive electric, water, stormwater, AFFF and fuel lines. TK&K will contact Dig Safely of New York at (800) 962-7962 at least 72 hours, but no more than 14 working days (excluding weekends and holidays), prior to any intrusive

activities and will update the locate tickets as required. Additionally, TK&K will subcontract a utility locating service to locate utilities and underground features within the proposed excavation area.

### 3.2.2 Site Security

The front gate of the DFSP and the perimeter fence will control access to the site. A portion of the perimeter fence will be removed during the excavation and a temporary fence will be put up nightly to secure the facility. The gate will have the appropriate construction site signage including warning signs describing the hazards of the site. No personnel will be allowed to enter the site without wearing the proper personal protective equipment (PPE) as documented in the Health and Safety Plan. Visitors, guests, and workers will be required to sign in and be escorted during site entry.

## 3.3 Excavation Plan

### 3.3.1 Structure Removal

TK&K will remove the former AFFF piping and associated sump from the excavation area prior to and during soil excavation. These structures will be stockpiled separately for recycling or disposal. Underground utilities, which are deemed abandoned, will be removed from inside the excavation footprint, and the ends will be cut and capped and/or grouted at the terminus.

Before removing a structure, it will be photographed, and GPS positioning will be obtained at all four corners. During removal, all four sidewalls and the base will be inspected and photographed for any indication of potential releases. Any underground utilities which are terminated at the edge of the excavation footprint will be photographed and GPS positioning will be obtained prior to backfilling.

### 3.3.2 Soil Excavation

Approximately 2,000 tons of soil, was determined to be potentially impacted with PFAS above the calculated USEPA RSL of 126 micrograms per kilogram (ug/kg) for residential exposure (**Figure 5**). The footprint of the proposed soil excavation was based on the outcome of soil sampling reported in a report entitled *DFSP Verona PFAS Groundwater Sampling Report*, TK&K Services, (September 2017) and the Supplemental Site Characterization performed in December 2018 and January 2019.

The proposed IRM is excavation and offsite disposal (at the US Ecology landfill in Belleville, Michigan) of approximately 2,000 tons of soil impacted with PFAS above the

RSL of 126 micrograms per kilogram (ug/kg) for residential exposure. The excavation of overburden soil will be conducted using one or more track excavators that are appropriately sized to safely facilitate removal from the ground surface. Depending on the logistics of the operation, a combination of support equipment (i.e., multiple articulated end dumps and front-end loaders) will be considered to facilitate soil handling and transport.

Soil removal will be conducted in Level D PPE unless conditions warrant an upgrade. Soil removal will proceed at the direction of a spotter who will be in communication with the equipment operator and field engineer. The spotter will direct the operator and inform the task supervisor regarding the lift depth and soil appearance. The spotter will also visually inspect the active excavation area for any debris. The operator will stage the material in a temporary stockpile adjacent to the excavation to allow any excess groundwater to drain back into the excavation. The stockpile will be placed and contained within polyvinyl sheeting and a wattle will be placed around the circumference.

The depth of the excavation will be 5 feet below ground surface. The excavation will require a 1:1 slope adjacent to the existing Foam House. It is assumed the site contains Type B, cohesive soil, so TK&K assumes 1:1 sloping will be adequate.

Since the size of the excavation will be based on pre-specified excavation limits based on existing soil analytical results, confirmatory sidewall samples will not be collected. Soil samples will not be collected from the bottom of the excavation as it will be below the water table and any detection of PFAS below the water table will be addressed in future groundwater remediation activities, if warranted.

The stockpile will be located on asphalt pavement to the east of the loading rack. The stockpile will be set on and covered with polyethylene sheeting that is weighted down to keep it on the pile. A wattle will be placed around the western side of the stockpile to prevent stormwater from transporting soil downslope.

Prior to hauling soil offsite, the PFAS contaminated soil will be profiled per the requirements of the US Ecology Landfill in Belleville, Michigan. TK&K will prepare the manifest and other paperwork associated with gaining approval for acceptance of the soil at the facility. Once approval is obtained, TK&K will supervise the loading of the stockpiled soil into dump trucks for transport to the facility. Copies of all manifests generated during the IRM will be provided in the IRM Completion Report.

## 3.4 Temporary Construction Facilities or Treatment Units

No temporary construction facilities or treatment units are required to perform the proposed IRM activities.

## 3.5 Storm Water, Soil and Sediment Erosion Control

The area of the proposed IRM is an open area of the Site, located along the northern perimeter fence. Storm water drainage from this area is directed by ditches or drains and culverts to vegetated areas located to the northwest. Approximately 600 feet northwest of the IRM area, stormwater reaches a ditch that runs parallel to the railroad tracks and passes under the tracks via culverts that discharge to Stony Creek and/or associated wetlands.

The existing storm water controls described above are adequate to properly control the storm water runoff and prevent erosion of soil and sediment during IRM activities. No endangered species or their habitat or rare ecological communities are known to exist in the area of the IRM. The wetlands are not anticipated to be impacted by the IRM.

As a conservative erosion control measure, straw wattle will be located downslope of the excavation and soil management areas. Inlet protection will be provided for storm drains in the area of the IRM. At the end of each day, and immediately following any significant rain event, the straw wattle and inlet protection will be inspected by the Site QC Manager or designated representative, to ensure it is still performing in accordance with its intent. Any deficiencies will be noted within the inspection log, and the area will be repaired immediately. Sediment will be removed from behind the silt fence when it reaches a depth of 0.5 feet. Prior to the completion of the excavation, accumulated sediment will be disposed offsite.

After the IRM is completed, the straw wattle and inlet protection will be removed and properly disposed. There will be no need for control of storm water after the IRM, as the excavation will be backfilled with 5 feet of imported clean soil.

## 3.6 Health and Safety Plan

A site-specific Health and Safety Plan (HASP) per the requirements of the federal Occupational Safety and Health Administration (OSHA) will be prepared for this activity and will be adhered to be all personnel involved in the IRM activity at DFSP Verona. The HASP documents the policies and procedures that protect workers and the public from potential hazards posed by work at the Site. Topics of the APP will include:

- Key Personnel and Management;
- Job Safety Analyses;
- Work and Support Areas;

- PPE;
- Air Monitoring;
- Emergency Response;
- Training Requirements; and
- Medical Surveillance Program.
- COVID-19 specific site work protocols in accordance with CDC guidance

All of the policies and procedures included in the HASP will be followed for the IRM for DFPS Verona. Daily tailgate meetings will be performed to discuss the potential safety hazardous for the day. The HASP will be prepared by a qualified person and will be available at the Site during IRM activities.

## 3.7 Dust, Odor, and Organic Vapor Control

The community in the vicinity of the Site consists of several residences and small businesses across West Main Street to the southeast. The proposed IRM activities will be located approximately 100 feet from West Main Street, and 180 feet from these residences. Since PFAS is not volatile, and a review of groundwater sampling data indicate that laboratory results for the period of 2000 through 2016 contain no detections of petroleum compounds above NYSDEC groundwater standards, no odor or organic vapor from petroleum is anticipated during IRM activities. However, due to the history of fuel storage at the site volatile organic compounds will be monitored in the breathing zone at in the work area by a photoionization detector during the excavation activities. If elevated levels (greater than 10 parts per million [ppm]) of organic vapors are encountered, work activities will cease until the organic vapor levels drop below 10 ppm.

To address the potential issue of dust to nearby residents, TK&K will prepare a Community Health and Safety Plan (CAMP) to address community health and safety which identifies measures and/or action to ensure that the public living and working near the Site as well as employees or visitors to any facility located on the Site are protected from exposure to Site contaminants during intrusive activities.

The CAMP will include measures to implement the Particulate Monitoring as described in the Community Air Monitoring Plan (CAMP) that is found in Appendix 1A of DER-10. Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance

of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques as long as downwind PM-10 particulate levels do not exceed 150 mcg/$m^3$ above the upwind level and no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/$m^3$ above the upwind level, work will stop and a re-evaluation of activities initiated. Work will resume after dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/$m^3$ of the upwind level and is preventing visible dust migration. All readings will be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

The HASP/CAMP and the requirements imposed on contractors will be updated as needed prior to any activities identified by DER 10 Section 1.9 to reflect any changes to the OSHA requirements or NYSDOH CAMP guidance. These changes will be identified in any notification provided to DER.

## 3.8 Documentation Sampling

Since the size of the excavation will be based on pre-specified excavation limits, documentation samples will not be collected. Existing soil data exhibiting results below the source removal goal of 126 ug/kg will be used as documentation sampling.

Soil samples will not be collected from the bottom of the excavation (with the exception of boring SSPFAS-18 at 5 feet bgs as requested by NYDEC) as it will be below the water table and any detection of PFAS below the water table will be addressed in future groundwater remediation activities if warranted.

## 3.9 Compliance Sampling for Imported Fill

The fill material being imported to the Site will be sampled and analyzed according to Section/Table 5.4(e)10 of DER 10. Approximately 2,000 tons of soil will be imported to backfill the excavation. Based on that amount, Table 5.4(e)10 requires 9 discrete samples

for VOCs and 3 composite samples. Three to five discrete samples from different locations in the fill will comprise a composite sample for analysis. The discrete samples will be analyzed for VOCs (by USEPA Method 8260) and the composite samples will be analyzed for SVOCs (by USEPA Method 8270), Inorganics (USEPA Method 6010), PCBs (USEPA Method 8082), Pesticides (USEPA Method 8081) and PFAS (USEPA Method 537.1) for the constituents identified in Appendix 5 of DER 10. The analysis will be conducted by a laboratory that is accredited pursuant to the NYSDOH Environmental Laboratory Accreditation Program (ELAP) for the category of parameters analyzed. Samples will be analyzed by an analytical method included in the most current DEC Analytical Services Protocol (ASP). Analytical results for the backfill samples will need to be below NYDEC unrestricted use soil cleanup objectives before the backfill can be used at DFSP Verona.

## 3.10 Site Restoration

Following successful completion of the excavation and validation sampling, a physical demarcation layer such as snow fencing, etc. will be placed in the bottom of the excavation prior to backfilling. The excavation will be backfilled with imported soil that has passed the analytical sampling described in Section 3.9 of this IRM. Soil for backfilling will be placed in lifts and machine compacted to a firm and unyielding condition. The portion of the fence removed will be repaired to its original condition and the excavation area will be seeded via seeding and hay, hydroseeding or sod.

## 3.11 Project Schedule

The project is scheduled to begin in mid-October 2020. The excavation is anticipated to take approximately two weeks. TK&K will notify DER at least 30 days prior to the initiation of this IRM.

## 3.12 Institutional Controls

The IRM is intended to be a source reduction in soil to reduce the potential for migration of PFAS in groundwater. Institutional controls will not be implemented as a part of the IRM activities.

## 3.13 Site Management Plan

Per Section 6.2(a)3iii, a Site Management Plan (SMP) is not required where any elements of site management will be satisfied within 18 months of the start of site management and

institutional controls are not needed. The IRM is anticipated to be complete within one month.

### 3.14 IRM Completion Report

Upon completion of all field activities, TK&K will prepare an IRM Completion Report documenting all Site activities. The report will be prepared summarizing the procedures used to carry out the scope of work and will include text, tables, and figures to present the results of the project. This report will also include the volumes of soil removed, imported soil, as well as the analytical reports for all sampling and analyses, disposal documentation and manifests. All daily reports from field activities, a description of each project task, any problems encountered along with corrective measures, and an as-built drawing with coordinate files will be submitted with the completion report.

TK&K will submit an internal draft completion report to DLA-Energy for review and comment. Upon receiving DLA-Energy comments, TK&K will address all comments and submit a final report for NYDEC review. All required reports and documentation identified by Section 5.3 of DER 10 will be provided in electronic format in accordance with Section 1.1 of DER 10.

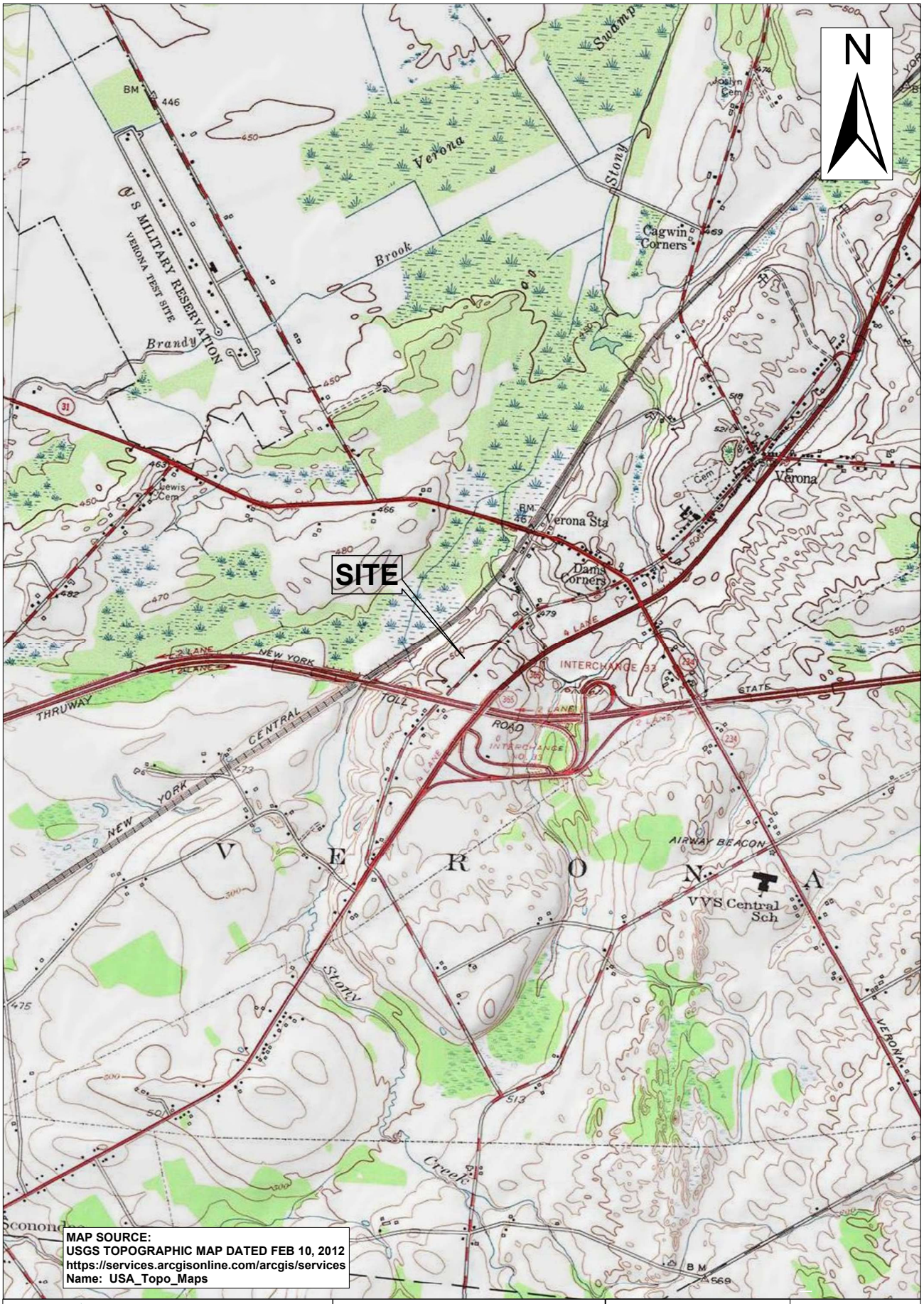
## 4.0 REFERENCES

The following reference documentation was utilized in the preparation of this IRM:

*DFSP Verona PFAS Groundwater Sampling Report*, TK&K Services, (September 2017)

*Site Characterization Work Plan*, TK&K Services (November 2018)

# Figures




MAP SOURCE:
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https://services.arcgisonline.com/arcgis/services
Name: USA_Topo_Maps

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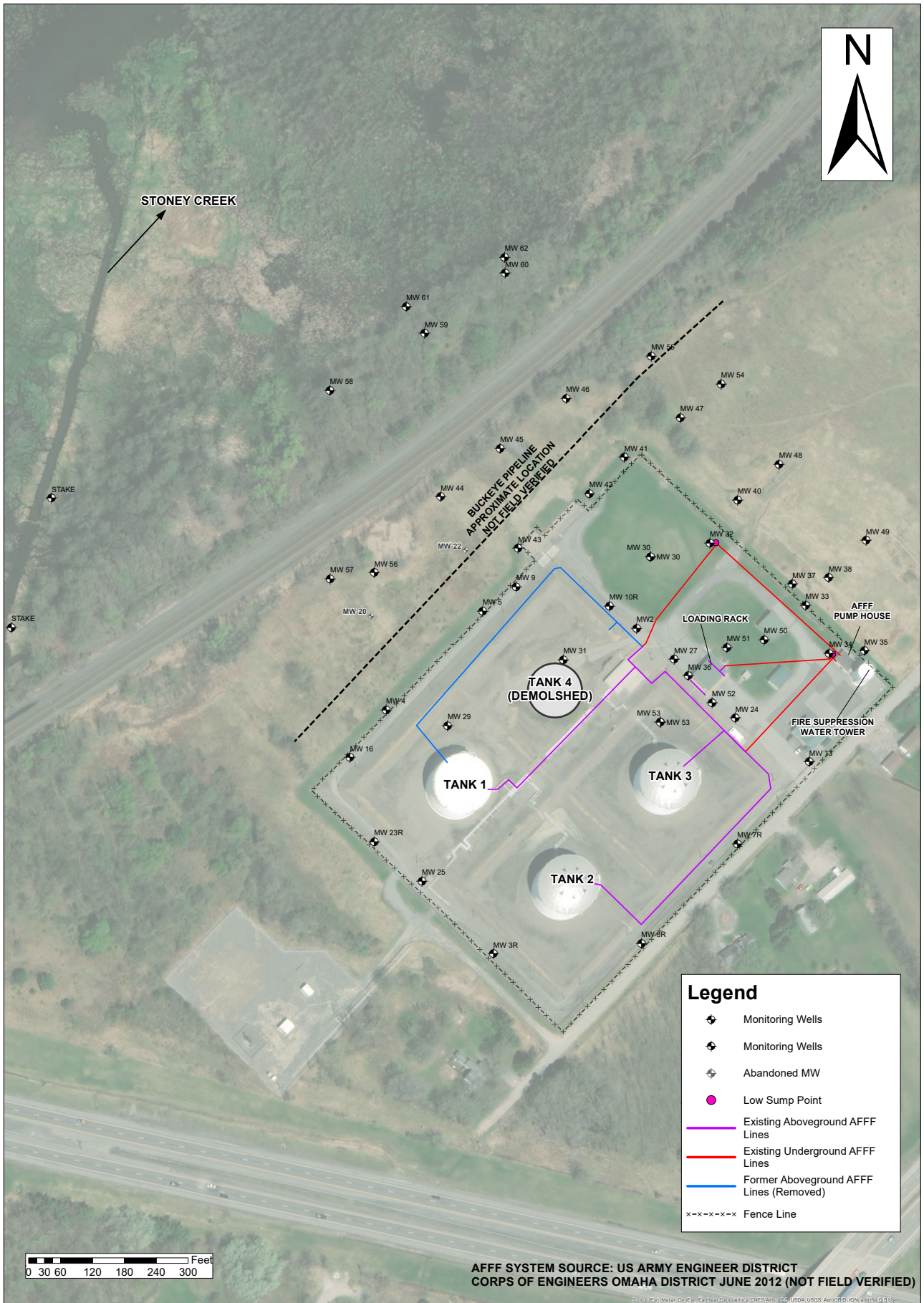
DEFENSE LOGISTICS AGENCY
SUPPORT FOR ENERGY
VERONA, NY

FIGURE 1
LOCUS MAP

Interim Remedial Measure
Work Plan

DESIGNED BY: SC
CHECKED BY: EK
APPROVED BY: EK
DRAWN BY: SC
SCALE: AS SHOWN
DATE: 01/13/2020

PROJECT No.:
8006-0012

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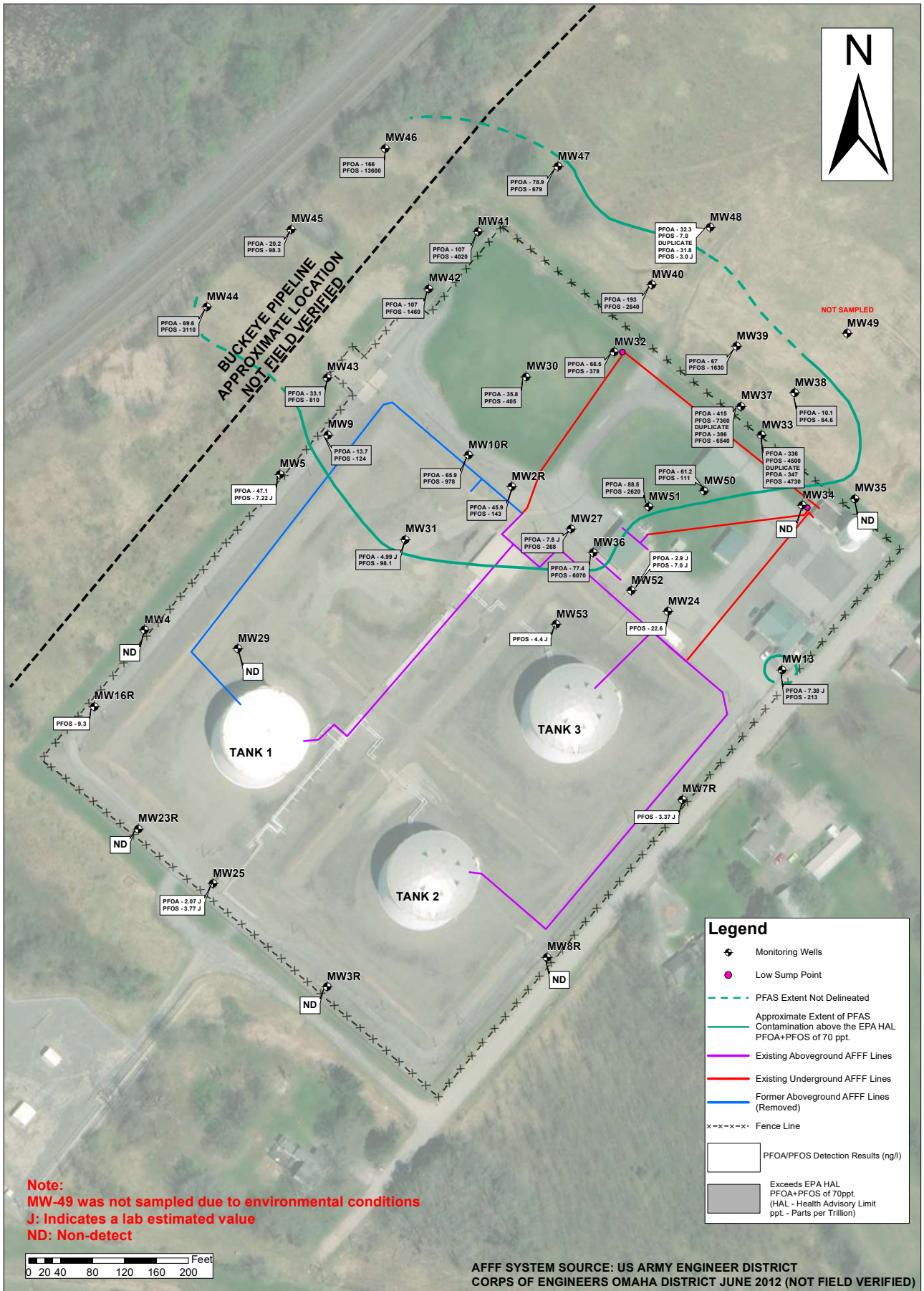
# FIGURE 2
# SITE PLAN

Interim Remedial Measure
Work Plan

DESIGNED BY: SC
CHECKED BY: EB
APPROVED BY: EB
DRAWN BY: SC
SCALE: AS SHOWN
DATE: 9/17/2019

PROJECT No.:
8006-0012

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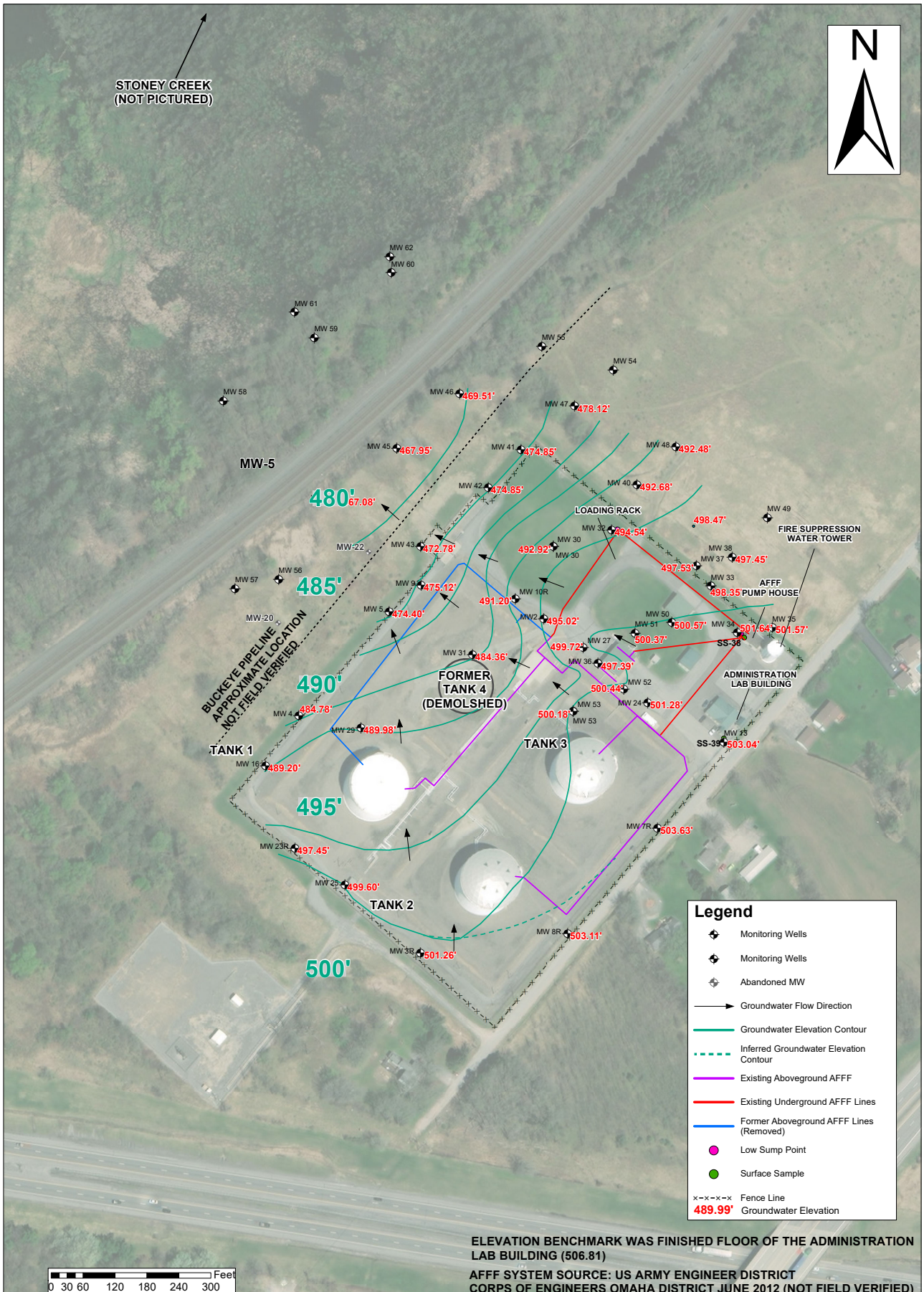
# FIGURE 3

GROUNDWATER DETECTIONS

Interim Remedial Measure Work Plan

DESIGNED BY: SC
CHECKED BY: EB
APPROVED BY: EB
DRAWN BY: SC
SCALE: AS SHOWN
DATE: 02/03/2020

PROJECT No.: 8006-0012




ELEVATION BENCHMARK WAS FINISHED FLOOR OF THE ADMINISTRATION LAB BUILDING (506.81)

AFFF SYSTEM SOURCE: US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS OMAHA DISTRICT JUNE 2012 (NOT FIELD VERIFIED)



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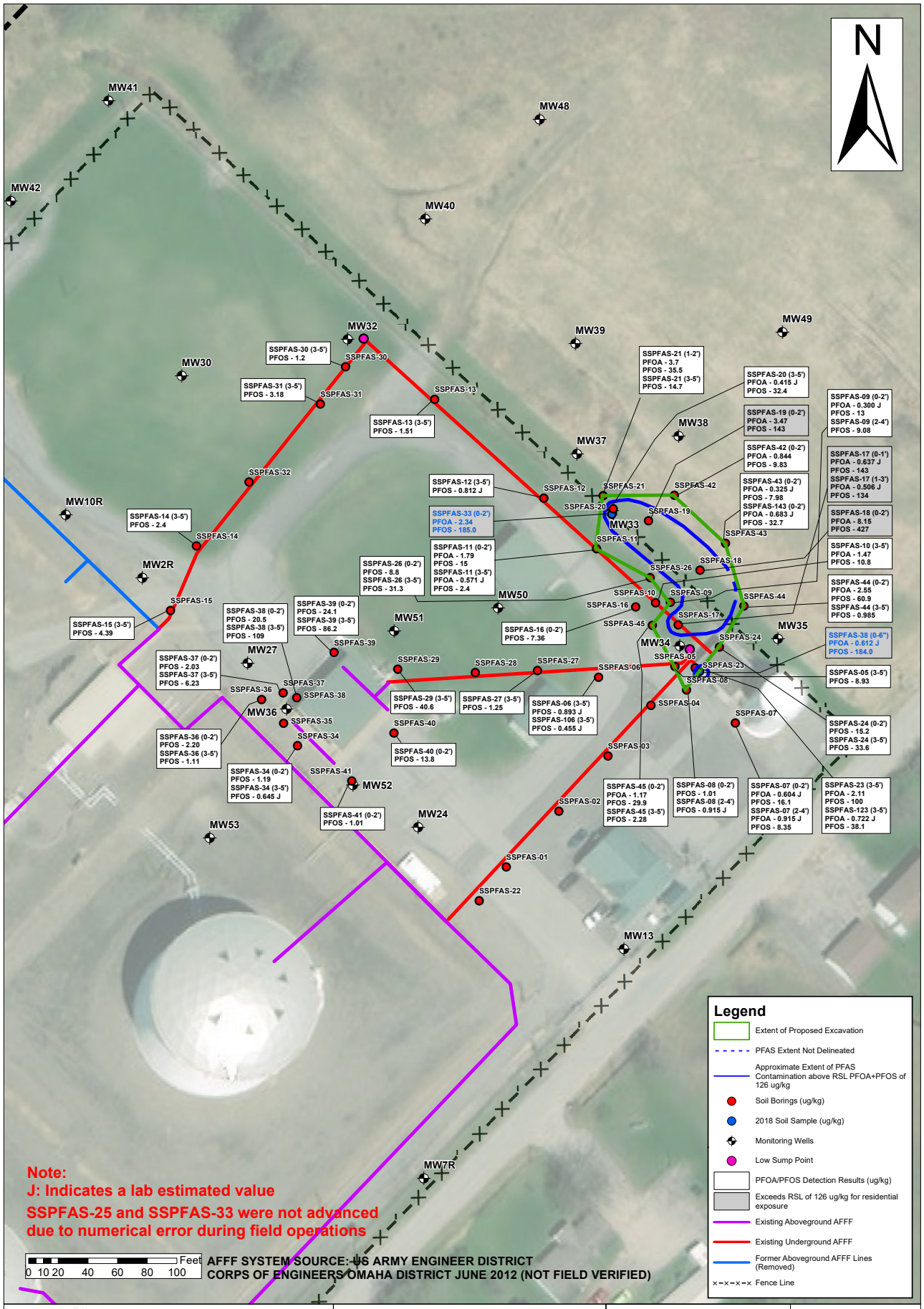
**FIGURE 4**
GROUNDWATER CONTOUR MAP

Interim Remedial Measure
Work Plan

DESIGNED BY: SC
CHECKED BY: EK
APPROVED BY: EK
DRAWN BY: SC
SCALE: AS SHOWN
DATE: 9/16/2019

PROJECT No.: 8006-0012

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DEFENSE LOGISTICS AGENCY
SUPPORT FOR ENERGY
VERONA, NY

# FIGURE 5

SOIL DETECTIONS and EXTENT of EXCAVATION

Interim Remedial Measure Work Plan

DESIGNED BY: SC
CHECKED BY: EB
APPROVED BY: EB
DRAWN BY: SC
SCALE: AS SHOWN
DATE: 02/04/2020

PROJECT No.: 8006-0012