

Replace USTs and Leak Detection System Phase 2

Fargo VA Health Care System

100% BD Design Analysis

PROJECT NO.: 437-24-101





U.S. DEPARTMENT OF VETERANS AFFAIRS PROJECT TEAM

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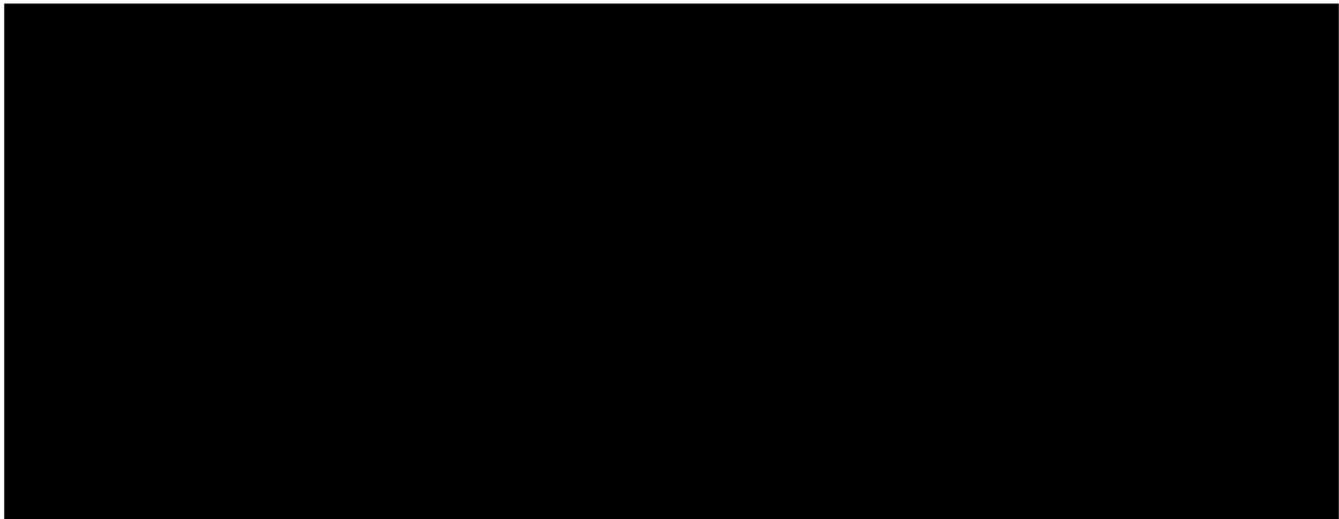
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INTRODUCTION/OVERVIEW

The project involves replacing USTs #1, #2, #3, #4, and #8, along with all leak detection systems for USTs #1, #2, #3, #4, #8, #9 and #10, and interconnected below-grade piping systems. It includes designing flexible spill containment liners, tertiary containment barriers, encasement barriers, waterproof manway covers, and Auto Tank Gauges (ATG) with integrated monitoring and reporting. Environmental assessments, soil boring tests, and geotechnical drilling at four VA site locations are required, along with compliance with physical security and resiliency standards for intrusion and blast protection. A phasing plan ensures zero downtime for existing backup generators with temporary power solutions. Additional work includes cathodic protection system design, semi-automatic pump clarification systems, and a topographic survey to identify existing features, locate below-grade improvements, and establish control points for future construction.

UPDATES SINCE 65% SUBMITTAL

Since the 65% submittal, FourFront has identified the need for additional specifications and a new drawing sheet. Specifications 07 84 00 – Firestopping and 07 92 00 – Joint Sealants were missing and should have been included. During the VA’s 65% review meeting on June 2, 2025, the VA informed us that repairs to the existing retaining wall near UST 8 would be addressed under a separate project. However, we have added a new sheet to the drawings showing a small concrete pour to bulk off and stabilize the wall near UST 8, including a steel tie-in. This addition required the inclusion of 03 30 00 – Cast-In-Place Concrete, which also references 01 81 13 – Sustainable Construction Requirements. These four specifications, along with the new drawing sheet, have been included for the VA’s review.



1. Civil

1.1. Existing Conditions

The project site is in three separate areas across the Fargo VA campus, northeast of the existing main building. Three 20,000-gallon tanks are between building 10 & 50. One tank is south of building 10. One tank is northeast of the main building north of the loading dock.

At the time of this writing, a topographic survey of the site has been completed and shows there are currently existing utilities across the northeast portion of the campus including sanitary sewer, water and storm sewer, electrical, and gas.

1.2. Proposed Utilities

The new fuel tanks will be replaced with the same connections.

1.3. Proposed Earthwork

The tanks once removed should have soil tested for contaminants and recompacted with fill and lined with geotextile fabric. The replaced block retaining wall will include a raising of grade on the top side of the wall.

1.4. Exterior Improvements

The proposed pavement sections for the hard surface areas will be as follows:

- Concrete Pavement – Matching the existing pavement sections located at UST #8
- Concrete Curb and Gutter – Matching the existing pavement sections located at UST #8
- Asphalt Pavement – Matching the existing pavement sections located at UST #1, #2, #3, #4, and #8

Additionally, graded ramped sidewalk at entrance to UST #8 is being replaced to provide new buried piping access from replacement tank to interior day tank serving the associated generator set. Along with this sidewalk we have designed for a mandatory retaining wall replacement and reinstallation of existing handrailing.

1.5. Retaining Wall Temporary Stabilization

The existing retaining block wall that holds earth back for a grade change between the loading dock driveway and the UST #8 location is also designed to be retrofit with a new anchoring piece of concrete that is pinned to the UST #8 building foundation, which will allow entire block wall to be removed during construction replacement of UST #8, acting

as support and junction for reuse of existing retaining wall block to rebuild the retaining wall after UST #8 replacement is completed. This has been added to the contract documents, despite conversations with the VA COR that this wall should be replaced prior to the UST replacement project starting and is regarded as a minimum effort for the contractor to provide services for during the bidding and negotiation process. If the retaining wall gets replaced under another contract or project prior to UST replacement commences, this scoping can be negotiated to be removed from the project. If the retaining wall is not replaced prior to the UST replacement project commences, AND the contractor appeals to the VA to be able to provide services for the UST #8 replacement without disrupting the existing retaining wall AND the VA agrees with the proposed contractor method, the scope of work shown on these plans can be removed from the project.

2. PHYSICAL SECURITY AND RESILIENCY

2.1. General Requirements

The project consists of complete removal and replacement of all components for various Underground Storage Tanks (UST's) and their leak detection systems. Per table 2-1 in section 2.4 of the PSRDM, this effort aligns with Item 21, titled "Replacement and alteration of buried utilities and buried equipment". Since the scope of the project includes complete replacement of the underground equipment, the project must comply with Section 7.2.5 of the PSRDM only for the portion of the utility being modified including the portion below or adjacent to the work area.

Per Section 7.2.5 of the PSRDM, if certain conditions for the buried utilities are met, the underground utilities do not require explicit blast mitigation design. The conditions are summarized below:

The buried utility/equipment is located in an area accessible only to screened vehicles and is situated at or adjacent to a normal path of travel where parking is prohibited. The utility includes redundancy in accordance with Section 8.3 of the PSRDM, allowing it to be rerouted in the event of a break. The area containing the buried utility/equipment and areas where unscreened vehicles may park are continuously paved with asphalt or concrete, with a minimum thickness of 3 inches. The buried utility/equipment is encased in concrete and maintains a horizontal distance of at least 8.5 feet from locations where unscreened vehicles may park. Additionally, the utility/equipment is buried deeper than 5 feet.

Only one of the site conditions listed above needs to be met for the UST to be considered compliant with the PSRDM. If none of the site conditions listed above are provided, blast analysis and/or hardening must be provided that demonstrates that the buried utilities/equipment are at least 12-in from the edge of the calculated true crater caused by the W2 design level threat. If the 12-in requirement is not met, additional mitigation

measures must be implemented to protect the buried UST's and their leakage detection systems.

2.2. PSRDM Building Classification and Design Reference

The USTs support Critical facilities and will follow requirements for Critical facilities in accordance with the Physical Security and Resiliency Design Manual (PSRDM), October 1, 2020, Revised 05-01-2024.

2.3. Blast Protection of Buried Utilities

On October 15, 2024, PEC personnel performed a site visit along with FourFront Design and other design team members to assess the current conditions of UST's 1, 2, 3, 4, and 8 which are being replaced at the Fargo VAHCS. The goal of the site investigation was to survey the existing condition of each UST to determine if the conditions meet the prescriptive requirements of Section 7.2.5 in the PSRDM or if additional blast analysis or hardening would be required. The findings from the site visits are discussed in Section 2.4.

2.4. USTs 1, 2, and 3

UST's 1, 2, and 3 are located east of building 10 and west of building 50 at the Fargo VAHCS. The exact location of the UST's can be seen in Figure 1. While there is parking of unscreened vehicles allowed within 8.5-ft of the UST's, continuous 6-in asphalt is surrounding and above the storage tanks in all directions. Due to the presence of 6-in of asphalt in all directions, UST's 1, 2, and 3 meet Requirement No. 4 from Section 7.2.5 of the PSRDM. Therefore, no additional mitigation measures are required unless the asphalt is removed and replaced with asphalt less than 3-in thick.



Figure 1. Location of UST's 1, 2, and 3

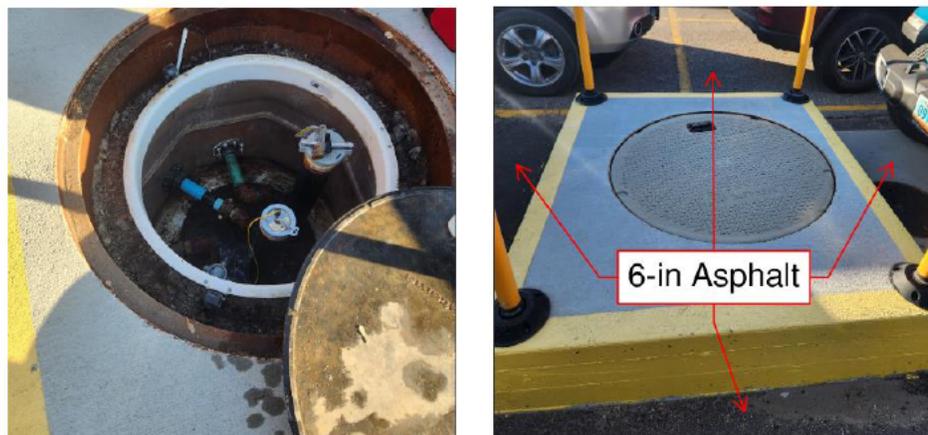


Figure 2. UST's 1, 2, and 3 Site Visit Images

2.5. UST 4

UST 4 is located on the southeast corner of building 10 at the Fargo VAHCS. The exact location of the UST is shown in Figure 3. UST 4 is surrounded on all four sides by 6-in asphalt and does not allow for unscreened vehicles within 8.5-ft. Due to the 6-in asphalt in all directions and unallowable parking for unscreened vehicles within 8.5-ft of the UST, UST 4 meets Requirements no. 4 and no. 6 from section 7.2.5 of the PSRDM. Therefore, no additional mitigation measures are required unless the asphalt is removed and replaced with asphalt less than 3-in thick and new parking for unscreened vehicles is allowed within 8.5-ft of the UST.



Figure 3. UST 4 Location



Figure 4. UST 4 Site Visit Images

2.6. UST 8

UST 8 is located just outside of the building 1 generator room BE-98, on the sloped hill just above the Canteen Patio. The parking area shown on the right side in Figure 5 allows unscreened vehicles to get in proximity (within 5-ft) to the location of UST 8. Therefore, the vehicle threat (W2) has direct access to the side of the storage tank (only separated by a knee wall). This current condition does not meet the requirements for an underground storage tank and could be treated as an Aboveground Storage Tank (AST) for blast effects. Based on available information, the current knee wall (See Figure 6) between the location

of UST 8 and a potential unscreened vehicle consists of a CMU block retaining wall with an unknown reinforcement ratio. The retaining wall may not meet the prescriptive requirements of the PSRDM and is not likely to provide adequate protection in the event of a W2 explosion.

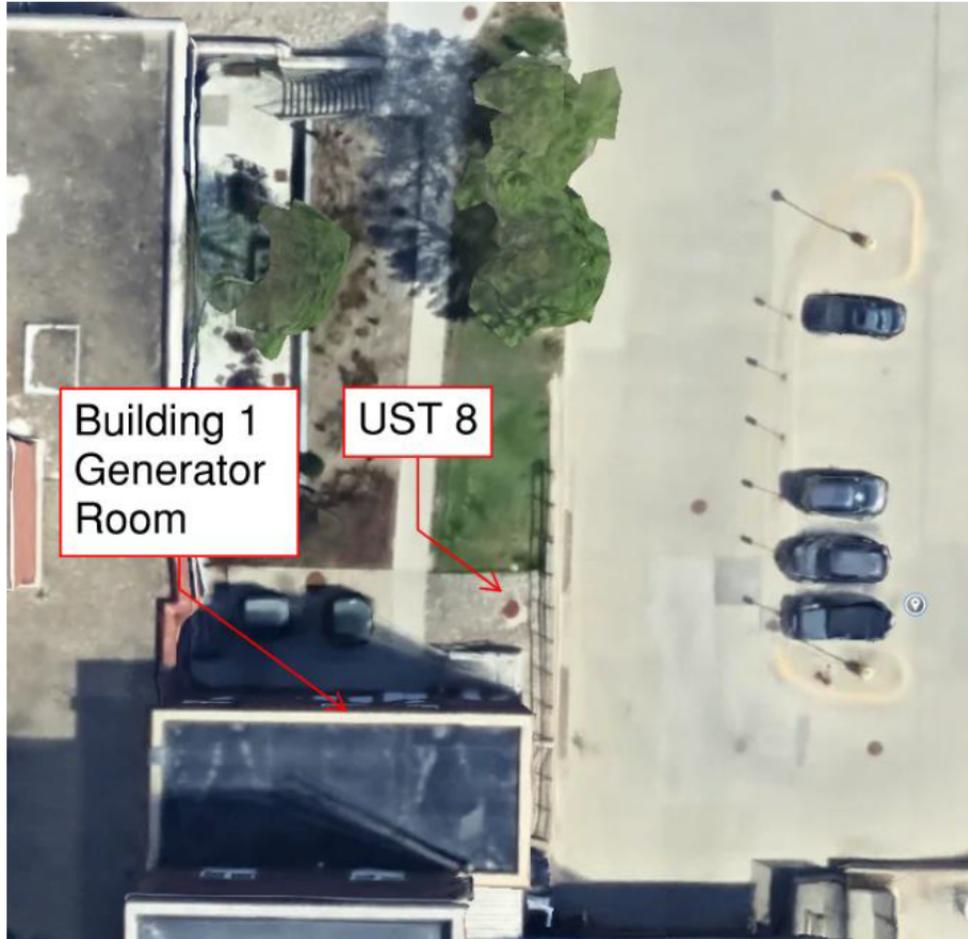


Figure 5. UST 8 Location

However, it was noted during the site visit that the current structure located between the UST and a potential unscreened vehicle threat will be replaced with a vertical concrete wall. If the vertical concrete wall is at least 3-in and the structure on top of the UST is replaced with 3-in or more of asphalt/concrete, then Requirement no. 4 of Section 7.2.5 of the PSRDM would be satisfied.



Figure 6. UST 8 Site Visit Images

If the above recommendations cannot be satisfied, then additional blast calculations and mitigation measures will be required during the replacement of UST 8.

3. MECHANICAL

3.0. UST Material Selection and PRSDM Compliance

As of the writing of the 95% CD design narrative, the USTs have been specified and designed to be steel construction rather than FRP. The Fargo VA expressed concerns about the PRSDM requirements related to FRP constructed USTs. FourFront Design consulted with our Physical Security specialist, who confirmed that FRP tanks would meet PRSDM requirements if the VA preferred FRP constructed tank option, over steel constructed tank option. The Fargo VA was informed of this on June 14, 2025. FourFront Design is asking that the VA provide preference to steel tank (as currently designed), change to FRP tank (alternative but acceptable product), make allowance for the Contactor to offer pricing on both, or discretionarily at their preference, as a response to this narrative request.

3.1. USTs 1, 2, & 3

Underground storage tanks (UST's) 1, 2, and 3 (20k gal each) and associated components such as double-wall piping, gauges, tanks, ballast, etc. are to be removed and replaced. USTs 1, 2, and 3 are to be replaced one tank at a time. The two tanks not under construction will continue to serve the boiler plant while tank replacements take place.

Per discussions with the COR and head boiler plant operator during the site investigation, the buried fuel oil supply and return (FOS/FOR) piping for tank 1, 2, and 3 was recently replaced by a previous project and is intended to remain and reconnect to the new tanks.

3.2. UST's 4 & 8

Underground storage tanks (UST's) 4 and 8 (4k gal each) and associated components such as double wall piping, gauges, tanks, ballast, etc. are to be removed and replaced. A temporary aboveground fuel tank is to be installed prior to demolition of UST 4. Once UST 4 removal and replacement has been completed, the temporary above ground storage tank can then be installed prior to demolition of UST 8. Once UST 8 removal and replacement is complete, the temporary storage tank can be removed. Above ground storage tank 3 (day tank) served by UST 8 is to be removed, replaced, and reconnected to existing fuel and vent piping.

3.3. ASTs 4 & 5

Above ground storage tanks 4 and 5 (day tanks) served by USTs 9 and 10 are to be removed, replaced, and connected to existing fuel and vent piping.

3.4. USTs 1, 2, 3, & 4 Tank Monitoring & Leak Detection Sensors

All tank monitoring and leak detection sensors for USTs 1, 2, 3, and 4 and for above ground storage tank 1 (UST 4 day tank) are to be removed back to the existing tank monitoring and leak detection panel located in Building 10. New tank monitoring and leak detection sensors are to be installed for USTs 1, 2, 3, 4 and above ground tank 1 and connected to the existing tank monitoring and leak detection panel in Building 10.

3.5. UST 8 Tank Monitoring & Leak Detection Sensors & Panel

Existing tank monitoring and leak detection panel located in BE-98 as well as all tank monitoring and leak detection sensors for UST 8 and above ground storage tank 3 (UST 8 day tank) are to be removed for replacement. New tank monitoring and leak detection sensors for UST 8 and above ground tank 3 are to be installed and connected to a new tank monitoring and leak detection panel installed in BE-98. The new tank monitoring and leak detection panel is to be connected to the existing Fargo BAS and Building 10 boiler plant control room.

3.6. UST 9 & 10 Tank Monitoring & Leak Detection Sensors & Panel

Existing tank monitoring and leak detection panel located in BA-01B as well as all tank monitoring and leak detection sensors for USTs 9, 10 and above ground storage tanks 4, and (UST 9, 10 day tanks) are to be removed for replacement. New tank monitoring and

leak detection sensors for USTs 9, 10 and above ground tanks 4, 5 are to be installed and connected to a new tank monitoring and leak detection panel installed in BA-01B. The new tank monitoring and leak detection panel is to be connected to the existing Fargo BAS and Building 10 boiler plant control room.

3.7. Fuel Clarification

Semi-Automatic pump clarification systems are to be installed new. A wall-mounted, enclosed pump clarification system to be installed in the building 10 lower level where the existing USTs 1, 2, 3 piping enters the building to provide clarification to the fuel in USTs 1, 2, and 3. A wall-mounted, enclosed pump clarification system to be installed in the building 10 generator room to provide clarification to the fuel in UST 4. A wall-mounted, enclosed pump clarification system to be installed in BE-98 to provide clarification to the fuel in UST 8. A wall-mounted, enclosed pump clarification system to be installed in BA-01B where the existing USTs 9, 10 piping enters the building to provide clarification to the fuel in USTs 9 and 10. The pump clarification systems are to filter the stored fuel to remove water, sludge and other contaminants from the fuel storage tanks. The clarification system's fuel polishing process is to stabilize the fuel and eliminate microbial contamination.

4. ELECTRICAL

4.1. Power

No new power distribution equipment is intended to be installed as part of this project. New branch power will be added from existing distribution equipment to serve new clarifying filters and pumps provided by Mechanical. Existing controller locations and power sources are intended to be reused new monitoring systems to be installed. The existing controller serving tanks 1, 2, 3, and 6 is intended to remain. New sensors and control wiring will be pulled to serve these tanks. The existing 2 controllers serving tanks 8, 9, and 10 are intended to be replaced with a new controller matching the one serving tanks 1, 2, 3, and 6.

4.2. Lighting

No new lighting is intended to be installed as part of this project.

4.3. Telecommunications

No new telecommunications equipment is intended to be installed as part of this project, however, new CAT 6A cabling will be provided from OIT network equipment to the existing controller serving tanks 1, 2, 3, and 6; and the 2 new controllers serving tanks 8, 9, and 10. This network connection will be used to provide a network port from the

controllers so that they can be programmed into the existing campus BAS system for monitoring.

4.4. Electronic Security

No new electronic security devices are intended to be installed as part of this project.

5. ENVIRONMENTAL/GEO TECH

5.1. Summary of Geo Technical

American Engineering Testing, Inc. (AET) completed a site assessment at the Fargo VA Medical Center, located at 2101 Elm Street in Fargo, North Dakota, to evaluate environmental conditions surrounding several underground storage tanks (USTs) slated for replacement. The assessment was commissioned by FourFront Design, Inc., and performed under AET Project No. P-0040293.

The investigation focused on five tanks: three 20,000-gallon fuel oil tanks (USTs 1–3) located within a single basin, and two 4,000-gallon diesel tanks (USTs 4 and 8) located in separate basins. Historically, petroleum-impacted soils had been identified and reportedly removed from the area around USTs 2 and 3 in 1992, although AET did not receive documentation confirming this.

To support the current UST upgrade project, AET advanced five soil borings (B-01 through B-03, B-05, and B-06) on March 17, 2025, to depths ranging from 10 to 20 feet. The borings were placed strategically around the tank basins to evaluate the presence, extent, and depth of any petroleum contamination. A private utility locate had revealed subsurface utility conflicts near USTs 1–3, which prevented boring installation directly east of those tanks.

Field screening was conducted using a photoionization detector to assess organic vapor concentrations in the soil. Most samples yielded negligible readings, except for a slightly elevated reading of 41 ppm at B-06 (0–2 feet). Laboratory analysis confirmed the presence of Total Petroleum Hydrocarbons as Diesel Range Organics (TPH-DRO) at a concentration of 1,120 mg/kg at that location, exceeding the North Dakota Risk-Based Screening Level (RBSL). All other soil samples showed petroleum analyte concentrations below RBSL thresholds.

Groundwater was encountered in four of the five borings, typically between 10 and 16 feet below grade. Notably, no groundwater was encountered in boring B-06—the same location where elevated TPH-DRO was detected at shallow depth—down to 20 feet. Based on field observations, soil vapor screening, and laboratory results, AET concluded that no petroleum contamination was present in groundwater in the areas evaluated.

A soil resistivity analysis was also performed at each UST basin location, with results ranging from 551 to 885 ohm-centimeters, providing additional geotechnical context for future design and corrosion control considerations.

As part of the assessment, AET conducted an exposure pathway evaluation following ND Department of Environmental Quality (DEQ) guidelines. The Red River, located approximately 375 feet east of the site, was assessed as a potential receptor. However, the surface in the impacted area is paved, preventing contact between stormwater and the shallow petroleum-impacted soil, and downgradient borings showed no evidence of migration—rendering the Surface Water Protection Pathway incomplete.

Similarly, the Groundwater Protection Pathway was deemed incomplete, as petroleum impacts were isolated in shallow soil and no contamination was found in the groundwater zone. AET also found no utility lines crossing the impacted area near B-06, and screening data indicated no migration toward water lines near USTs 1–3. Although direct contact risks for the public are minimal due to pavement cover, construction workers could be exposed during UST upgrades. This renders the Soil Inhalation, Ingestion, and Dermal Contact Pathway a potentially complete pathway until shallow impacts are removed.

In summary, AET concluded that the petroleum impact at the site is localized and limited to shallow soil in one area (B-06). No broader contamination of the groundwater, surrounding utilities, or adjacent receptors was observed based on current data.

5.2. Summary of Environmental Assessment

The Department of Veterans Affairs (VA) prepared a Resource-Specific Environmental Assessment (RSEA) under the National Environmental Policy Act (NEPA) to evaluate the environmental impacts associated with removing and replacing five aging underground storage tanks (USTs) at the Fargo VA Medical Center. These tanks—USTs 1, 2, 3, 4, and 8—store diesel and fuel oil critical to the facility’s emergency power and boiler systems. The infrastructure was installed using older technology and materials that lack modern leak detection and containment features, presenting potential risks to human health and the environment.

The proposed action involves replacing the existing USTs with new double-wall fiberglass-reinforced plastic (FRP) tanks, complete with tertiary containment and interstitial leak detection systems integrated into the VA’s Building Automation System (BAS). A key driver for this project is the detection of petroleum hydrocarbon contamination (TPH-DRO at 1,120 mg/kg) in shallow soil—0 to 2 feet below grade—at boring B-06, near UST 2. While no groundwater impacts were found, the contamination poses a potential exposure risk during construction.

The project site is fully developed and located about 375 feet from the Red River, which presents a potential, though currently incomplete, pathway for surface water exposure. Existing soil and hydrogeologic conditions—including the presence of low-permeability clay—further limit the risk of contamination spreading to groundwater or beyond. Three alternatives were considered:

- The Proposed Action – full UST replacement with contaminated soil removal
- Retrofit of Existing USTs – enhancing current tanks and detection systems without soil remediation
- No Action – continuing use of existing systems with no upgrades.

The Proposed Action was determined to be the only viable long-term solution. It fully addresses both environmental and operational risks, ensures compliance with federal and state regulations, and modernizes critical infrastructure. The retrofit alternative was considered insufficient due to structural uncertainties and its failure to resolve known contamination. The No Action alternative was deemed unacceptable due to regulatory, environmental, and liability risks.

Construction will follow a phased schedule with detailed coordination to avoid disruptions to critical operations and ensure proper handling of impacted soil and hazardous waste. Best Management Practices (BMPs), safety protocols, and erosion control measures will be implemented during construction to minimize any temporary environmental impacts.

The EA concludes that the proposed project will not significantly affect the quality of the human environment, and a Finding of No Significant Impact (FONSI) is anticipated—eliminating the need for a full Environmental Impact Statement (EIS).

6. DEVIATIONS FROM SOW

6.1. UST 6 Monitoring and Leak Detection

The SOW states to remove and replace the existing tank monitoring and leak detection system for UST 6. It was discussed during the site visit with the COR and head boiler plant operator that UST 6 and its monitoring and leak detection system were replaced in a recent project and that they are to remain.

6.2. UST 7 Monitoring and Leak Detection

The SOW states to remove and replace the existing tank monitoring and leak detection system for UST 7. A/E has no knowledge of a UST 7, and it was not mentioned or observed during the site investigation, UST 7 is not included in the project documents.

6.3. FOS/FOR & Vent Piping for UST's 1, 2, &3

The SOW states to replace the existing below ground fuel oil supply/fuel oil return (FOS/FOR) and vent piping serving USTs 1, 2, and 3. It was discussed during the site visit with the COR and head boiler plant operator that the existing below ground FOS/FOR and vent piping serving USTs 1, 2, and 3 were replaced in a recent project and that they could remain for reuse.

6.4. Building 10 Existing Monitoring and Leak Detection

The SOW states that the new tank monitoring and leak detection systems are to be integrated to the existing Fargo BAS as well as the building 10 Boiler Plant control center. The existing monitoring and leak detection panel located in Building 10 that monitors USTs 1, 2, 3, 4, 6 and above ground tanks 1 and 2 was recently installed and programmed to a satisfactory level approved by the head boiler plant operator without integration the existing Fargo BAS. It was requested by the head boiler plant operator that the existing monitoring station remain as is, and that the monitoring and leak detection sensors for USTs 1, 2, 3, 4 and above ground tank 1 be replaced and reconnected to the existing monitoring panel.

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**DEPARTMENT OF VETERANS AFFAIRS
VHA MASTER SPECIFICATIONS**

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1.0 INTRODUCTION

This Resource-Specific Environmental Assessment (RSEA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. §§ 4321–4370h), and follows the Department of Veterans Affairs (VA) *NEPA Interim Guidance for Projects* (PG-18-17). The RSEA evaluates potential environmental impacts associated with the removal and replacement of underground storage tanks (USTs) and associated leak detection systems at the Fargo VA Health Care System, located at 2101 Elm Street in Fargo, North Dakota (VA Facility ID #5857).

The proposed action involves the decommissioning and removal of USTs 1, 2, 3, 4, and 8, and the complete installation of new double-wall fiberglass reinforced plastic (FRP) USTs and upgraded leak detection systems as part of Phase 2 of the ongoing infrastructure upgrade. These activities are being undertaken to improve operational safety and reduce the risk of petroleum release to surrounding soils and groundwater.

Although previous contamination in the vicinity of USTs 2 and 3 was reportedly remediated in 1992, the presence of petroleum hydrocarbons (TPH-DRO) in the upper 2 feet of soil at boring B-06 during a 2025 subsurface investigation warrants further environmental review. The presence of shallow petroleum-impacted soils and the proximity of the Red River (~375 feet east of the site) are considered in evaluating potential hazardous materials impacts, particularly with respect to soil and groundwater pathways, human exposure during construction, and regulatory compliance.

This RSEA focuses specifically on hazardous materials-related environmental conditions, including petroleum hydrocarbons in soil and groundwater, potential contact with utilities, exposure risks to construction personnel, and mitigation strategies. This assessment supports federal decision-making under NEPA and provides documentation necessary to determine whether the proposed action will have significant impacts on human health or the environment or whether a Finding of No Significant Impact (FONSI) is appropriate.

This RSEA is intentionally resource-specific to hazardous materials because the primary environmental concern associated with the proposed project is the presence, removal, and future prevention of petroleum hydrocarbon contamination linked to the Fargo VA Health Care System's underground storage tank (UST) systems. The scope of work focuses exclusively on UST decommissioning, soil remediation, and installation of modern fuel storage infrastructure, with no expansion of facility footprint, change in land use, or alteration of site operations beyond the fuel system upgrades. Environmental investigation identified contamination only in shallow soils adjacent to UST 2 (boring B-06), and no groundwater or surface water impacts were observed. Additionally, the work occurs entirely within previously developed and disturbed areas, eliminating the potential for impacts to biological resources, wetlands, cultural or historic properties, threatened or endangered species, air quality (beyond minor, temporary construction emissions), noise (beyond temporary equipment operation), or socioeconomics. Because the project does not trigger impacts to these other resource categories and is confined to localized soil disturbance related to hazardous materials management, further analysis of other environmental resources is not warranted within the context of this RSEA.

In accordance with VA NEPA guidance, this RSEA includes an evaluation of reasonable alternatives, including a No Action alternative, and integrates findings from the Site Assessment Report prepared by American Engineering Testing, Inc. (April 2025) in support of the Statement of Work (SOW) for Project #437-24-101.

2.0 PURPOSE AND NEED

The purpose of the proposed action is to ensure the continued safe operation and environmental compliance of the Fargo VA Health Care System's fuel storage and distribution infrastructure by replacing aging underground storage tanks (USTs) and associated leak detection systems. This action is necessary to protect human health and the environment from potential hazardous materials releases, maintain compliance with federal and state regulatory requirements, and support critical backup power and heating systems vital to the Fargo VA campus.

The existing UST systems, including tanks 1, 2, 3, 4, and 8, are nearing or have exceeded their service life and were installed using earlier-generation materials and monitoring technologies. These tanks store diesel and fuel oil critical to the facility's boiler plant and emergency generator systems. Current system components lack tertiary containment and feature outdated leak detection technologies, increasing the risk of undetected fuel releases that could impact subsurface soils, groundwater, and potentially the nearby Red River, located approximately 375 feet east of the project site.

The need for the project is further underscored by findings from the 2025 Site Assessment Report conducted by American Engineering Testing (AET), which identified residual petroleum hydrocarbon contamination (TPH-DRO at 1,120 mg/kg) in shallow soils (0–2 feet below grade) at boring B-06, near UST 2. While groundwater was not impacted in any of the borings and the surface is currently capped by pavement, the contamination presents a potential exposure pathway to construction workers during excavation and tank removal activities. Moreover, due to subsurface utility conflicts, full characterization of soils adjacent to USTs 1–3 could not be completed, creating additional uncertainty that must be managed through preemptive removal planning and field monitoring during construction.

The proposed action directly supports the VA's commitment to managing its facilities in a manner that protects human health and the environment while maintaining operational reliability. Replacing the USTs with new double-wall FRP tanks equipped with tertiary containment and modern, interconnected leak detection systems will:

- Minimize the risk of future hazardous materials releases into soil and groundwater;
- Ensure compliance with federal (40 CFR Part 280), state (NDDEQ UST Program), and local environmental regulations;
- Provide real-time system monitoring and integration with the campus-wide Building Automation System (BAS);
- Address known areas of residual soil contamination and reduce risk to construction personnel and the public;

- Support continuity of operations for critical medical infrastructure reliant on uninterrupted fuel supply.

Without implementation of the proposed project, the VA would face increasing maintenance costs, the risk of regulatory noncompliance, potential exposure to liability for environmental contamination, and increased vulnerability to service disruptions in the event of UST system failure.

3.0 PROJECT AREA

The project area is located at the Fargo VA Health Care System, situated at 2101 Elm Street North, Fargo, North Dakota 58102. The campus is registered with the North Dakota Department of Environmental Quality (NDDEQ) under Facility ID #5857. The site lies in a developed urban area in Cass County and occupies a predominantly paved campus with buildings, parking areas, and utility infrastructure. The proposed project is concentrated in several key locations across the campus where underground storage tanks (USTs) and their associated components are installed.

3.1 PHYSICAL SETTING

The project site is positioned approximately 375 feet west of the Red River, which forms the eastern natural boundary of the greater Fargo area. According to the U.S. Geological Survey (USGS) topographic map, the site elevation is approximately 906 feet above mean sea level, and the surrounding terrain slopes gently to the east-southeast toward the river. Soils at the site consist of interbedded clay, silt, sand, and gravel, with groundwater encountered at depths ranging from 10 to 16 feet below grade, consistent with the underlying Oahe Formation, a fluvial deposit system of varying permeability.

3.2 SPECIFIC UST LOCATIONS

The USTs targeted for removal and replacement are located in three discrete areas on the Fargo VA campus:

- USTs 1, 2, and 3 are located in a parking area east of the Boiler Plant (Building 10) and west of the Warehouse (Building 50). This location is within a highly developed and trafficked zone, requiring coordination with existing utilities and traffic-rated surface covers for reinstatement.
- UST 4 is situated south of the Boiler Plant, near the internal roadway between the Boiler Plant and the Chiller Plant. The surrounding area includes subsurface utilities, concrete pads, and limited green space.
- UST 8 is buried just outside the generator room at Building 1 (Room BE-98), on a sloped grass-covered hillside above the Canteen Patio. This area is also scheduled for upcoming construction under VA projects 437-21-150 and 437-21-210, requiring careful integration of work scopes and physical site coordination.

Each tank basin is connected to critical infrastructure, such as fuel lines servicing emergency generators and boiler systems. The new design will incorporate tertiary containment liners, double-wall FRP tanks, flexible double-wall piping, and interstitial leak detection sensors connected to the existing Building Automation System (BAS) in Room BD-62 of the Medical Center.

3.3 ENVIRONMENTAL CONDITIONS

As documented in the April 2025 Site Assessment Report (AET Project No. P-0040293), soil borings were advanced near the UST basins to evaluate subsurface environmental conditions. Petroleum hydrocarbon contamination (TPH-DRO) was detected in surface soil from 0–2 feet below grade at boring B-06, adjacent to UST 2, with concentrations exceeding North Dakota Risk-Based Screening Levels (RBSLs). No petroleum impacts were observed in groundwater, and all other borings showed either non-detect or below-threshold concentrations. Additionally, lean clay that will have a low permeability is present immediately beneath the contaminated soil which further limits the potential vertical pathway to groundwater.

The Red River, a sensitive ecological receptor, is located downgradient from the UST sites. However, given the impermeable site cover (asphalt and concrete), the surface water protection pathway is currently considered incomplete. Similarly, groundwater protection, utility contact risk, and direct exposure pathways have been evaluated as part of the assessment and will be addressed through engineered controls and source removal during construction.

4.0 TIMING OF IMPLEMENTATION

The proposed underground storage tank (UST) removal and replacement project at the Fargo VA Health Care System is scheduled for implementation during Fiscal Year 2025, following completion of final design and environmental documentation. The anticipated timeline reflects considerations for construction sequencing, coordination with concurrent infrastructure upgrades, seasonal conditions, and required environmental permitting.

4.1 DESIGN AND PRE-CONSTRUCTION PHASE

The architectural/engineering (A/E) design phase is allotted a maximum of 262 calendar days from contract award to completion of 100% bid-ready construction documents. Key milestones within this period include:

- Schematic Design (35%) Submission: 105 days from notice-to-proceed (NTP)
- Design Development (65%) Submission: 167 days from NTP
- Contract Documents (95%) Submission: 229 days from NTP
- Bid Documents (100%) Submission: 262 days from NTP

As part of the design phase, environmental due diligence—including NEPA compliance, soil testing, and incorporation of remediation and permitting requirements—must be completed and integrated into construction bid documents. Coordination with the North Dakota Department of Environmental Quality (NDDEQ) UST Program is required at least 30 days prior to decommissioning existing tanks.

4.2 CONSTRUCTION PHASE

Construction is expected to span approximately 270 calendar days, beginning in mid-to-late FY25. The construction schedule must be planned around:

- Seasonal climate factors, including the northern Plains' freeze/thaw cycle and wet spring/fall conditions that could limit excavation and backfilling;

- Site-specific utility coordination with concurrent projects affecting the UST 2 area, such as the Building 1 generator room upgrades (Project 437-21-150) and Tier 2 electrical distribution improvements (Project 437-21-210);
- Temporary utility support, including provision of mobile fuel tanks, generator connections, and continuous operations of boiler and emergency systems; and
- Environmental remediation, specifically removal and off-site disposal of impacted soils around boring B-06 to a depth of 2 feet, with contingency planning for additional removal if unexpected contamination is encountered.

Contract documents will specify phasing requirements that limit work to one tank removal at a time, ensuring fuel supply continuity and safety. Final implementation tasks will include leak detection system testing, connection to the Building Automation System (BAS), surface restoration, and submission of final environmental documentation and certifications (e.g., UST Closure Reports, Certificates of Destruction, Soil Sample Results).

4.3 POST-CONSTRUCTION MONITORING

While permanent groundwater monitoring wells are not anticipated based on current data, the Fargo VA will evaluate the need for soil confirmation testing after the removal of existing tanks or surface inspections based on construction-phase findings and in consultation with NDDEQ. All environmental closeout documentation will be submitted to the VA COR and regulatory agencies as part of project demobilization.

5.0 ALTERNATIVES ANALYSIS

The National Environmental Policy Act (NEPA) requires federal agencies to rigorously explore and objectively evaluate all reasonable alternatives to a proposed action. This section outlines and analyzes the proposed action and its alternatives, including the No Action alternative, to identify the environmentally preferable option in light of potential soil impacts and operational needs.

Although this RSEA is intended to analyze the effects of the identified contaminated materials and their specific removal action, the action alternatives identified include repairs and retrofits to the existing USTs or the removal and replacement of the USTs with modern tanks that have additional leak protection measurements and leak detection systems.

5.1 ALTERNATIVE 1: PROPOSED ACTION – REMOVE AND REPLACE USTs WITH ENHANCED CONTAINMENT AND LEAK DETECTION SYSTEMS

5.1.1 Description:

The proposed action involves the complete removal and off-site disposal of USTs 1, 2, 3, 4, and 8 along with their associated piping, leak detection, and monitoring components. These will be replaced with new double-wall fiberglass reinforced plastic (FRP) tanks, interstitial leak detection systems, and tertiary containment liners to prevent future hazardous material releases. Updated Automatic Tank Gauges (ATGs) and integration with the Building Automation System (BAS) will ensure centralized monitoring and compliance.

5.1.2 Environmental and Operational Benefits:

- Proactively mitigates the risk of petroleum product releases;
- Eliminates outdated, potentially vulnerable infrastructure;
- Addresses shallow soil contamination detected at boring B-06 through source removal;
- Prevents future soil and groundwater contamination via advanced leak containment and detection systems;
- Ensures compliance with federal (40 CFR Part 280), state (NDDEQ UST Program), and local regulations; and
- Maintains mission-critical backup power and heating system functionality.

5.1.3 Environmental Considerations:

- Requires excavation of contaminated soils near B-06.
- Temporary disturbance during construction; mitigated by best management practices (BMPs).
- Requires coordination with concurrent projects and careful utility location.

This alternative is the preferred option due to its long-term protection of environmental and human health, compatibility with ongoing site upgrades, and alignment with regulatory compliance requirements.

5.2 ALTERNATIVE 2: REPAIR AND RETROFIT EXISTING USTs

5.2.1 Description:

This alternative would attempt to retain the existing UST infrastructure, performing targeted repairs, retrofits, and component replacements to extend the service life of the system. Leak detection would be enhanced through upgraded sensors, and individual tanks might be lined or patched rather than fully removed.

5.2.2 Environmental and Operational Drawbacks:

- Existing USTs are near or past design life and may not be structurally suitable for retrofitting.
- Does not address known petroleum contamination at B-06 or provide for full soil remediation.
- May not meet current regulatory requirements for secondary/tertiary containment.
- Higher long-term maintenance and liability risks.
- Limited compatibility with modern BAS integration and automation.

This alternative is not preferred, as it poses continued environmental risk, leaves potential contamination in place, and does not provide a robust long-term solution for hazardous materials management.

5.3 ALTERNATIVE 3: NO ACTION

5.3.1 Description:

Under this scenario, the VA would not replace the existing USTs or associated leak detection systems. The current systems would remain in operation until a failure occurred or regulatory violations mandated action.

5.3.2 Environmental and Operational Consequences:

- Fails to address petroleum-impacted soils identified at boring B-06.
- Increases risk of undetected hazardous materials releases due to aging infrastructure.
- Potential noncompliance with federal and state UST regulations.
- Greater potential for fuel system failure, operational disruption, or costly emergency response.
- Increased liability for environmental contamination or regulatory penalties.

This alternative is not acceptable, as it fails to meet the VA's obligations under NEPA, contradicts the intent of the VA's proactive infrastructure modernization program, and poses unacceptable environmental and operational risks.

5.4 SUMMARY OF ALTERNATIVES

Alternative	Environmental Protection	Regulatory Compliance	Operational Sustainability	Preferred
1. Proposed Action	High	High	High	✓ Yes
2. Repair/Retrofit Existing USTs	Low-Moderate	Limited	Moderate	✗ No
3. No Action	Low	None	Low	✗ No

The Proposed Action is the only alternative that fully meets environmental protection goals, supports long-term facility operations, and ensures regulatory compliance. It is therefore selected as the preferred alternative.

6.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS - HAZARDOUS MATERIALS

This section describes the existing environmental conditions in the project area that may be affected by the presence, handling, or potential release of hazardous materials, particularly petroleum products associated with underground storage tanks (USTs). It also analyzes the environmental impacts of the proposed action and alternatives related to hazardous materials.

6.1 EXISTING CONDITIONS – HAZARDOUS MATERIALS

6.1.1 Subsurface Soil and Groundwater

A Site Assessment Report (AET Project No. P-0040293, dated April 2, 2025) evaluated subsurface conditions at the Fargo VA Health Care System. Soil borings were advanced at five locations across the UST basins associated with USTs 1–4 and 8. The investigation revealed:

- Detectable petroleum contamination (TPH-DRO at 1,120 mg/kg) in shallow soil (0–2 feet below grade) at boring B-06, adjacent to UST 2.
- All other samples, including those near USTs 1–3 and UST 4, showed petroleum analyte concentrations below North Dakota Risk-Based Screening Levels (RBSLs).
- Groundwater was encountered at 10–16 feet below grade at most boring locations. However, no petroleum impacts to groundwater were identified.
- A soil boring could not be completed to the east of USTs 1, 2, and 3 due to a subsurface utility conflict, leaving a minor data gap in that area.
- The soils consist of alternating layers of clay, silt, sand, and gravel, consistent with the Oahe Formation.
- The site is paved in the vicinity of all USTs, reducing potential surface infiltration.

6.1.2 Historical Impacts and Mitigation

Historical documentation from the VA indicates that contaminated soils were discovered and fully removed in 1992 around USTs 2 and 3. No evidence of remaining contamination was found during the current investigation. However, these areas are flagged for careful visual and olfactory screening during construction.

6.1.3 Receptors and Exposure Pathways

- The Red River, a sensitive environmental receptor, is located approximately 375 feet east-southeast of the project site. Due to topography and lack of active surface drainage pathways, the surface water protection pathway is considered incomplete.
- The groundwater protection pathway is also considered incomplete, as no groundwater impacts were observed and shallow contamination has not penetrated below 2 feet.
- Construction workers are considered potentially exposed receptors due to shallow contamination at B-06. The pathway for soil ingestion, inhalation, and dermal contact is considered potentially complete during excavation unless mitigated.

6.2 ENVIRONMENTAL IMPACTS – PROPOSED ACTION

6.2.1 Soil and Groundwater Protection

The proposed action includes full removal of petroleum-impacted soils near boring B-06 and replacement of aging UST infrastructure with double-wall FRP tanks, tertiary containment liners, and interstitial leak detection sensors. These upgrades will substantially reduce the likelihood of future leaks or environmental releases. Impacts include:

- Excavation and off-site disposal of contaminated soil from the B-06 area, preventing migration or exposure.
- Short-term soil disturbance during excavation and tank removal, which will be mitigated through BMPs (e.g., dust control, covered stockpiles, silt fencing).
- No significant impact to groundwater is expected, and no permanent monitoring wells are warranted based on existing data.

6.2.2 Human Health and Worker Safety

Construction workers could encounter shallow contaminated soils at B-06. However, impacts will be mitigated by:

- Use of personal protective equipment (PPE) and OSHA-compliant health and safety protocols.
- Field monitoring using a photoionization detector (PID) to confirm successful removal of contaminated soils.
- Construction phasing to minimize open excavations and exposure time.

No long-term risks to site personnel or visitors are expected once contaminated soils are removed and the upgraded systems are operational.

6.2.3 Hazardous Materials Handling and Waste Management

Removed tanks, piping, and associated components will be handled as regulated waste:

- All hazardous materials will be removed off-site by licensed contractors.
- The contractor will provide certificates of destruction, tank closure forms, and soil sample results to the VA for regulatory compliance.
- Old fuel will be either recycled for temporary use during construction or disposed of in accordance with applicable laws.

6.3 ENVIRONMENTAL IMPACTS – ALTERNATIVES

6.3.1 No Action Alternative

The No Action Alternative assumes that the existing UST systems would remain in place without remediation of the petroleum-contaminated soils at B-06 and without any upgrades to containment or monitoring systems. Under this scenario, the existing contamination would persist, presenting ongoing environmental risks.

Failure to address the TPH-DRO contamination at B-06 leaves the petroleum-impacted soils in place, maintaining a potential exposure pathway to construction personnel, maintenance workers, or other future ground-disturbing activities. The No Action Alternative also perpetuates the risk of additional petroleum releases from aging UST infrastructure, which lacks secondary and tertiary containment and uses outdated leak detection technology.

This alternative would likely result in regulatory noncompliance with state and federal UST closure and monitoring requirements, exposing the VA to potential enforcement actions, liability, and costly emergency remediation in the event of a release. Additionally, the potential for migration of contamination to groundwater or utilities, though currently incomplete, could become significant over time as infrastructure continues to degrade.

Under the No Action Alternative, the existing UST systems would remain in place. This would result in:

- Continued risk of future petroleum releases due to aging tanks and outdated leak detection technology.
- Unaddressed shallow soil contamination at B-06, presenting potential exposure risk to future workers during ground disturbance.
- Eventual regulatory noncompliance and increased liability for the VA.
- Possible impairment of essential heating and backup power systems if a tank failure were to occur.
- Over time, petroleum contaminants could migrate vertically through permeable soils to shallow groundwater, or laterally toward nearby surface water bodies, such as the Red River approximately 375 feet east of the site.

The No Action Alternative does not meet the VA's operational, environmental, or regulatory objectives and is therefore not considered environmentally acceptable. Overall, the No Action Alternative would result in negative long-term consequences for human health, environmental quality, and facility operations, and is therefore not a practicable option.

6.3.2 Retrofit Alternative

The Retrofit Alternative involves retaining the existing UST infrastructure with targeted repairs and component upgrades to extend the service life of the tanks and monitoring systems. Under this approach, enhancements may include lining tank interiors, replacing sensors, or upgrading certain leak detection components without full tank removal.

While the Retrofit Alternative could potentially improve monitoring capabilities, it would fail to remediate the petroleum-contaminated soils at B-06, leaving the existing contamination in place and allowing the exposure risk to remain. Furthermore, the structural integrity of the aging USTs may not be fully addressed through retrofit measures, leaving the possibility of system failure or undetected releases due to incomplete containment improvements.

The Retrofit Alternative presents higher long-term environmental risks than the Proposed Action because it does not eliminate the source of existing contamination and provides only partial assurance against future leaks. It may also fail to achieve full compliance with modern UST standards, particularly regarding tertiary containment and sensor integration with the BAS.

Retrofit of existing USTs may reduce short-term disruption but does not fully address:

- Soil contamination at B-06, which would remain unmitigated.

- The lack of tertiary containment and incomplete leak detection capabilities in the current infrastructure.
- Potential structural integrity issues with older tanks.

This alternative provides limited environmental benefit and does not eliminate known risks.

6.3.3 Proposed Action - Tank Replacement Alternative

The Proposed Action involves the full removal and replacement of USTs 1, 2, 3, 4, and 8, combined with the excavation and off-site disposal of petroleum-contaminated soils identified near B-06. This alternative directly addresses the diesel-range organic (TPH-DRO) contamination detected at concentrations exceeding the North Dakota Risk-Based Screening Levels (RBSLs) and removes the aging UST systems that are at risk for future failure.

The Proposed Action is expected to result in short-term, localized environmental disturbances during construction, including soil excavation, temporary dust generation, equipment-related emissions, and minor noise impacts. These temporary effects will be mitigated through best management practices (BMPs), including erosion control measures, dust suppression, spill prevention, and use of personal protective equipment (PPE) for worker safety. Air quality will be monitored through field screening with a photoionization detector (PID) to prevent exposure to volatile organic compounds (VOCs).

Importantly, the Proposed Action provides significant long-term environmental benefits, including the elimination of known contamination at B-06, prevention of potential future releases, and installation of modern UST systems equipped with tertiary containment and real-time leak detection integrated into the Building Automation System (BAS). These measures ensure regulatory compliance and substantially reduce the risk of soil and groundwater contamination in the future.

The groundwater protection pathway remains incomplete under this alternative, as groundwater was not impacted during investigation, and the Proposed Action eliminates potential contamination sources. Similarly, no adverse impacts are anticipated to surface water receptors, including the Red River of the North, due to the shallow nature of contamination, impermeable surface coverage, and effective containment strategies. In summary, the preferred alternative provides the following measures:

- Complete removal and decommissioning of five existing underground storage tanks (USTs 1, 2, 3, 4, and 8) and associated piping systems.
- Excavation and off-site disposal of petroleum-contaminated soils identified at boring B-06, where diesel-range hydrocarbons (TPH-DRO) exceeded North Dakota Risk-Based Screening Levels (RBSLs).
- Installation of new double-wall fiberglass reinforced plastic (FRP) USTs with:
 - Secondary and tertiary containment systems.
 - Interstitial leak detection sensors integrated into the campus-wide Building Automation System (BAS).
- Connection of new piping systems, including supply, return, vent, and leak detection conduits, designed to meet current EPA (40 CFR Part 280) and NDDEQ UST regulations.

- Field screening and confirmation sampling using a photoionization detector (PID) and laboratory analysis to verify complete removal of contaminated soils.
- Implementation of best management practices (BMPs) for:
 - Erosion and sediment control.
 - Dust suppression and air quality monitoring.
 - Spill prevention and emergency response during construction.
- Backfilling and compaction of excavation areas with certified clean fill to meet VA engineering standards and prevent settlement.
- Full restoration of disturbed areas, including:
 - Pavement replacement (asphalt and concrete).
 - Grading and re-seeding of landscaped and grass-covered zones.
 - Resetting utility vaults, manholes, and stormwater drainage features to final grade.
- Verification of system performance and compliance through:
 - Pressure testing of tanks and piping.
 - Leak detection functionality checks.
 - System startup and commissioning prior to acceptance.
- Documentation and reporting, including:
 - UST Closure Reports.
 - Soil removal and disposal manifests.
 - Final Remediation Completion Report submitted to VA Engineering Service and NDDEQ for regulatory closure.

6.4 CUMULATIVE IMPACTS

No cumulative hazardous materials impacts are anticipated. Adjacent VA projects (e.g., Building 1 generator and electrical upgrades) are being coordinated to prevent overlap or duplication of excavation in impacted areas. All work will comply with NDDEQ requirements, minimizing potential additive environmental effects.

The proposed action is expected to result in positive environmental outcomes by eliminating contaminated soils, modernizing hazardous material containment systems, and substantially reducing the risk of future fuel releases. The temporary impacts during construction will be controlled through best practices, and the long-term effect will be increased protection of soil, groundwater, surface water, human health, and the environment.

7.0 MITIGATION MEASURES

Mitigation measures are essential to reduce or eliminate the potential environmental and human health impacts associated with hazardous materials during implementation of the Fargo VA Health Care System Underground Storage Tank (UST) Replacement Project. The following measures have been developed in accordance with NEPA, VA policy, OSHA regulations, and guidance from the North Dakota Department of Environmental Quality (NDDEQ).

7.1 SOIL CONTAMINATION MITIGATION

Contaminated Soils (Boring B-06 Area):

- Excavation and Removal: Petroleum-impacted soils from 0–2 feet below grade at boring B-06 will be fully excavated and removed as part of construction. Excavation will extend beyond visibly impacted zones as necessary based on field screening with a Photoionization Detector (PID).
- Confirmation Screening: On-site PID measurements will be taken during soil removal to confirm the absence of residual volatile organic compounds (VOCs). Soils exhibiting organic vapor readings above background will continue to be excavated until clean margins are achieved.
- Disposal of Impacted Soils: Contaminated soils will be transported and disposed of at a licensed disposal facility. The contractor will provide documentation of disposal, including waste manifests, analytical reports, and disposal facility receipts, to the VA.

7.2 GROUNDWATER AND SURFACE WATER PROTECTION

- Although no petroleum-related groundwater impacts were identified, excavation practices will prevent vertical migration of contaminants by:
 - Excavating and disposal of shallow contaminated soils prior to UST removals.
 - Avoiding over-excavation into saturated zones.
 - Stabilizing open trenches to prevent collapse or cross-contamination.
 - Covering exposed soils and implementing stormwater BMPs to prevent surface runoff.
- To prevent discharge of contaminants into stormwater systems or the nearby Red River, the contractor will implement erosion and sediment control measures, including:
 - Silt fencing, wattles, and catch basin protection.
 - Temporary stockpile covers and perimeter berms around storage areas.
 - Spill containment during refueling, fuel transfer, or equipment maintenance activities.

7.3 WORKER AND PUBLIC HEALTH PROTECTION

- Health and Safety Plan (HASP): The construction contractor will develop and implement a site-specific HASP in accordance with OSHA 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response Standard). The HASP will address:
 - Identification of hazardous material exposure risks.
 - Required PPE (e.g., gloves, respirators, Tyvek suits) during contaminated soil handling.
 - Emergency response procedures in the event of a spill, release, or exposure incident.
- Access Controls: During construction, the project area will be fenced or otherwise restricted to authorized personnel. Public access will be prohibited to minimize accidental exposure.

7.4 SPILL PREVENTION AND CONTAINMENT

- A Spill Prevention, Control, and Countermeasure (SPCC) plan will be implemented throughout the project. This will include:
 - Proper storage of fuels, lubricants, and hazardous materials in secondary containment.
 - Spill kits available on-site at all times, including absorbent materials, booms, and waste containers.
 - Immediate response protocols for any accidental release, with notification to VA, NDDEQ, and local emergency services as needed.

7.5 UST DECOMMISSIONING AND REPLACEMENT CONTROLS

- Removal of existing tanks and piping will follow all applicable NDDEQ and EPA UST Closure Regulations, including:
 - Notification of NDDEQ at least 30 days prior to closure.
 - Performance of tank cleaning and purging by certified personnel.
 - Field screening of backfill material and tank basin for contamination during removal.
 - Proper abandonment of associated infrastructure (e.g., piping, gauges) not intended for reuse.
- New USTs will be installed with enhanced protection measures, including:
 - Double-wall FRP construction with continuous interstitial monitoring.
 - Tertiary containment liners to isolate potential future leaks from surrounding soils.
 - Centralized leak detection reporting to both the Boiler Plant control room and the Building Automation System (BAS).

7.6 COORDINATION AND DOCUMENTATION

- Regulatory Coordination: The VA and its contractor will coordinate with the NDDEQ, City of Fargo, and any other applicable regulatory entities to ensure all necessary permits and notifications are obtained.
- Reporting and Documentation: The construction contractor will prepare and submit the following:
 - UST Closure Report(s)
 - Certificates of Destruction for tanks and piping
 - Soil sample analytical results and laboratory chains of custody
 - Environmental compliance documentation for VA records

- **Post-Construction Monitoring:** While not required under current conditions, VA will evaluate the need for follow-up soil confirmation testing at B-06 if additional contamination is discovered during excavation. Additional mitigation actions may be implemented if warranted.

These mitigation measures ensure that all activities involving hazardous materials during the project will be conducted safely, in compliance with applicable laws, and with minimal risk to the environment or human health. The measures also support the VA's long-term stewardship goals and commitment to environmental protection.

8.0 CONCLUSION AND SUMMARY

The proposed action to remove and replace underground storage tanks (USTs) and associated leak detection systems at the Fargo VA Health Care System has been thoroughly evaluated in accordance with the National Environmental Policy Act (NEPA) and the Department of Veterans Affairs NEPA Interim Guidance for Projects. This Environmental Assessment (EA) specifically addresses the presence, handling, and mitigation of hazardous materials, with a focus on petroleum-based substances stored and managed through the existing UST systems.

8.1 SUMMARY OF FINDINGS

- **Need for Action:** The current UST systems, some of which are decades old, present increasing risks of hazardous material releases due to aging infrastructure, outdated leak detection technology, and known shallow soil contamination adjacent to UST 2. Replacement is necessary to maintain regulatory compliance, safeguard human health and the environment, and ensure uninterrupted facility operations.
- **Environmental Conditions:** A 2025 Site Assessment revealed petroleum hydrocarbon contamination in shallow soil at boring B-06, with concentrations of TPH-DRO exceeding North Dakota Risk-Based Screening Levels. No petroleum impacts were found in groundwater, and the site is otherwise free of known contamination.
- **Preferred Alternative:** The proposed action—complete removal of USTs 1, 2, 3, 4, and 8, along with installation of modern double-wall FRP tanks, tertiary containment, and upgraded leak detection—offers the most effective and sustainable solution for preventing future environmental harm. It eliminates the current contamination, reduces long-term liability, and modernizes the fuel storage infrastructure.
- **Impacts and Mitigation:** Potential environmental impacts during construction, particularly related to hazardous materials handling and contaminated soil, are temporary and can be fully mitigated through best management practices, health and safety protocols, proper waste handling, and regulatory oversight. Post-construction, the project is expected to result in improved environmental protection and reduced long-term risk.
- **Alternatives Considered:** Alternatives including "No Action" and retrofit of existing systems were evaluated and determined to be insufficient. The No Action alternative would allow hazardous conditions to persist and increase environmental and operational risks. The retrofit option would fail to fully address contamination and regulatory shortcomings.

8.2 CONCLUSION

Based on the findings presented in this Resource-Specific Environmental Assessment, the proposed action does not constitute a major federal action significantly affecting the quality of the human environment. With appropriate mitigation measures in place, the project is not expected to have significant adverse impacts on soil, groundwater, surface water, or human health. The project offers positive environmental and operational benefits through the removal of existing contamination, modernization of fuel systems, and reduction of potential future hazards.

It is therefore anticipated that the appropriate NEPA determination will be a Finding of No Significant Impact (FONSI), and that no Environmental Impact Statement (EIS) or further NEPA analysis will be required.

9.0 REFERENCES

- American Engineering Testing, Inc. (AET). 2025. *Site Assessment Report – Fargo VA Health Care System USTs*. Project No. P-0040293. Prepared for the Fargo VA Health Care System. April 2, 2025.
- Department of Veterans Affairs (VA). 2010. *VA NEPA Interim Guidance for Projects (PG-18-17)*. Office of Construction & Facilities Management, Environmental Program. Available at: <https://www.cfm.va.gov/til>.
- Department of Veterans Affairs (VA). 2025. *Statement of Work – Underground Storage Tank Leak Detection and Replacement, Fargo VA Health Care System*. Project No. 437-24-101.
- North Dakota Department of Environmental Quality (NDDEQ). 2025. *Correspondence Regarding UST Closure and Cleanup Requirements for Fargo VA Facility ID #5857*. NDDEQ UST Program, March 2025.
- North Dakota Department of Environmental Quality (NDDEQ). 2022. *Underground Storage Tank Program Guidelines for Closure and Cleanup*. Division of Waste Management, North Dakota Department of Environmental Quality. Available at: <https://deq.nd.gov>.
- Occupational Safety and Health Administration (OSHA). 2019. *Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard, 29 CFR 1910.120*. U.S. Department of Labor.
- U.S. Environmental Protection Agency (EPA). 2015. *Regulations for Underground Storage Tanks (USTs): Requirements for Petroleum UST Systems*. 40 CFR Part 280. Available at: <https://www.epa.gov/ust>.
- U.S. Environmental Protection Agency (EPA). 2014. *Risk-Based Screening Levels (RBSLs) for Petroleum Hydrocarbons*. EPA Office of Underground Storage Tanks.

ATTACHMENTS

Remedial Action Plan (RAP)
Fargo VA Health Care System
Project Number: 437-24-101
UST Replacement and Hazardous Materials Mitigation

1. Introduction

This Remedial Action Plan (RAP) has been prepared to support the implementation of the Preferred Alternative identified in the Resource-Specific Environmental Assessment (RSEA) for the Fargo VA Health Care System Underground Storage Tank (UST) Replacement Project (Project No. 437-24-101). This plan provides a detailed framework for conducting corrective and preventive actions related to the presence of hazardous materials—specifically petroleum hydrocarbons—within the project area and outlines the procedures for environmentally responsible removal, disposal, and replacement of existing fuel storage infrastructure.

The RAP has been developed in accordance with the National Environmental Policy Act (NEPA), the Department of Veterans Affairs (VA) NEPA Interim Guidance for Projects, and applicable North Dakota Department of Environmental Quality (NDDEQ) and U.S. Environmental Protection Agency (EPA) regulations governing the management of hazardous materials and underground storage tanks.

The Preferred Alternative includes the complete removal and off-site disposal of five aging USTs (Tanks 1, 2, 3, 4, and 8), associated fuel piping and monitoring systems, and the installation of new steel tanks with tertiary containment liners and advanced interstitial leak detection systems. This action will directly address environmental risks identified during the 2025 Site Assessment, which confirmed the presence of petroleum hydrocarbon contamination in shallow soil (TPH-DRO at 1,120 mg/kg at boring B-06), and will bring the Fargo VA campus into full compliance with current environmental and operational safety standards.

The goals of this Remedial Action Plan are to:

- Define and guide the safe excavation, handling, and off-site disposal of contaminated soils;
- Ensure the proper decommissioning, removal, and disposal of the existing USTs and associated piping systems;
- Implement engineering and procedural safeguards to prevent future environmental releases;
- Protect the health and safety of workers, patients, visitors, and surrounding communities during project implementation;
- Document and verify that remedial actions comply with applicable federal, state, and local regulations.

This RAP is intended to serve as both a planning and implementation tool for VA project managers, environmental consultants, regulatory reviewers, and construction contractors. It integrates findings from the Site Assessment Report (AET Project No. P-0040293), the Environmental Assessment, and VA construction and safety standards to ensure a coordinated,

transparent, and environmentally responsible approach to remediation and UST system modernization.

2. Objectives

The objectives of this Remedial Action Plan (RAP) are to guide the safe, compliant, and efficient execution of environmental remediation and infrastructure replacement activities associated with the underground storage tank (UST) systems at the Fargo VA Health Care System. This plan specifically supports the Preferred Alternative identified in the Resource-Specific Environmental Assessment, which calls for the full removal of existing USTs and petroleum-impacted soils, and the installation of modern UST systems with enhanced environmental safeguards.

The RAP establishes clear environmental and operational objectives to address identified petroleum hydrocarbon contamination and to prevent future releases that could impact soil, groundwater, human health, or sensitive receptors such as the Red River. The plan also provides a framework for protecting workers and the public, ensuring regulatory compliance, and documenting the process from initiation through closure.

The specific objectives of the RAP are as follows:

2.1 Environmental Protection

- Excavate and remove petroleum-contaminated soils identified in the 2025 Site Assessment, particularly in the area surrounding boring B-06, where diesel-range organics (TPH-DRO) were measured at concentrations exceeding state risk-based screening levels.
- Prevent migration of residual contaminants into surrounding soils, utilities, or groundwater through controlled excavation and engineering controls.
- Ensure that all waste materials, including soils and decommissioned tanks, are transported, managed, and disposed of at licensed facilities in accordance with RCRA, NDDEQ, and EPA requirements.

2.2 Human Health and Safety

- Protect on-site personnel, patients, contractors, and visitors from exposure to petroleum-contaminated media, vapors, or hazardous conditions through implementation of a Contractor's site-specific Health and Safety Plan (HASP) in accordance with OSHA 29 CFR 1910.120.
- Limit potential exposure pathways by enforcing controlled site access, use of personal protective equipment (PPE), and dust and vapor control measures during soil handling and UST removal.
- Establish emergency response procedures for unanticipated discoveries of contamination, product release, or exposure during excavation or tank removal.

2.3 Infrastructure Modernization

- Decommission and remove five existing USTs (Tanks 1, 2, 3, 4, and 8) and associated piping, which are aging and no longer meet current containment and monitoring standards.

- Install new UST systems with double-wall construction, tertiary containment liners, and real-time leak detection systems connected to the Building Automation System (BAS) and Boiler Plant control room.
- Ensure that replacement systems are properly engineered to support long-term heating, fuel delivery, and emergency backup power operations at the Fargo VA campus.

2.4 Regulatory Compliance

- Achieve full compliance with:
 - NDDEQ UST closure and cleanup requirements,
 - EPA UST standards under 40 CFR Part 280,
 - City of Fargo permitting and utility protection ordinances, and
 - VA safety and environmental management protocols.
- Submit all required regulatory documentation, including UST Closure Reports, soil disposal manifests, certificates of destruction, and confirmation sampling results.
- Maintain open and proactive communication with regulatory agencies throughout the remedial and construction process.

2.5 Quality Assurance and Documentation

- Establish baseline conditions and verify the successful removal of contaminated materials through field screening and laboratory confirmation sampling.
- Implement a clear chain of custody and document all remedial actions, sampling results, site observations, and disposal activities.
- Produce a comprehensive closeout package for submission to VA Engineering and regulatory authorities, demonstrating that environmental and construction objectives have been achieved.

These objectives serve as the foundation for the work plans, methods, and quality controls presented in the following sections of this RAP. They ensure that remedial actions are not only technically sound and protective of the environment but are also aligned with the operational needs and public service mission of the Fargo VA Health Care System.

3. Site Characterization Summary

This section provides a summary of environmental conditions at the project site based on the findings of the Site Assessment Report (AET Project No. P-0040293, April 2, 2025), supporting environmental due diligence for implementation of the Preferred Alternative under the Fargo VA Health Care System’s Underground Storage Tank (UST) Replacement Project.

Site characterization activities focused on evaluating the subsurface conditions at and around five existing USTs (Tanks 1, 2, 3, 4, and 8) to determine the presence and extent of petroleum hydrocarbon contamination and to assess environmental risk to human health, infrastructure, and nearby ecological receptors.

3.1 Site Location and Description

The project area is located on the Fargo VA Health Care System campus at 2101 Elm Street North, Fargo, North Dakota, in the northeast quadrant of the property. The facility is surrounded by residential and institutional land uses and lies approximately 375 feet west of the Red River, a significant regional surface water body.

All five USTs are situated beneath paved surfaces or landscaped areas in proximity to the boiler plant and emergency generator systems. The site topography slopes gently eastward toward the river, and the area is underlain by unconsolidated alluvial deposits associated with the Oahe Formation, characterized by alternating layers of clay, silt, sand, and gravel.

3.2 Environmental Investigation Overview

To evaluate subsurface conditions and potential hazardous material impacts, five soil borings (B-01 through B-03, B-05, and B-06) were advanced to depths ranging from 10 to 20 feet below ground surface (bgs). Key activities included:

- Soil sample field screening using a Photoionization Detector (PID) to detect volatile organic compounds (VOCs).
- Laboratory analysis of select samples for:
 - Total Petroleum Hydrocarbons (TPH) - Gasoline Range Organics (GRO) and Diesel Range Organics (DRO)
 - Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
 - Naphthalene
- Soil resistivity testing to support UST system design.
- Groundwater depth observations and visual/olfactory screening for petroleum impacts in saturated zones.

3.3 Key Findings

3.3.1 Soil Contamination

- Petroleum hydrocarbon contamination was confirmed in shallow soil at boring B-06, located near UST 2.
 - The 0-2 ft bgs sample from B-06 exhibited TPH-DRO at 1,120 mg/kg, exceeding the North Dakota Department of Environmental Quality's Risk-Based Screening Levels (RBSLs) of 100 mg/kg.
 - PID screening at this location showed elevated vapor levels (41 ppm), supporting the analytical results.
 - Below 2 feet, PID readings dropped significantly, indicating limited vertical migration.
- All other borings (B-01 through B-03 and B-05), located near USTs 1-4 and 8, exhibited:
 - Negligible PID readings (0-2 ppm),
 - TPH-DRO and BTEX concentrations below applicable RBSLs, and
 - No visible or olfactory evidence of contamination.

3.3.2 Groundwater Conditions

- Groundwater was encountered at depths between 10 and 16 feet bgs in all borings except B-06, where groundwater was not encountered at a depth of 20 feet bgs.
- No free product, sheen, or hydrocarbon odors were observed in any boring, and no petroleum impacts to groundwater were detected.
- The Groundwater Protection Pathway is considered incomplete based on current evidence.

3.3.3 Surface Water and Sensitive Receptors

- The nearest surface water receptor, the Red River of the North, lies approximately 375 feet east-southeast of the site.
- Due to the site's impervious surface cover (asphalt and concrete) and distance to the river, the Surface Water Protection Pathway is considered incomplete.
- No wetlands or protected habitats are present within the UST work areas.

3.3.4 Utilities and Subsurface Infrastructure

- Utility conflicts prevented boring advancement to the east of USTs 1, 2, and 3, leaving a localized data gap.
- Available utility maps suggest no shallow utilities are present near B-06 where petroleum impacts were found, minimizing the risk of contaminant interaction with utility corridors.

3.4 Data Interpretation and Implications

- The identified contamination at B-06 appears to be localized and shallow, with limited lateral or vertical migration.
- Because of the lack of groundwater impacts and the physical capping of the area by asphalt, the contaminated soils pose minimal risk to human health or the environment under current conditions.
- However, removal of impacted soils is necessary to protect construction workers during excavation, prevent potential exposure during future site work, and comply with environmental standards.
- The remainder of the site is characterized as environmentally stable, and UST removal in those areas is expected to proceed without significant remediation concerns.

3.5 Conclusion

The site characterization confirms the presence of shallow petroleum-contaminated soils at UST 2 (B-06) requiring remedial action. There is no evidence of widespread or groundwater contamination, and no sensitive receptors are currently at risk. The data support the implementation of the Preferred Alternative, including soil removal at B-06, UST system replacement, and long-term monitoring via improved leak detection systems.

These findings inform the remedial strategy and are critical to ensuring environmental and regulatory compliance during implementation of the Fargo VA UST Replacement Project.

4. Implementation Steps

This section outlines the step-by-step process for implementing the Preferred Alternative under the Fargo VA Health Care System's Underground Storage Tank (UST) Replacement Project. The goal is to ensure safe and compliant remediation of petroleum-contaminated soils, decommissioning of outdated UST systems, and installation of modern, environmentally protective fuel infrastructure. Each step corresponds to a defined project phase and includes associated environmental and safety considerations.

Step 1: Pre-Mobilization and Regulatory Coordination

- Notify the North Dakota Department of Environmental Quality (NDDEQ) of UST closure activities at least 30 days prior to tank removal.
 - Submit NDDEQ Notification Form
 - Submit Closure Plan
 - Submit Closure Assessment Report
- Obtain all necessary environmental, excavation, and disposal permits.
- Conduct site utility locate services (public and private) to identify underground infrastructure and avoid conflicts.
- Review and finalize contractor's project-specific plans, including:
 - Health and Safety Plan (HASP)
 - Spill Prevention, Control, and Countermeasure (SPCC) Plan
 - Contaminated Soil Management Plan
- Establish site access controls (fencing, signage, and pedestrian barriers) to restrict non-authorized entry.

Step 2: Health, Safety, and Environmental Controls

- The contractor shall follow their site-specific Health and Safety Plan (HASP), including required PPE, hazard communication, and air monitoring.
- Prevent off-site migration of contaminants by:
 - Using silt fences, berms, and drainage controls.
 - Develop a plan for handling water from precipitation events that could enter the excavation. Potential mitigation methods include routing run-off away from the excavation, covering portions of open excavations with known contaminated soil during rain events, and/or pumping water into a tanker for proper disposal.
- Provide decontamination stations for workers and equipment in contact with impacted media.
- Implement hot work permitting and grounding procedures for removal of fuel piping and tanks.

Step 3: Mobilization and Site Preparation

- Mobilize equipment, PPE, containment supplies, and environmental monitoring instruments (e.g., PID).
- Set up staging areas for excavation, soil stockpiling, and UST handling.
- Implement stormwater and erosion control measures (e.g., silt fencing, gravel pads, and drainage protections).

Step 4: Petroleum-Contaminated Soil Excavation

- Excavate soils from around boring B-06 to a depth of at least 2 feet or until field screening results indicate no further contamination.
- Use visual/olfactory screening and a Photoionization Detector (PID) to assess the presence of volatile organic compounds (VOCs) during excavation.
- Identify and remove soils exceeding the NDDEQ RBSL of 100 mg/kg TPH.
- Stockpile contaminated soils on an impermeable liner with berms and cover to prevent stormwater contact.

- Transport and dispose of petroleum-contaminated soil at a licensed disposal or treatment facility, following RCRA and NDDEQ requirements.
- Record volumes, PID readings, and disposal manifests.

Step 5: UST Decommissioning and Removal

- Clean, inert, and remove USTs 1, 2, 3, 4, and 8 and associated piping, following 40 CFR Part 280, NDDEQ guidelines, and VA design criteria.
- Cut and remove piping, vent lines, sensors, and appurtenances.
- Visually inspect tank interiors for damage or signs of release.
- Crush tanks prior to removing them from the site, if required by the scrap metal facility.
- Haul tanks and components to a licensed scrap metal facility or approved disposal site.
- Obtain Certificates of Destruction and maintain chain of custody records.

Step 6: Confirmation Sampling and Field Verification

- Collect confirmation soil samples from the base and sidewalls of the excavation area.
- Submit samples for laboratory analysis of:
 - Total Petroleum Hydrocarbons - Diesel Range Organics (TPH-DRO).
 - Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX).
 - Naphthalene.
- Compare analytical results with NDDEQ Risk-Based Screening Levels (RBSLs).
- If exceedances remain, extend excavation and repeat sampling until results are within acceptable limits.

Step 7: Installation of New UST Systems

- Install new steel tanks with:
 - Tertiary containment liners
 - Interstitial monitoring systems
- Connect leak detection sensors to the Building Automation System (BAS) and Boiler Plant control room.
- Install new double-wall piping, including:
 - Overfill prevention
 - Remote fill ports
 - Emergency shutoff valves
- Perform system testing, including hydrostatic and pneumatic pressure tests, in accordance with manufacturer guidelines and VA specifications.

Step 8: Backfill, Compaction, and Surface Restoration

- Backfill tank basins and pipe trenches with clean, approved material, compacted in lifts per geotechnical specifications.
- Replace removed pavement, sidewalks, or green space in kind.
- Grade surfaces to original elevations and ensure drainage patterns are restored or improved.

Step 9. Regulatory Coordination

All activities will comply with:

- NDDEQ UST Closure and Cleanup Guidelines.
- EPA UST Requirements (40 CFR Part 280).
- City of Fargo UST permitting procedures.
- OSHA, DOT, and RCRA hazardous materials handling standards.

The VA will maintain continuous coordination with NDDEQ, the City of Fargo, and all regulatory bodies as needed throughout project execution.

Step 10: Final Cleanup and Site Demobilization

- Remove all temporary erosion controls and decontaminate reusable equipment.
- Clean up staging areas and haul away any remaining waste or debris.
- Demobilize all equipment and return site to full operational status.

Step 11: Documentation and Closeout

- Compile and submit the following:
 - UST Closure Reports, including tank and piping removal logs, inspection photos, and disposal manifests.
 - Soil Excavation Summary Report, including excavation maps, volumes, PID logs, and disposal documentation.
 - Analytical Data Reports, including lab certificates of analysis and confirmation sampling results.
 - Certificates of Destruction for all removed tanks, piping, and hazardous components.
 - Photographic documentation.
 - Final Remediation Summary Report - Final summary included in the Construction Closeout Report and Environmental File for the Fargo VA.
- Ensure copies are filed with VA Engineering, uploaded to the site environmental management system, and submitted to NDDEQ as required.

These implementation steps ensure that the Preferred Alternative is carried out in a structured, compliant, and environmentally sound manner. They are designed to minimize risks, protect health and the environment, and support the long-term operational goals of the Fargo VA Health Care System.

5.0 Roles and Responsibilities

Effective execution of the Remedial Action Plan (RAP) and successful implementation of the Preferred Alternative—removal and replacement of underground storage tanks (USTs) and remediation of petroleum-contaminated soils—requires clearly defined roles and responsibilities. This section identifies the key parties involved and outlines their specific duties throughout the project lifecycle, from pre-construction planning through final reporting and closeout.

5.1 Department of Veterans Affairs (VA)

Fargo VA Health Care System - Engineering Service

The VA is the project sponsor, regulatory liaison, and primary oversight authority. The Fargo VA Engineering Service will coordinate internally and externally to ensure compliance with environmental regulations and VA policies.

Primary Responsibilities:

- Serve as the project lead and Contracting Officer's Representative (COR).
- Coordinate with regulatory agencies, including the North Dakota Department of Environmental Quality (NDDEQ) and the U.S. Environmental Protection Agency (EPA).
- Oversee contractor performance and ensure adherence to VA technical requirements and NEPA commitments.
- Review and approve environmental documentation, including UST closure reports, soil sample results, and final remediation reports.
- Serve as liaison between the project team and internal stakeholders (e.g., medical center operations, safety, and communications teams).
- Ensure all remedial actions are incorporated into VA's environmental management system (EMS) and site records.

5.2 Environmental Consultant

(Contracted through A/E or directly retained)

The environmental consultant will lead environmental oversight and support all technical aspects of contamination assessment, sampling, remediation verification, and reporting.

Primary Responsibilities:

- Conduct field screening and confirmation sampling using Photoionization Detectors (PID) and collect soil samples for laboratory analysis.
- Evaluate petroleum contamination data and direct field remediation activities.
- Provide real-time technical support during tank removal and contaminated soil excavation.
- Prepare and submit environmental deliverables including:
 - Site Assessment Report addenda (if applicable)
 - Soil analytical reports
 - Remediation Completion Report
 - UST Closure Documentation
- Ensure proper implementation of health and safety protocols and regulatory requirements for environmental work.

5.3 Construction Contractor

(Selected through VA competitive procurement)

The construction contractor will execute the physical work of UST removal, contaminated soil excavation and disposal, installation of new UST systems, and site restoration. The contractor must be licensed and qualified to perform UST removal and environmental remediation activities with the NDDEQ.

Primary Responsibilities:

- Perform decommissioning and removal of USTs 1, 2, 3, 4, and 8 and associated piping and appurtenances.
- Excavate and manage petroleum-contaminated soils, including staging, loading, transport, and disposal.
- Install new steel UST systems, tertiary containment liners, leak detection equipment, interstitial monitoring systems, and piping per project specifications.
- Implement their site-specific Health and Safety Plan (HASP) and Spill Prevention, Control, and Countermeasure (SPCC) Plan.
- Maintain documentation including:
 - Tank cleaning records
 - Transport manifests
 - Certificates of destruction
 - Construction logs and as-built drawings
- Coordinate construction scheduling with the VA and environmental consultant to avoid conflicts and ensure seamless integration of remediation and infrastructure work.

5.4 North Dakota Department of Environmental Quality (NDDEQ)

UST Program and Division of Waste Management

The NDDEQ provides regulatory oversight for UST closures, contaminated soil removal, and compliance with state environmental standards.

Primary Responsibilities:

- Review and approve UST closure notifications and documentation.
- Provide regulatory guidance for excavation and disposal of petroleum-contaminated soils.
- Review analytical results and final remediation reports to determine whether cleanup criteria have been met.
- Issue formal closure acknowledgement or require additional remedial actions, if needed.

5.5 Certified Analytical Laboratory

An accredited, third-party environmental testing laboratory will be contracted to perform chemical analysis of soil samples for petroleum-related compounds.

Primary Responsibilities:

- Receive, process, and analyze soil samples in accordance with:
 - EPA SW-846 test methods
 - Chain-of-custody protocols
 - Quality assurance/quality control (QA/QC) procedures
- Provide laboratory certificates of analysis for:
 - Total Petroleum Hydrocarbons - Diesel Range Organics (TPH-DRO)
 - Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)
 - Naphthalene
- Submit results to the environmental consultant and VA project team in electronic and hard copy format for use in remedial decision-making.

5.6 Safety Officer / Environmental Health and Safety (EHS) Coordinator

(Designated by the construction contractor)

The safety officer is responsible for enforcing safety standards and minimizing risk to workers and the public during field activities.

Primary Responsibilities:

- Implement and oversee their site-specific Health and Safety Plan (HASP).
- Ensure all workers have current training for:
 - HAZWOPER (29 CFR 1910.120)
 - Confined space entry (if required)
 - Hazard communication (HAZCOM)
- Monitor air quality, excavation safety, PPE compliance, and worker exposure.
- Coordinate emergency response if petroleum vapors, spills, or other hazards are encountered during field activities.

5.7 Additional Stakeholders

Depending on construction timing and location, additional stakeholders may include:

- VA Biomedical Engineering and Facilities Management - to coordinate temporary fuel supply and equipment cutovers during UST transitions.
- General Public and Adjacent Property Owners - to be informed of any temporary access restrictions, odors, or noise that may result from excavation or remediation activities.
- Other VA Contractors - working on concurrent projects in adjacent areas (e.g., generator upgrades, electrical work), to ensure project integration and avoid scope overlap or site congestion.

By clearly defining these roles and responsibilities, the Fargo VA Health Care System ensures coordinated execution of the Preferred Alternative in a manner that is safe, efficient, and fully compliant with environmental regulations and VA infrastructure requirements.

6.0 Project Schedule

This section outlines the anticipated schedule for implementing the Fargo VA Health Care System's Underground Storage Tank (UST) Replacement Project, including environmental remediation, UST decommissioning, system replacement, and post-construction documentation. The schedule reflects coordination with ongoing site operations, seasonal construction limitations typical to North Dakota, and compliance timelines required by regulatory agencies such as the North Dakota Department of Environmental Quality (NDDEQ).

The total project timeline is estimated at approximately 18 months, encompassing pre-construction planning, environmental review, construction and remediation, and final reporting. Adjustments may be made based on site conditions, weather, permitting processes, and coordination with concurrent VA projects.

6.1 Project Milestones and Duration

Phase	Activities	Estimated Duration	Target Dates
1. Pre-Construction Planning	Final design, permit applications, NDDEQ notification, and utility locates	60 days	TBD by the VA
2. Mobilization and Site Setup	Site access control, staging areas, erosion controls, and health/safety prep	14 days	TBD by the VA
3. Contaminated Soil Excavation	Boring B-06 area excavation, PID screening, soil disposal	10-14 days	TBD by the VA
4. UST Decommissioning and Removal	Clean, inert, and remove Tanks 1-4 and 8; piping removal and tank inspection	14-21 days	TBD by the VA
5. Confirmation Sampling and Reporting	Sidewall/base sampling, lab analysis, interpretation of results	10-14 days (concurrent)	TBD by the VA
6. New UST System Installation	Install Steel tanks, containment liners, piping, leak detection systems	30-45 days	TBD by the VA
7. Testing, Commissioning, and Cutover	Pressure/leak testing, system startup, fuel system tie-in	7-10 days	TBD by the VA
8. Surface Restoration and Demobilization	Backfilling, paving, landscaping, removal of controls	14-21 days	TBD by the VA
9. Final Documentation and Closeout	Submission of UST Closure Reports, lab results, and remediation report	30-45 days	TBD by the VA

6.2 Key Regulatory and Seasonal Considerations

- NDDEQ Notification: At least 30 days' notice is required prior to UST closure activities.
- Ground Conditions: Excavation and tank installation are scheduled for mid-summer to early fall, avoiding spring thaw and winter freeze-up periods.
- Concurrent Projects: Coordination with related VA construction efforts (e.g., Building 1 generator upgrade and electrical infrastructure projects) is critical to avoid schedule conflicts or access delays.

6.3 Schedule Contingency

While the overall project duration allows for sequencing flexibility, the following contingencies are built into the schedule:

- Weather Delays: Buffer time of approximately 2 weeks is included to accommodate inclement weather or unanticipated ground conditions.

- **Unexpected Contamination:** If additional petroleum impacts are discovered, time is allocated for additional soil removal and re-testing.
- **Permit Adjustments:** A float period is included to address any unforeseen delays in permitting or regulatory review.

6.4 Summary

The Fargo VA UST Replacement Project is scheduled for implementation in Fiscal Year 2025, with the bulk of field work anticipated to occur during the July-September 2025 construction season. This timeline ensures compliance with environmental regulations, minimizes disruption to VA operations, and supports long-term facility safety and infrastructure resilience.

6.5 Contingency Procedures

If additional contamination is encountered:

- Stop work in the affected area.
- Notify VA Engineering and NDDEQ immediately.
- Implement additional sampling and delineation under the guidance of a licensed environmental consultant.
- Revise the remedial scope of work and seek regulatory approval for changes.

7.0 Contingency Procedures

Despite careful planning and site characterization, unforeseen conditions may arise during the execution of the Fargo VA UST Replacement Project. This section outlines the contingency procedures to be followed in the event of unexpected environmental conditions, equipment failures, regulatory issues, or health and safety incidents during implementation of the Preferred Alternative. These procedures are intended to minimize risk, maintain regulatory compliance, and protect human health and the environment.

7.1 Discovery of Additional Contamination

Trigger Conditions:

- Presence of petroleum odors, staining, sheen, or free product beyond known areas (e.g., outside the shallow B-06 excavation).
- Elevated field screening results (e.g., PID readings >20 ppm) outside previously identified impact zones.
- Laboratory results indicating TPH-DRO or BTEX above North Dakota RBSLs in newly sampled areas.

Response Actions:

1. Stop work immediately in the affected area.
2. Mark and secure the location to prevent unauthorized access.
3. Notify the following parties:
 - VA Engineering Service (COR)
 - On-site environmental consultant
 - North Dakota Department of Environmental Quality (NDDEQ)
4. Expand the excavation area as directed by the environmental consultant, with additional field screening and sampling.

5. Collect and submit new soil samples for expedited laboratory analysis.
6. If additional soil volumes require removal, update the soil management plan and secure disposal approvals as needed.
7. Document all observations, analytical results, and corrective actions in the final Remediation Completion Report.

7.2 Encountering Groundwater or Free Product

Trigger Conditions:

- Saturated conditions in excavation pits earlier than anticipated.
- Visual detection of petroleum sheen, discoloration, or product layer on groundwater.

Response Actions:

1. Cease excavation below the groundwater table unless directed by the environmental consultant.
2. Notify the VA COR and NDDEQ immediately.
3. Conduct visual and olfactory field inspection and collect groundwater grab samples (if authorized).
4. Deploy absorbent booms or pads to contain any free product.
5. Consult with NDDEQ regarding the need for additional groundwater monitoring or reporting.
6. Consider installing temporary sumps or dewatering systems only under professional oversight and with appropriate discharge permits.

7.3 Discovery of Unidentified Underground Structures or Utilities

Trigger Conditions:

- Excavation exposes unknown tanks, piping, vaults, or utility lines.
- Damage to any utility infrastructure not previously identified.

Response Actions:

1. Immediately halt excavation in the area and secure the site.
2. Notify:
 - VA Engineering Service
 - Environmental consultant
 - Appropriate utility providers or City of Fargo officials
3. If an unidentified tank is encountered:
 - Assume the tank is regulated.
 - Do not disturb or open the tank.
 - Contact NDDEQ for evaluation and approval of next steps.
4. Adjust excavation plans as necessary following clearance or decommissioning procedures.

7.4 Spills or Releases During Construction

Trigger Conditions:

- Accidental release of fuel, lubricants, or contaminated water during excavation, fueling, or tank/piping removal.

- Leaking tank or piping section during decommissioning.

Response Actions:

1. Stop the source of the release (e.g., shut off valve, contain spill).
2. Deploy spill containment materials immediately (absorbent pads, berms, booms).
3. Notify:
 - VA Safety Officer and COR
 - NDDEQ Spill Reporting Line
 - City of Fargo (if storm drains or water systems are potentially impacted)
4. Document the spill volume, material, affected media, and clean-up procedures.
5. Submit a written Spill Report to NDDEQ within 24 hours, including any follow-up actions taken.
6. Replace and restock spill response kits immediately after use.

7.5 Personnel Injury or Health Hazard

Trigger Conditions:

- Physical injury, chemical exposure, or heat-related illness among project personnel.
- Discovery of unexpected health hazard (e.g., vapor accumulation, confined space exposure).

Response Actions:

1. Administer first aid and/or call 911 for medical emergencies.
2. Evacuate the affected area if necessary.
3. Notify the site Safety Officer, VA Safety team, and COR.
4. Complete incident reporting and OSHA-required documentation.
5. Conduct root cause analysis and implement revised work practices or controls.
6. If required, revise the Health and Safety Plan (HASP) and rebrief site personnel.

7.6 Weather Delays or Unworkable Ground Conditions

Trigger Conditions:

- Excessive rainfall, flooding, or freezing that prevents safe excavation, transport, or system installation.

Response Actions:

1. Secure open excavations and cover exposed soils.
2. Suspend work and monitor site conditions for stability and erosion.
3. Coordinate with the VA and prime contractor to adjust work sequencing or shift labor/resources to unaffected tasks.
4. Resume fieldwork once safety and environmental conditions are acceptable.

7.7 Communication and Documentation Protocols

For all contingencies, the following documentation and communication practices apply:

- All field incidents, discoveries, or deviations from plan must be logged in the Daily Construction Report.

- VA Engineering Service must be notified within 2 hours of any significant issue or regulatory contact.
- Copies of reports, photos, lab results, and agency correspondence must be retained for inclusion in the Final Remediation Completion Report.

These contingency procedures provide a structured, pre-approved response framework to ensure that the Fargo VA UST Replacement Project can adapt to unexpected conditions while maintaining compliance, safety, and environmental protection.

8.0 Final Reporting and Closeout

This section outlines the procedures and deliverables required to formally document the completion of remedial activities and system replacement associated with the Fargo VA Health Care System's Underground Storage Tank (UST) Replacement Project. Final reporting and closeout activities are essential to ensure compliance with environmental regulations, satisfy internal VA documentation standards, and provide a clear, auditable record of project completion and environmental resolution.

The Final Reporting and Closeout process will be conducted in coordination with the Department of Veterans Affairs (VA) Engineering Service, the North Dakota Department of Environmental Quality (NDDEQ), the construction contractor, and the environmental consultant.

8.1 Remediation Completion Report

The environmental consultant, in collaboration with the contractor and VA Engineering, will prepare a comprehensive Remediation Completion Report documenting the following:

Contents:

- Executive summary of activities
- Summary of site conditions before, during, and after remediation
- Description of contaminated soil excavation (location, volume, extent)
- Field screening results (PID logs, vapor readings)
- Laboratory analytical data and interpretation
- Confirmation sampling locations and results compared to RBSLs
- Description of tank removal and any signs of leakage or product release
- Photographic documentation of excavation, tank removal, and remediation
- Description of clean backfill and surface restoration
- Waste management documentation (e.g., manifests, Certificates of Destruction)
- Summary of contingency events (if applicable) and responses taken

Distribution:

- One (1) hard copy and one (1) digital copy to Fargo VA Engineering Service
- One (1) copy submitted to NDDEQ UST Program for formal case closure
- Inclusion in the VA's Environmental Management System (EMS) records

8.2 UST Closure Documentation

The contractor will submit the following documentation for each removed UST:

- UST Closure Form (NDDEQ-specified format)

- Tank cleaning and inerting records
- Tank and piping removal logs
- Interior and exterior inspection findings
- Final tank disposition (scrap yard or disposal facility)
- Certificate(s) of Destruction for tanks and piping
- Documentation of backfill material and final testing

These documents will be certified by a North Dakota-licensed UST removal professional and submitted to NDDEQ and the VA for approval.

8.3 Construction Completion Report

The contractor will provide a Construction Completion Report documenting:

- As-built drawings of new UST locations, piping runs, and containment systems
- Manufacturer specifications and installation certifications for:
 - Steel tanks
 - Piping systems
 - Leak detection sensors
- Pressure/leak testing results for tanks and lines
- System startup and commissioning checklists
- Verification of BAS connectivity for leak detection alarms
- Contractor punch list and resolution log

8.4 Final Regulatory Coordination

Upon submittal and approval of the above reports:

- NDDEQ will review UST closure documentation and analytical results to confirm that cleanup objectives have been met.
- If no further action is required, NDDEQ will issue a formal No Further Action (NFA) Letter or equivalent closure statement for the site.
- The VA Engineering Service will retain a copy of the NFA or closure letter in the site's environmental compliance files and notify relevant internal stakeholders (e.g., Safety, Facilities, EMS).

8.5 VA Internal Closeout

The VA will conduct the following internal actions to close out the project:

- Update the VA asset management system to reflect the removal of old tanks and installation of new systems.
- Archive all final documentation in accordance with VA Records Control Schedule 10-1 and applicable federal recordkeeping policies.
- If applicable, update Spill Prevention, Control, and Countermeasure (SPCC) plans and Emergency Response Plans to reflect the upgraded systems.
- Conduct a post-project review to evaluate lessons learned, mitigation effectiveness, and regulatory feedback.

8.6 Post-Construction Monitoring (if applicable)

If residual uncertainty remains after remediation (e.g., limited access to certain tank areas), the VA and environmental consultant may implement short-term post-construction monitoring such as:

- Visual inspections of restored areas
- Periodic leak detection system testing
- Follow-up soil sampling (if recommended by NDDEQ)

This activity will be documented and appended to the final reporting package.

8.7 Final Closeout Certification

Upon completion of all required activities, the VA Contracting Officer's Representative (COR) will issue a Final Project Closeout Certification confirming that:

- All environmental remediation has been completed in accordance with the RAP
- All regulatory obligations have been satisfied
- The Preferred Alternative has been fully implemented
- The site is cleared for unrestricted use and ongoing VA operations

This Final Reporting and Closeout process ensures regulatory compliance, transparency, and proper documentation of all environmental and construction activities undertaken to mitigate hazardous materials risk and modernize UST infrastructure at the Fargo VA Health Care System.

9. Conclusion

This Remedial Action Plan establishes a structured, regulatory-compliant approach for safely removing petroleum-contaminated soil, decommissioning aging UST systems, and installing environmentally secure replacements at the Fargo VA Health Care System. Implementation of this plan will mitigate present and future risks from hazardous materials and contribute to long-term operational and environmental stewardship.

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GENERAL NOTES - CONTAMINATED SOIL REMOVAL

1. CONTRACTOR SHALL NOTIFY THE NDDEQ AND EPA REGION 8 AT LEAST 30 DAYS PRIOR TO COMMENCEMENT OF UST CLOSURE AND CONTAMINATED SOIL REMOVAL ACTIVITIES.
2. CONTRACTOR SHALL COORDINATE ALL UTILITY LOCATES (811 AND PRIVATE LOCATE SERVICES) PRIOR TO EXCAVATION.
3. CONTRACTOR SHALL IMPLEMENT THEIR SITE-SPECIFIC HEALTH AND SAFETY PLAN (HASP), INCLUDING AIR MONITORING AND REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) DURING EXCAVATION AND HANDLING OF PETROLEUM-CONTAMINATED MATERIALS.
4. THE CONTRACTOR SHALL DEVELOP AND SUBMIT A CONTAMINATED SOIL MANAGEMENT PLAN TO THE VA PROJECT MANAGER FOR APPROVAL PRIOR TO START OF REMOVAL WORK.

EXCAVATION AND CONTAMINATED SOIL REMOVAL NOTES

5. EXCAVATE PETROLEUM-IMPACTED SOIL IN THE AREA AROUND BORING B-06 TO A MINIMUM DEPTH OF 2 FEET BELOW GROUND SURFACE (BGS) OR UNTIL CLEAN LIMITS ARE CONFIRMED THROUGH FIELD SCREENING AND LABORATORY ANALYSIS.
6. SCREEN EXCAVATED SOILS WITH A PHOTOIONIZATION DETECTOR (PID) AND SUBMIT CONFIRMATION SAMPLES TO A CERTIFIED LABORATORY FOR ANALYSIS OF TPH-DRO, BTEX, AND NAPHTHALENE.
7. EXTEND EXCAVATION AS NECESSARY IF PETROLEUM CONTAMINATION IS ENCOUNTERED BEYOND INITIAL EXCAVATION DEPTHS.
8. IMPLEMENT DUST CONTROL AND VAPOR MITIGATION MEASURES, INCLUDING WATER SPRAYING AND PLASTIC COVERINGS, AS NEEDED DURING EXCAVATION.

CONTAMINATED SOIL HANDLING AND DISPOSAL NOTES

9. PLACE CONTAMINATED SOILS ON A 6-MIL MINIMUM IMPERMEABLE LINER AND COVER WITH SECURED TARPULIN IF IMMEDIATE OFF-SITE TRANSPORT IS NOT POSSIBLE.
10. INSTALL SILT FENCE OR EQUIVALENT EROSION CONTROL AROUND ALL CONTAMINATED SOIL STOCKPILES.
11. ALL PETROLEUM-CONTAMINATED SOILS EXCEEDING 100 MG/KG TPH SHALL BE TRANSPORTED TO A NDDEQ-APPROVED LANDFILL OR PERMITTED LANDFARM FOR TREATMENT OR DISPOSAL.
12. CONTRACTOR SHALL PROVIDE MANIFESTS, RECEIPTS, AND CERTIFICATES OF DISPOSAL FOR ALL CONTAMINATED MATERIALS REMOVED FROM SITE.

TANK AND PIPING REMOVAL COORDINATION NOTES

13. REMOVE USTS AND ASSOCIATED PIPING PER EPA 40 CFR PART 280 REQUIREMENTS.
14. ENSURE TANKS AND PIPING ARE CLEANED OF RESIDUAL PRODUCT PRIOR TO REMOVAL AND OFF-SITE TRANSPORT.
15. PREVENT PRODUCT RELEASE DURING REMOVAL. CAP AND SECURE ALL OPEN LINES AND CONNECTIONS.

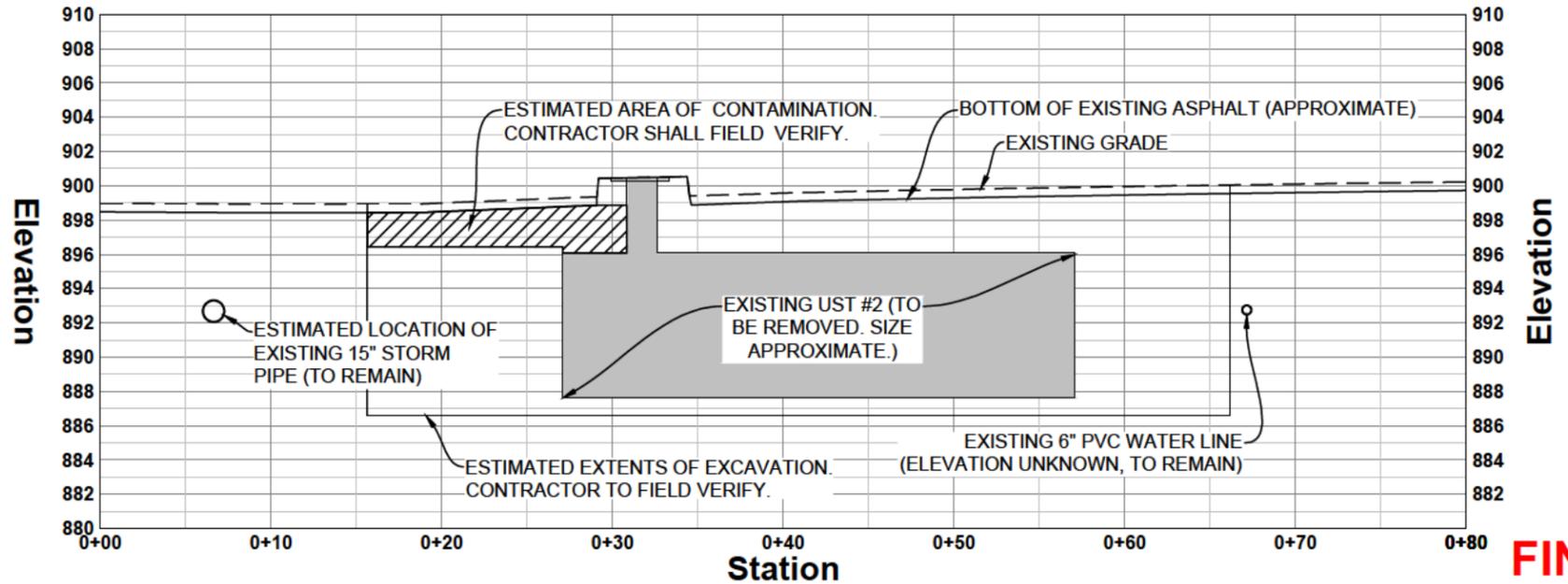
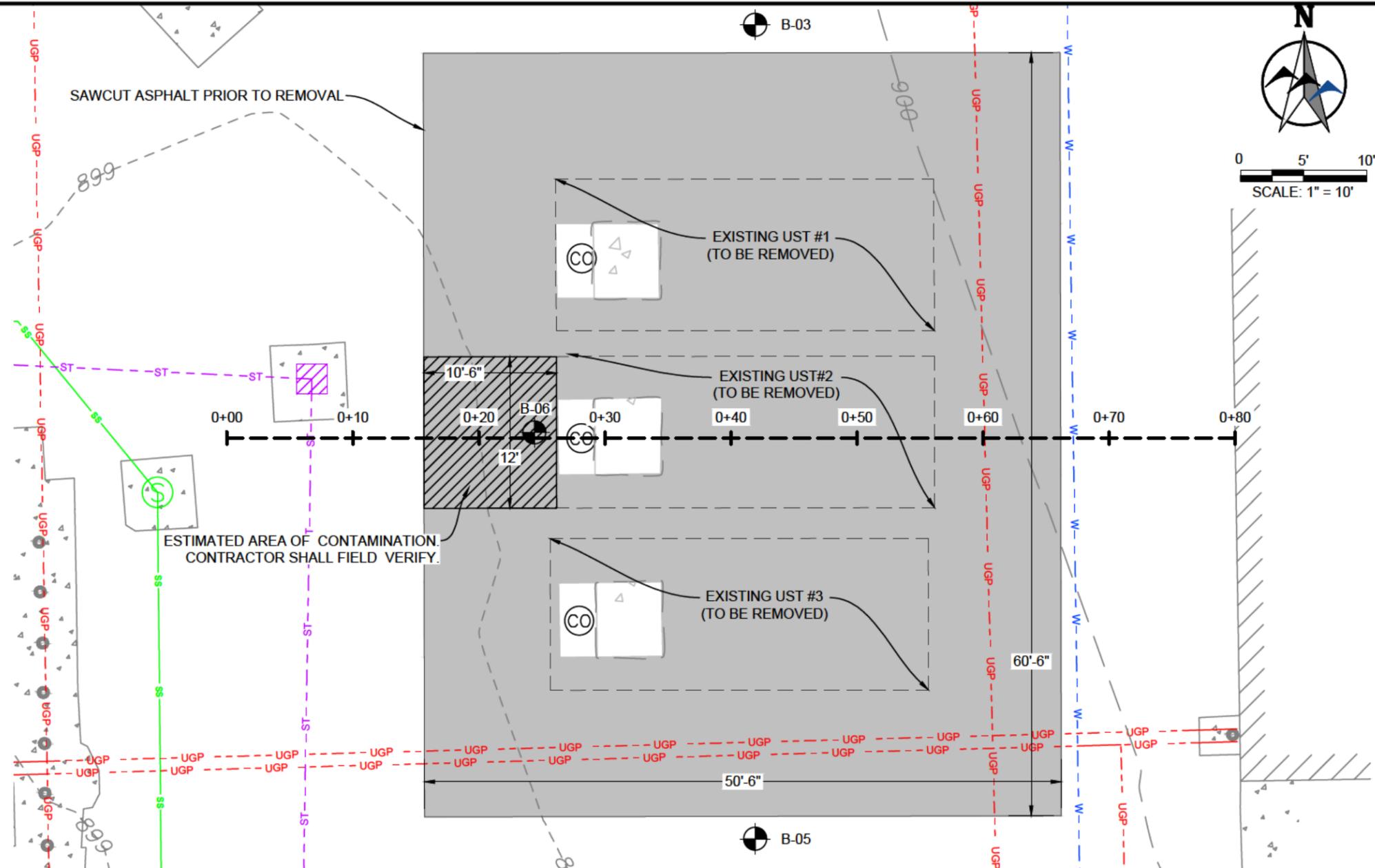
SAMPLING, BACKFILL, AND RESTORATION NOTES

16. CONDUCT CONFIRMATION SAMPLING AT THE FLOOR AND SIDEWALLS OF THE EXCAVATION AFTER REMOVAL OF CONTAMINATED MATERIALS. DO NOT BACKFILL UNTIL APPROVAL IS RECEIVED FROM THE VA PROJECT MANAGER BASED ON SAMPLING RESULTS.
17. BACKFILL EXCAVATIONS WITH CLEAN, TESTED FILL MATERIAL AND COMPACT PER PROJECT SPECIFICATIONS.
18. RESTORE DISTURBED AREAS TO ORIGINAL GRADES AND CONDITIONS UNLESS OTHERWISE NOTED ON DRAWINGS.

REPORTING AND DOCUMENTATION NOTES

19. MAINTAIN DAILY LOGS DOCUMENTING EXCAVATION ACTIVITIES, SCREENING RESULTS, SOIL HANDLING, WEATHER CONDITIONS, AND ANY UNEXPECTED CONDITIONS ENCOUNTERED.
20. SUBMIT A CLOSURE REPORT TO THE VA PROJECT MANAGER INCLUDING FIELD DATA, ANALYTICAL RESULTS, DISPOSAL MANIFESTS, AND A SUMMARY OF REMEDIATION ACTIVITIES.

NOTE: CONTRACTOR SHALL EXCAVATE PETROLEUM-CONTAMINATED SOILS AS SHOWN AND DESCRIBED IN THE REMEDIAL ACTION PLAN AND SITE ASSESSMENT REPORT (AET PROJECT NO. P-0040293). COORDINATE SOIL SCREENING, SAMPLING, AND DISPOSAL WITH VA REPRESENTATIVE. MAINTAIN REGULATORY COMPLIANCE WITH NDDEQ AND EPA REGION 8 THROUGHOUT WORK EXECUTION.



NO.	REVISION	BY	DATE

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 DATE: 04/29/2025

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PROJECT NO. 2025155

End of Report