

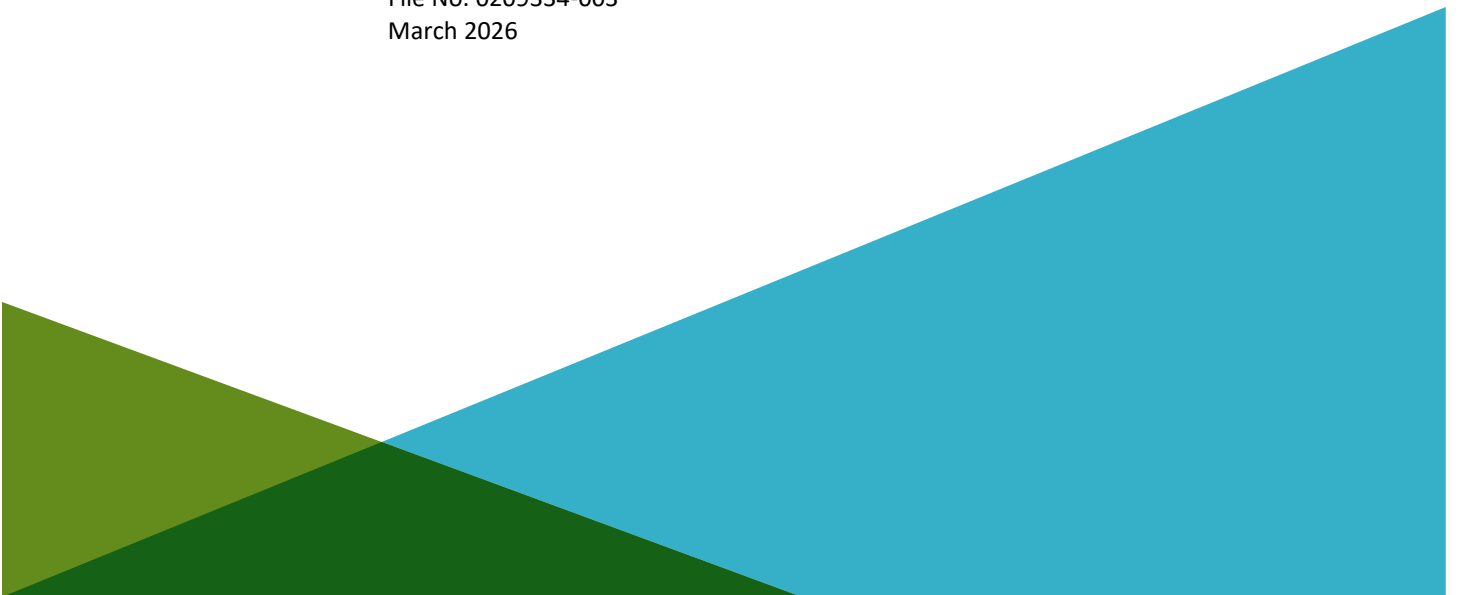
**ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES ON
ST. JOHN CHEVRON SERVICE STATION
ST. JOHN, WASHINGTON**

**EPA COOPERATIVE AGREEMENT NUMBER BC-03J15401
CLEANUP SITE ID: 17185/FACILITY SITE ID: 100003386**

by
Haley & Aldrich, Inc.
Spokane, Washington

for
Port of Whitman County
Colfax, Washington

File No. 0209334-003
March 2026





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March 11, 2026
File No. 0209334-003

Port of Whitman County
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Colfax, Washington 99111

Attention: Kara Riebold, Executive Director

Subject: Analysis of Brownfield Cleanup Alternatives for the St. John Service Station
St. John, Washington
EPA Cooperative Agreement No. BC-03J15401
Cleanup Site ID 17185 | Facility Site ID 100003386

Dear Kara:

Haley & Aldrich, Inc. (Haley & Aldrich) is pleased to provide the Port of Whitman County (Port) with this Analysis of Brownfield Cleanup Alternatives (ABCA) to assess remedial alternatives at the St. John Service Station (Site). The Site is located at 4 South Main Street in St. John, Washington, and includes five Whitman County parcels (Whitman County Parcel Numbers 116500001060003, 116500001070003, 116500001070001, 116500001080002, and 116500001080001). The Site's location is shown on "Vicinity Map," Figure 1, and the Site's Washington State Department of Ecology Cleanup Site Identification (ID) and Facility Site ID are 17185 and 100003386, respectively.

The Port and Haley & Aldrich prepared the original ABCA as part of the Port's 2023 Environmental Protection Agency (EPA) Brownfield Assessment Grant (EPA Cooperative Agreement No. BF-02J49301) to help assess the remedial options for the Site. Subsequently, the Port included this ABCA into the application process for the 2024 EPA Cleanup Grant, which the EPA awarded to the Port in May 2025 under EPA Cooperative Agreement No. BC-03J15401. Based on this, Haley & Aldrich updated the ABCA with supplemental data collected during 2025 (after the application process) in order to submit a revised draft ABCA for the public comment period (starting January 26, 2026), as required by the Cooperative Agreement. The public comment period came to a close on February 26, 2026, and the Port did not receive any comments that needed to be addressed. Therefore, Haley & Aldrich finalized ABCA in accordance with the Cooperative Agreement.

We appreciate the opportunity to provide environmental consulting services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours,
HALEY & ALDRICH, INC.

Ward McDonald, L.G.
Senior Project Manager | Geologist

Julie K. Wilson Wukelic, C.E.M.
Environmental Principal

Enclosures

https://haleyaldrich.sharepoint.com/sites/PortofWhitmanCounty/Shared Documents/0209334-003.POW EPA QEP St. John Service Station/Deliverables/2026 ABCA/Final/2026_0311_HAI_POW_StJohnABCA_F.docx



SIGNATURE PAGE FOR

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**PREPARED FOR
PORT OF WHITMAN COUNTY
COLFAX, WASHINGTON**

PREPARED BY:



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Environmental Principal
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1. Introduction and Background

In 2023, the United States Environmental Protection Agency (EPA) awarded the Port of Whitman County (Port) a \$500,000 Brownfields Grant to help identify and assess blighted properties throughout Whitman County and to aid in potential future redevelopment. The Port's EPA Brownfield Community-Wide Assessment Grant Implementation (grant implementation) operates under EPA Cooperative Agreement No. BF-02J49301-0, and the Port's EPA Brownfield Cleanup Grant operates under Agreement No. BC-03J15401 and followed the approved Quality Assurance Project Plan (QAPP; Haley & Aldrich, Inc. [Haley & Aldrich], 2024a).

In June 2024, the Port notified Haley & Aldrich that they wished to pursue several potential properties for redevelopment. One of those properties is a 0.28-acre site located in St. John, Washington (Site), as shown on "Vicinity Map," Figure 1. The Port wishes to redevelop the Site for a future Whitman Hospital and Medical Clinic (WHMC) and commissioned Haley & Aldrich to conduct a Phase I Environmental Site Assessment (ESA) on the Site to assess for potential recognized environmental conditions (RECs) associated with the property. The initial results of the Phase I ESA indicated that potential petroleum contamination exist in the subsurface of the Site. Subsequently, Haley & Aldrich completed a series of Phase II ESAs at the Site and confirmed that select petroleum constituents and gasoline-range organic (GRO) concentrations exist below the Site above the screening levels listed in the Model Toxics Control Act (MTCA) Method A for Unrestricted Land Use (cleanup levels).

Based on this, Haley & Aldrich prepared this Analysis of Brownfield Cleanup Alternatives (ABCA), on behalf of the Port, to assess potential remedial action alternatives (RAAs) for the Site and to assist the Port with a remedial action objective (RAO). The general Site location, previous Site uses and background, findings, goals and objectives for the Site, regional and Site vulnerabilities, applicable regulations and cleanup standards, and the details of cleanup alternatives are detailed in the sections that follow.

2. Site Location

The Site is generally located at 4 South Main Street in St. John, Washington, and consists of five parcels (Whitman County Parcel Numbers 116500001060003, 16500001080002, 116500001070003, 116500001070001, and 116500001080001) as shown on “Site Plan,” Figure 2. The Port purchased the five parcels from three different property owners in 2024. The Site mostly is flat and undeveloped, excluding one approximately 4,000-square-foot (sq ft) building (currently known as the “St. John Inn Café”) located in the southeastern corner of the Site (see Figure 2). The undeveloped areas of the Site are generally either gravel or paved and used for parking/storage. According to the Port, the second story of the St. John Inn Café was comprised of multi-family rental units. The Port obtained ownership of the Site in October 2024, and the occupants of the building vacated during spring of 2025 in preparation for development of the WHMC. The St. John Inn Café is currently scheduled for abatement and demolition during the first quarter of 2026

2.1 GEOGRAPHIC, GEOLOGIC, AND HYDROGEOLOGIC SETTING

The Site is located approximately 50 miles south of Spokane, Washington, in north central Whitman County. According to the Washington State Geologic Information Portal, the Site resides within a geologic setting of Quaternary alluvium (unconsolidated alluvial clay, silt, sand, gravel, and/or cobble deposits) and loess (wind-blown eolian silt and fine sand) deposits (Washington State Department of Natural Resources [WADNR], 2024). The loess was deposited during the last ice age when the ice sheets receded and uncovered soils from the Cordilleran ice sheet. This sediment was picked up by wind and deposited, creating the Palouse Formation (WADNR, 2024). Loess in the area is reported to be between 100 and 250 feet (ft) thick.

Haley & Aldrich conducted a Phase II ESA during October 2024 and a supplemental Phase II ESA during May 2025. The October 2024 and May 2025 Phase II ESAs consisted of drilling 13 direct-push and eight hollow-stem auger (HSA) borings across the Site, respectively; see “Exploration Locations and Exceedances,” Figure 3. The general Site-specific geologic conditions and approximate thickness of geologic units include well-graded gravel with sand (fill), underlain by silt, underlain by clay, and then underlain by a well-graded gravel with sand that might be remnants of weathered basalt.

The Site resides approximately 200 ft north of Pleasant Valley Creek, which is the primary drainage for the town of St. John. According to the Washington State Department of Ecology’s (Ecology’s) Well Finder Database, groundwater at the Site is present at approximately 12 ft below ground surface (bgs) (Ecology, 2024). Haley & Aldrich also reviewed assessment data collected by Budinger & Associates (B&A) in 2021 out of Spokane, Washington, which were provided by the Port. The assessment data indicate that groundwater below the Site is present at approximately 11 ft bgs, coinciding with data reviewed in Ecology’s database.

Furthermore, data collected by Haley & Aldrich during the Phase II ESAs indicate that groundwater below the Site generally coincides with the data reported by Ecology’s database and B&A. However, during our field activities, groundwater did appear to recharge and reach a greater static water elevation (approximately 8 ft bgs) when open borings/temporary wells were allowed to rest. Additionally, Haley & Aldrich measured and recorded depth to water at each monitoring well (see Figure 3) during the November 2025 groundwater compliance monitoring event. Based on the data collected, groundwater ranged between approximately 6.5 and 7 ft bgs. The groundwater also appeared to flow through preferential pathways of the lower clay unit, based on alternating moist and wet layers observed during drilling.

2.2 PREVIOUS SITE USES AND INVESTIGATIONS

Between the 1920s and 1940s, the Site was used for retail purposes, including a butcher's shop, shoe store, furniture store, print shop, and plumbing shop (Environmental Risk Information Services, 2024). In 1950, the St. John Inn (now Café) was constructed. The St. John Heritage Museum also provided Haley & Aldrich with documentation, which indicates that the Site was also used as a retail service station. Additionally, interviews with local residents indicate that the Site reportedly contained an underground storage tank (UST), which was removed in the 1970s.

2.2.1 2021 Initial Assessment

According to documentation provided by the Port, B&A first surveyed the Site with ground penetrating radar in an attempt to locate potential USTs installed on the property; however, the survey was inconclusive and no USTs were identified. Subsequently, one test pit was excavated at the Site in 2021 to approximately 11 ft bgs. During the test pit exploration, B&A observed "dark stained soil" at approximately 8 ft bgs and noted a "gasoline" odor. During excavation, groundwater slowly infiltrated into the test pit and appeared to have a "petroleum sheen." Samples collected during this assessment were not submitted for analytical testing, and no additional investigations were completed until 2024.

2.2.2 2024 Phase I ESA

During October 2024, Haley & Aldrich completed a Phase I and Phase II ESA as part of the Port's EPA grant implementation. The Phase I ESA was completed in conformance with the scope and limitations of the ASTM International (ASTM) E1527-21 Standard Practice for Environmental Site Assessments.¹

2.2.2.1 Findings

The Phase I ESA indicated the RECs and historical RECs (HRECs) listed below were identified in connection with the Site (Haley & Aldrich, 2024b).

REC #1: Former Print Shop

Based on the fire insurance maps (FIMs) reviewed, a print shop previously operated on the Site (possibly prior to, and) after 1931. FIMs were not available for the Site after 1931. Because printing operations can be potential sources of contamination, the former print shop represents a REC for the Site.

REC #2: Former Retail Service Station and UST

Based on the key site manager interviews, a retail service station (likely with associated USTs) operated at the Site between the 1950s and 1970s. Because no documentation for the removal of the UST was identified and because service stations often are sources of petroleum contamination, the former service station represents a REC for the Site.

HREC #1: Leaking UST

Our environmental records review found a leaking UST reported in 1993 at St. John Grange Supply, located approximately 60 ft east of the Site and hydrologically upgradient with respect to groundwater. The report identified petroleum products leaking into soil. The Site received No Further Action status in 2011, is considered an HREC, and was not considered a REC during the Phase I ESA.

¹ The ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E1527-21 Standard) as referenced in Code of Federal Regulations Title 40 Part 312 (the All Appropriate Inquiries Rule).

2.2.3 2024 Phase II ESA

Based on the Phase I ESA findings, Haley & Aldrich conducted a Phase II ESA on October 9 and October 10, 2024, in general accordance with the 2024 *Sampling and Analysis Plan* (SAP; Haley & Aldrich, 2024c) by contracting Holocene Drilling (Holocene) to drill 13 borings up to 17 ft bgs using direct-push techniques. See Figure 3 for boring locations.

During drilling, Haley & Aldrich field-screened recovered soil samples using visual, olfactory, and water sheen testing techniques; the presence of volatile organic compounds (VOCs) were also assessed using a photoionization detector (PID). Soil samples were collected for analytical testing if field observations/screening indicated that contaminants of potential concern (COPCs) were present based on field observations. Additionally, if the presence of COPCs was not obvious based on field observations, one composite soil sample was collected per boring for every 5 ft explored. In general, initial field screening (using olfactory and the PID) indicated that COPCs were present within soil where water was present in the silt layer and/or within the clay layer at each borehole location.

Haley & Aldrich submitted select soil samples for analytical testing to Eurofins Environment Testing Northwest, LLC (Eurofins) in Spokane Valley, Washington. We initially submitted soil samples for total petroleum hydrocarbon identification (TPH-HCID) using Ecology's Northwest Method NWTPH-HCID. If analytical results indicated that petroleum hydrocarbons were reported above the method reporting limits, we requested additional analyses in accordance with the MTCA Table 830-1. We submitted additional samples to Eurofins for Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) analysis. Eurofins analyzed the samples using EPA Methods 6010 (arsenic, barium, cadmium, chromium, lead, selenium, and silver) and 7470 (mercury). Samples not selected for analysis were submitted to Eurofins on hold. Haley & Aldrich collected select soils samples and assigned individual sample names for each sample type (direct-push, groundwater sample, etc.), sequence of collection, and depth of sample collection (soil samples only). Soil samples collected from the Site were identified as "Direct-Push" (DP), boring number (1, 2, 3, etc.), followed by the sample depth range in ft bgs (see Figure 3). For example, a soil sample collected from boring location DP-1 between 4 and 5 ft bgs will be labelled as "DP-1 (4-5)".

Initially, Haley & Aldrich planned to install up to four temporary monitoring wells (at depths less than 15 ft bgs) at DP-1, -4, -5, and -13 (see Figure 3) to assess COPC concentrations in groundwater across the Site. However, during drilling, we observed inconsistent water bearing zones above and within the preferential pathways of the clay layer and the temporary well casings did not provide an adequate flow rate to feasibly collect water samples using low-flow/low-stress techniques. Therefore, Haley & Aldrich instructed Holocene to continue drilling deeper at DP-1 and DP-4 to assess if seasonal groundwater levels had decreased to depths below the anticipated bottom of borings (15 ft bgs). Refer to the SAP (Haley & Aldrich, 2024c) for planned drilling depths and temporary well installations. Holocene continued drilling greater than 15 ft bgs at DP-1 and DP-4, but encountered refusal at 16 and 17 ft bgs, respectively. Haley & Aldrich observed the bottom of the clay at both locations to be approximately 15 ft bgs and underlain by a saturated fractured well-graded gravel with sand based on recovered soil samples. Drilling actions and recovered soil observed likely indicates that the lower "gravel zones" were weathered basalt and data reviewed during the Phase I ESA coincides with this possibility.

Haley & Aldrich also attempted to collect one water sample one day after the temporary casing was installed at DP-5. However, due to drawdown and slow recharge of the water within DP-5, only a select volume of water was available for collection and analyses. We submitted the water sample to Eurofins for HCID, GRO, VOCs, and lead using EPA Method HCID, NWTPH-Gx, EPA Method 8260, and EPA Method

6010, respectively. Additional details of the subsurface conditions and findings from this Phase II ESA are detailed below. Groundwater samples were identified by the direct-push boring location only (i.e., “DP-1”).

2.2.3.1 Findings

Data collected from the Phase II ESA indicates that the geologic units are generally consistent below the Site with some varying thicknesses. The United Soil Classification System (USCS) designation (based on visual-manual identification ASTM D2488) for each geologic unit and the general depths are summarized below, from overlying to underlying units:

- Well-graded gravel with sand: between ground surface and 3 ft bgs
- Silt with sand: generally between 0.3 and 10 ft bgs; 14 ft bgs at DP-1
- Fat clay (clay layer): between 6 and 15 ft bgs.
- Well-graded gravel with sand: below 15 ft bgs (observed at DP-1 and DP-4; likely weathered basalt)

Haley & Aldrich initially observed groundwater between 5 and 9 ft bgs that partially saturates the clay layer and is generally perched above and within preferential pathways of this layer. Static water elevations were typically observed when drilled boreholes and temporary wells were allowed to rest and groundwater was allowed to recharge the open borehole.

2.2.3.1.1 Magnitude and Extent of COPCs

Field observations indicate that a petroleum-like odor exists within the recovered soil that was immediately above and/or within the clay unit, generally observed at locations DP-1 through DP-10 (see Figure 3). Additionally, we measured VOC concentrations with the PID ranging between zero parts per million (ppm) at DP-11 and 822 ppm at DP-3, with the greatest concentrations observed in the recovered soil from immediately above or within the clay unit. We observed some sheen within the soil recovered from the clay unit at DP-1, -4, and -5; however, a petroleum sheen was generally not observed in recovered soil.

Analytical results indicate that RCRA metal concentrations in soil at DP-2, -6, and -7 (near the historic print shop) did not exceed screening levels. Analytical results indicate that petroleum and associated constituents concentrations in soil are generally below the screening levels excluding at DP-2, -4, and -8 (see Figure 3). Analytical results indicate that GRO concentrations in samples DP-2 (5-10), DP-4 (10-15), and DP-8 (7-10) were greater than the MTCA cleanup levels for the Site (30 milligrams per kilogram [mg/kg]) for soil at concentrations of 51, 1,200, and 1,300 mg/kg, respectively. It should be noted that analytical results for sample DP-3 (10-15) indicated that GRO concentrations were detected above the method reporting limit (at 19 mg/kg) using NWTPH-HCID, but follow-up analyses using NWTPH-Gx were not completed. Based on this and the proximity of sample DP-3 (10-15) to other impacted areas at the Site, GRO concentrations are likely greater than applicable MTCA A cleanup levels at this location as well (see Figure 3 for sample locations).

Analytical results from DP-4 (10-15) also indicate that ethylbenzene and total xylenes exceed the MTCA A cleanup levels; reported concentrations were 6.4 and 17 mg/kg, respectively. Additionally, analytical results for groundwater collected at DP-5 indicate that 1, 2-dichloroethane, benzene, and GRO concentrations exceed screening levels at 7, 210, and 1,700 milligrams per liter (mg/L), respectively. Figure 3 shows the borehole locations where samples exceed screening levels based on analytical results.

2.2.4 Voluntary Cleanup Program

After receiving the analytical results for the 2024 Phase II ESA, the Port applied the Site into the Ecology's Voluntary Cleanup Program (VCP) on April 9, 2024. Thereafter, Ecology accepted the application for the St. John Chevron Service Station to enter the VCP on April 17, 2025, which is the effective date of the agreement (Ecology, 2025a). On April 17, 2025, Ecology issued an opinion under MTCA, stating that additional assessment is necessary to further delineate the nature and extent of contamination at the Site, based on its review of the independent cleanup (Ecology, 2025b). Therefore, Haley & Aldrich conducted a supplemental Phase II ESA in 2025.

2.2.5 2025 Supplemental Phase II ESA Work

Haley & Aldrich conducted the supplemental Phase II ESA field activities between May 27 and May 28, 2025, and field activities were completed in accordance with the SAP (Haley & Aldrich, 2024c). Activities included contracting Holocene to advance an additional four borings (B-1 through B-4) and four monitoring wells (MW-1 through MW-4) up to 20 ft bgs. Holocene advanced each boring/monitoring well using a Diedrich D-120 truck-mounted drill rig and hollow-stem auger drilling techniques. Holocene also collected select soil samples (generally in 2.5- and 5-ft intervals) from each exploration location using standard penetration testing (SPT) and a stainless-steel split-spoon-sampler. Similar to the 2024 Phase II ESA, Haley & Aldrich field-screened recovered soil samples for potential COCs at each sample interval and submitted select samples to Eurofins for analytical testing. The findings from the 2025 Supplemental Phase II ESA are detailed further below.

Holocene converted several borings into monitoring wells identified as MW-1 through MW-4 (see Figure 3). Holocene installed each monitoring well by first lowering the polyvinyl chloride (PVC) casing through the inner diameter of the hollow-stem auger and backfilling the annulus around the PVC in accordance with applicable state regulatory requirements. Each well was constructed with 2.375-inch-outer diameter PVC casing with a 0.01-inch slotted screen section generally set near the bottom of each boring. A sand filter pack was placed in the annulus across the screened interval, and bentonite was placed above the filter pack to seal the annulus to ground surface.

2.2.5.1 Findings

Data collected from the Supplemental Phase II ESA indicate that the geologic units are generally consistent below the Site, as detailed above. Haley & Aldrich observed the depth to groundwater at the time of drilling between approximately 6 and 8 ft bgs. Similar to the 2024 field activities, the depth to water typically rose to static elevations when drilled boreholes and monitoring wells were allowed to rest and groundwater was allowed to recharge the borehole and/or monitoring well casing.

2.2.5.1.1 Magnitude and Extent of COPCs

Field observations indicate that a petroleum-like odor exists within the recovered soil that was immediately above and/or within the clay unit, generally observed at locations B-2, B-4, MW-1 and MW-4 (see Figure 3). Additionally, we measured VOC concentrations with the PID ranging between zero ppm at MW-3 to 685 ppm at B-2, with the greatest VOC concentrations observed in the recovered soil from immediately above or within the clay unit. Petroleum sheen was generally not observed within the recovered soil samples during the 2025 ESA field activities.

Analytical results from the 2025 ESA generally indicate that a similar extent and magnitude of COCs exists below the Site, with a greater horizontal extent of COCs exceeding cleanup levels toward the western and southern extent of the remedial area; see B-1, -3, and -4 in Figure 3. Based on the analytical results, GRO concentrations (greater than the laboratory's method detection limit [MDL]) in soil ranged

between 7.5 mg/kg and 2,500 mg/kg in MW-2 and MW-4, respectively, with concentrations exceeding the MTCA cleanup levels at B-1, -2, -3, and -4, MW-2, and MW-4. Analytical results for soil collected at B-1 (11.5) and B-1 (18) also indicate that benzene concentrations exceed the MTCA cleanup levels at 0.095 and 0.031 mg/kg, respectively. Total xylene and ethylbenzene concentrations in soil samples B-2 (11.5) and MW-4 (11) also exceed MTCA cleanup levels at 16.5 and 84 mg/kg and 6.1 and 17 mg/kg, respectively. Analytical results also indicate that naphthalene concentrations in sample MW-4 (11) exceed cleanup levels with reported concentrations of 5.5 mg/kg.

Similar to the data collected during the 2024 ESA, the 2025 Supplemental Phase II ESA data indicates that COC concentrations in soil generally exceed cleanup levels starting at approximately 4 ft bgs (at B-2) and 6 ft bgs at the remaining sample locations, as well as that COC concentrations are generally less than the cleanup levels at or below approximately 16 ft bgs (excluding the B-1 location). Based on this, it is apparent that the COCs in the soil at the Site are generally confined within the lower depths of the silt unit and the underlying clay soil unit.

2.2.6 2025 Groundwater Sampling Event

On November 11, 2025, Haley & Aldrich conducted groundwater monitoring field activities at the Site to assess COC concentrations in groundwater below the Site. Prior to sampling, Haley & Aldrich first measured and recorded depth to water at each monitoring well using an electronic water level indicator probe. Haley & Aldrich then purged groundwater from each monitoring well using a peristaltic pump, high-density polyethylene (HDPE), and silicon tubing using low-flow/low-stress techniques in accordance with the SAP. The groundwater was purged until water quality parameters (pH, specific conductance, temperature, dissolved oxygen [DO], and turbidity) stabilized (refer to the SAP/QAPP for stabilization parameters) and groundwater samples were collected thereafter. Haley & Aldrich submitted the groundwater samples to Eurofins for analytical testing. The findings from the November 2025 groundwater monitoring event is detailed below.

2.2.6.1 Findings

Based on the groundwater measurements collected during the sampling event, depth to groundwater ranged between 7.06 and 6.44 ft bgs at MW-3 and MW-4, respectively. Haley & Aldrich calculated the groundwater elevations during the sampling event by subtracting the depth to groundwater measurements from the know top of casing elevations for each monitoring well; groundwater elevations are referenced to North American Vertical Datum of 1988 (NAVD88) and shown on “November 2025 Groundwater Elevations and MTCA Method A Exceedances,” Figure 4. Based on this, groundwater elevations ranged between 1964.86 and 1962.86 ft (NAVD 88) at MW-4 and MW-3, respectively, and groundwater below the Site generally flowed toward the southwest during the November 2025 monitoring event.

Analytical results indicate that benzene, GRO, and total and dissolved arsenic concentrations in groundwater generally exceed MTCA A cleanup levels at MW-1, -2, and -4. Benzene concentrations in groundwater exceeded the cleanup levels in MW-1 and MW-4 at 15 and 7.3 micrograms per liter [µg/L], respectively. GRO concentrations in groundwater exceeded the cleanup levels at MW-1 and MW-2 with concentrations of 8,500 and 5,600 µg/L, respectively. Since benzene concentrations in groundwater are present, the MTCA A cleanup levels for GRO concentrations at the Site are 800 µg/L. Analytical results also indicate that total and dissolved arsenic concentrations at MW-1 and MW-2 exceed cleanup levels. Total arsenic concentrations in groundwater during the monitoring event were reported as 0.015 µg/L and 0.014 µg/L in MW-1 and MW-2, respectively. Analytical results indicate the dissolved arsenic concentrations in MW-1 were 0.016 µg/L and in MW-2 were 0.011 µg/L during the November 2025 monitoring event.

3. Project Goal

The project goal is for the Port and WHMC to redevelop the Site into a much-needed medical facility for the community of St. John, Washington, an underserved community within Whitman County. To complete the project goal, the Site first requires remediation of GRO and associated constituents (COCs) in soil to concentrations that are deemed protective of human health and the environment based on MTCA cleanup levels. This goal will be achieved by first applying for applicable available funding through the EPA's Brownfield Grant program and subsequently remediate the Site (using the EPA Brownfield Cleanup Grant funding) to applicable state and federal cleanup standards.

Haley & Aldrich prepared this ABCA as an objective to achieve the project goal in accordance with the requirements of the EPA's Brownfield Cleanup Grants program. The regional and Site vulnerabilities, applicable regulatory requirements, and evaluation of cleanup alternatives are summarized in the following sections.

4. Regional and Site Vulnerabilities

Regional vulnerabilities might include hydrologic downgradient receptors. The Site resides 200 ft north of Pleasant Valley Creek, which is the primary drainage for the town of St. John. Under current Site conditions, the presence of contamination beneath the Site might affect groundwater that infiltrates into the Pleasant Valley Creek, ecological receptors within the Creek, and/or human receptors with shallow residential and/or agricultural wells that exist hydrologically downgradient of the Site. Based on current data, it is unknown if this pathway from the Site to downgradient receptors exists under current Site conditions.

Site vulnerabilities might include current Site users, future construction workers (during development and/or utility maintenance/repairs), and future building occupants/patrons of the future WHMC infrastructure. Washington Administrative Code (WAC) 173-340-740 (3)(C) indicates that the soil-to-vapor pathway shall be evaluated for “other” VOC compounds (Subsection III) whenever the concentration is “significantly higher” than a concentration derived for the protection of groundwater. Ecology’s *Guidance for Evaluating Vapor Intrusion in Washington State* further states that “Ecology generally considers benzene and TPH-Gx concentrations ‘not significant’ if they are less than three times the screening levels” (Ecology, 2022). Since analytical results from the Site indicate that benzene concentrations (250 µg/L) in the groundwater at DP-5 are 42 times greater than the screening levels (5 µg/L), a potential soil-to-vapor pathway might be a risk to Site vulnerabilities.

4.1 PROJECT’S CLIMATE COMMITMENT ACT

Based on EPA grant funding requirements, the EPA requires a discussion of whether climate change could be impacted by the preferred alternative. In 2021, the Washington Legislature passed the Climate Commitment Act (CCA), a sweeping bill that directs Ecology to develop and implement a statewide cap-and-invest program to cut carbon pollution. The CCA is a market-based program, meaning that the law sets standards, but leaves it up to businesses to find the most efficient method to achieve those requirements. The CCA is one of a suite of laws intended to drive down greenhouse gas emissions in Washington to 45 percent below 1990 levels by 2030, 70 percent by 2040, and 95 percent by 2050.

Predicted climate changes in Washington include:

- Increased mean annual temperatures, with winter and spring temperatures increasing the most;
- Increased precipitation in winter, spring, and fall, and decreasing in summer;
- Decreased snowpack, with peak runoff occurring earlier;
- Increased frequency of flooding;
- Increased time of drought;
- Increased frequency and longer season of wildfires; and
- Decreased carbon-capturing forest.

The proposed cleanup would not significantly impact the climate changes above, except for potentially increasing mean annual temperatures through the periodic burning of fossil fuels during equipment use. The Site is in an area of minimal flood hazard and the preferred alternative would not increase the potential for flooding. Trees would not be removed during the cleanup; thus, carbon-capturing would not be altered. It is recommended that equipment used for abatement be turned off when not in use to

reduce carbon emissions during cleanup. If possible, potential electric equipment could also be used when feasible. While not a direct part of the cleanup, the follow-on redevelopment of the Site will include energy-efficient materials and, potentially, electric vehicle charging stations, as necessary.

5. Applicable Regulations and Cleanup Standards

The Site's regulatory authority during the cleanup process will be Ecology. Since the Site's characteristics do not classify as an industrial property under WAC 173-340-745, "the most protective cleanup levels under residential land use conditions represents the reasonable maximum exposure scenario" as listed in WAC 173-340-740. Therefore, soil cleanup standards will follow MTCA Method A for Unrestricted Land Uses, and groundwater cleanup standards will follow MTCA Method A Cleanup Levels for Ground Water in accordance with WAC 173-340-900. Additionally, the Port enrolled the Site into Ecology's VCP and will work collaboratively with Ecology to remediate the Site and report findings in accordance with applicable MTCA regulations. Remediation efforts will follow applicable laws and policies, such as the Davis-Bacon Act and the Small Business Liability Relief and Brownfields Revitalization Act, as necessary.

6. Evaluation of Cleanup Alternatives

Haley & Aldrich assessed various Site-specific characteristics when evaluating feasible remedial alternatives for the Site. The characteristics reviewed generally include: Site geologic and hydrogeologic characteristics (subsurface conditions), remedial alternatives feasible for subsurface conditions, and remedial alternative criteria (i.e., risk reduction, implementability, and cost [including climate change considerations]; see “Summary of Alternative Comparison,” Table 1) The RAOs and considered alternatives are detailed in the sections that follow.

6.1 REMEDIAL ALTERNATIVES CONSIDERED

The RAOs for the Site include:

- **RAO 1:** reduce the risk of exposing hydrological downgradient receptors, such as ecological receptors at Pleasant Valley Creek, and human receptors that might be exposed through residential or agricultural water supply wells
- **RAO 2:** reduce the potential risk of exposure to construction workers during redevelopment of the Site into a future medical facility
- **RAO 3:** reduce the risk of vapor intrusion exposure from COCs in soil and/or groundwater to occupants (workers and patrons) after the Site is redeveloped into a medical clinic

The RAAs that will be assessed to achieve the RAOs are detailed below.

6.1.1 RAA-1: No Action

Alternative RAA-1 requires no additional remedial assessments or alternatives. Therefore, the Site will remain under current conditions.

6.1.2 RAA-2: Select Soil Excavation and Disposal

Alternative RAA-2 includes the Port contracting an environmental earthworks subcontractor to likely dewater the subsurface soil and excavate soils onsite where COCs exist in the subsurface exceeding MTCA Method A soil screening levels (see the approximate “remedial area” shown on Figure 3). During excavation, the Port’s selected subcontractor will either temporarily stockpile the soil onsite at a designated containment area (pending analytical results for disposal) or immediately transport the excavated material to an appropriate disposal facility. After excavation occurs, the Port’s selected Qualified Environmental Professional (QEP) will collect bottom and sidewall confirmation samples to confirm that excavation limits removed soils onsite that exceed MTCA soil screening levels. After excavation is complete, the subcontractor will then backfill the excavated area with imported backfill to the approximate surrounding ground surface elevation until redevelopment of the Site occurs.

Based on RAA-2, Haley & Aldrich anticipates that the subcontractor will need to excavate an approximate area of 5,040 sq ft (see Figure 3) up to approximately 16 ft bgs and up to approximately 80,640 cubic feet (cu ft; approximately 2,986 cubic yards [CY]) removed from the Site and disposed. Since data collected from the Phase II ESAs indicate that soil from ground surface to approximately 5 ft bgs do not contain COCs greater than the cleanup levels, approximately 55,440 cu ft (2,053 CY) will need to be managed as soil impacted with COCs greater than cleanup levels.

6.1.3 RAA-3: Full Soil Excavation and Disposal

Alternative RAA-3 includes the Port contracting an environmental earthworks subcontractor to excavate the areas described in RAA-2 and excavate additional areas where VOCs in soil could be a potential vapor intrusion (VI) risk during final redevelopment (likely Site-wide soil excavation). During excavation, the Port's selected subcontractor will immediately transport the excavated material to an appropriate disposal facility.

After excavation occurs, the Port's selected QEP will collect bottom and sidewall confirmation samples to confirm that excavation limits removed soils onsite that exceed MTCA soil screening levels and soils that are a potential VI risk. After excavation is complete, the subcontractor will then backfill the excavated area with imported backfill to the approximate surrounding ground surface elevation until redevelopment of the Site occurs.

Based on RAA-3, Haley & Aldrich anticipates that the existing infrastructure onsite will need to be demolished and disposed of offsite as part of the Site's preparation phase. Subsequently, the subcontractor will then excavate an approximate area of 12,200 sq ft (see Site Boundary on Figure 3) up to approximately 16 ft bgs and up to approximately 195,200 cu ft (approximately 7,230 CY) removed from the Site and disposed.

6.2 EVALUATION OF RAAS

Haley & Aldrich evaluated the RAAs based on the following criteria: effectiveness of risk reduction, implementability of the remedial action, and associated costs with implementing the remedy. These criteria are detailed below and summarized in Table 1.

6.2.1 Effectiveness of Risk Reduction

RAA-3 was selected as the most effective remedial alternative for removing potential health risks from the Site and potential risks to downgradient receptors. This is because the RAA-3 option removes both the soil with the greatest concentrations of COCs (see DP-4, -5, and -8 on Figure 3), the potential COC source area (currently unknown), and soil that is below screening levels, but could potentially pose as a soil-to-vapor pathway risk during redevelopment. The second-most effective remedial alternative considered was RAA-2. This remedial alternative removes the soil with the greatest concentrations of COCs and, potentially, the COC source area, but does not remove additional soil where VOCs were observed during Phase II ESA activities. The RAA-1 "No Action" alternative does not reduce potential health risks caused by the presence of COCs at the Site or to downgradient receptors. The effectiveness of RAA-1 relies primarily on natural attenuation and the naturally occurring breakdown of the COCs within soil and the perched water.

6.2.2 Implementability

Haley & Aldrich concluded that each RAA is implementable. The RAA-1 alternative was selected as the most implementable, following RAA-2 and RAA-3, respectively. RAA-1 is implementable because it is a "no action" alternative. RAA-2 is implementable, but requires some efforts to remediate the Site of COC concentrations that exceed cleanup levels. RAA-3 is implementable, but requires a greater amount of remedial effort due to existing infrastructure and the volume of soil required for disposal. Therefore, RAA-3 is the least implementable because of the complex remedial effort.

6.2.3 Cost

The RAA-1 alternative does not have an associated cost and, therefore, scores the lowest anticipated cost, followed by RAA-2 and RAA-3. The estimated cost of alternative RAA-2 is between approximately \$376,000 and \$564,200 (depending on material and equipment costs during the remedial period). The estimated cost of alternative RAA-3 is approximately five times greater than the cost of RAA-2 and estimated to be between approximately \$1,747,812 and \$2,621,718 (depending on material and equipment costs during the remedial period).

6.3 PUBLIC PARTICIPATION

The RAAs listed in this ABCA will be available to the public for comments and the comments will be addressed during the selection of the feasible RAA. Haley & Aldrich included the original draft ABCA in the 2024 Port's EPA grant application, the Port advertised this revised draft ABCA on their website, and both the Port and Haley & Aldrich are scheduled to summarize the findings of the Phase II ESA and this ABCA at the St. John city council meeting scheduled for January 26, 2026.

6.4 RECOMMENDED CLEANUP ALTERNATIVE

RAA-1 was excluded as the preferred cleanup alternative. The Site as is does not appear to be a risk to downgradient receptors, and COCs in the subsurface also do not appear to pose a risk to current Site uses. However, since the Site will be redeveloped, it is likely that the subsurface soil will require reworking (e.g., installation of building foundations, excavation for basements, etc.), which will likely cause disturbance of the soils impacted by the COCs. This might promote the mobility of the contaminants below the Site, therefore increasing the potential risk for receptors. Based on this, the RAA-1 "No Action" alternative is not the preferred cleanup alternative.

RAA-3 was excluded as the preferred cleanup alternative. This remedial alternative would likely require complex Site preparation and expenditure of unnecessary funds. This alternative not only would remove soil containing COCs greater than the cleanup levels (same as RAA-2; see Remedial Area on Figure 3), but it would also remove additional soil that could pose a soil-to-vapor pathway VI risk during and after renovation. However, the cost associated with removing the additional soil increases costs dramatically and implementing engineering controls such as including a VI mitigation system into the final building design could significantly reduce the remedial costs and reduce the VI risk. Based on this, RAA-3, "Full Soil Excavation and Disposal", is not the preferred cleanup alternative.

RAA-2, "Select Soil Excavation and Disposal," is the preferred cleanup alternative. This remedial alternative was selected because it is a feasible option to reduce risk to potential receptors by removing soil containing COCs greater than the cleanup level. Additionally, the cost to remediate the Site to applicable regulations is reasonable and additional risks (e.g., soil-to-vapor pathways) can be reduced by implementing engineering controls into the final building design.

7. Limitations

Haley & Aldrich prepared this ABCA in accordance with our June 3, 2024 service agreement and in accordance with the Port's BF-02J49301-0 and BC-03J15401 agreements with the EPA. Haley & Aldrich also prepared this ABCA in accordance with generally accepted professional consulting standards. The findings, opinions, conclusions, and information contained in this report are limited to, and solely based upon, information reasonable ascertainable by Haley & Aldrich at the time the ABCA was prepared. This report is solely for the use and information of the client and any reliance on this report by a third party is the sole risk of the third party.

References

1. Environmental Risk Information Services, 2024. Database Report.
2. Haley & Aldrich, Inc. (Haley & Aldrich), 2024a. Quality Assurance Project Plan, Port of Whitman County EPA Brownfield Community-Wide Assessment Grant Implementation, Whitman County, Washington (EPA Cooperative Agreement No. BF-02J49301-0). September.
3. Haley & Aldrich, 2024b. Report on ASTM Phase I Environmental Site Assessment, Future Whitman County Hospital and Medical Clinic. October 22.
4. Haley & Aldrich, 2024c. Sampling and Analysis Plan, Future Whitman County Hospital and Medical Clinic, 4 South Main Street and Adjoining Parcels, St. John, Washington. September.
5. Washington State Department of Ecology (Ecology), 2022. *Guidance for Evaluating Vapor Intrusion in Washington State*. Publication No. 09-09-047. March 2022.
6. Ecology, 2024. "Washington State Well Report Viewer," accessed September 20, <https://apps.wr.ecology.wa.gov/wellconstruction/map/WCLSWebMap/WellConstructionMapSearch.aspx>.
7. Ecology, 2025a. "St John Chevron Service Station: VCP Application Packet." March 24.
8. Ecology, 2025b. "St John Chevron Service Station: VCP Opinion on Remedial Investigation – Further Action Required." April 17.
9. Washington State Department of Natural Resources (WADNR), 2024. "Washington Geologic Information Portal," accessed September 20, https://geologyportal.dnr.wa.gov/2d-view#wigm?-14054249,-12885068,5741561,6306583?Surface_Geology,500k_Surface_Geology,Map_Units

https://haleyaldrich.sharepoint.com/sites/PortofWhitmanCounty/Shared Documents/0209334-003.POW EPA QEP St. John Service Station/Deliverables/2026 ABCA/Final/2026_0311_HAI_POW_StJohnABCA_F.docx

TABLE

TABLE 1
SUMMARY OF ALTERNATIVES COMPARISON
 ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES
 ST. JOHN, WASHINGTON
 FILE NO. 0209334-003

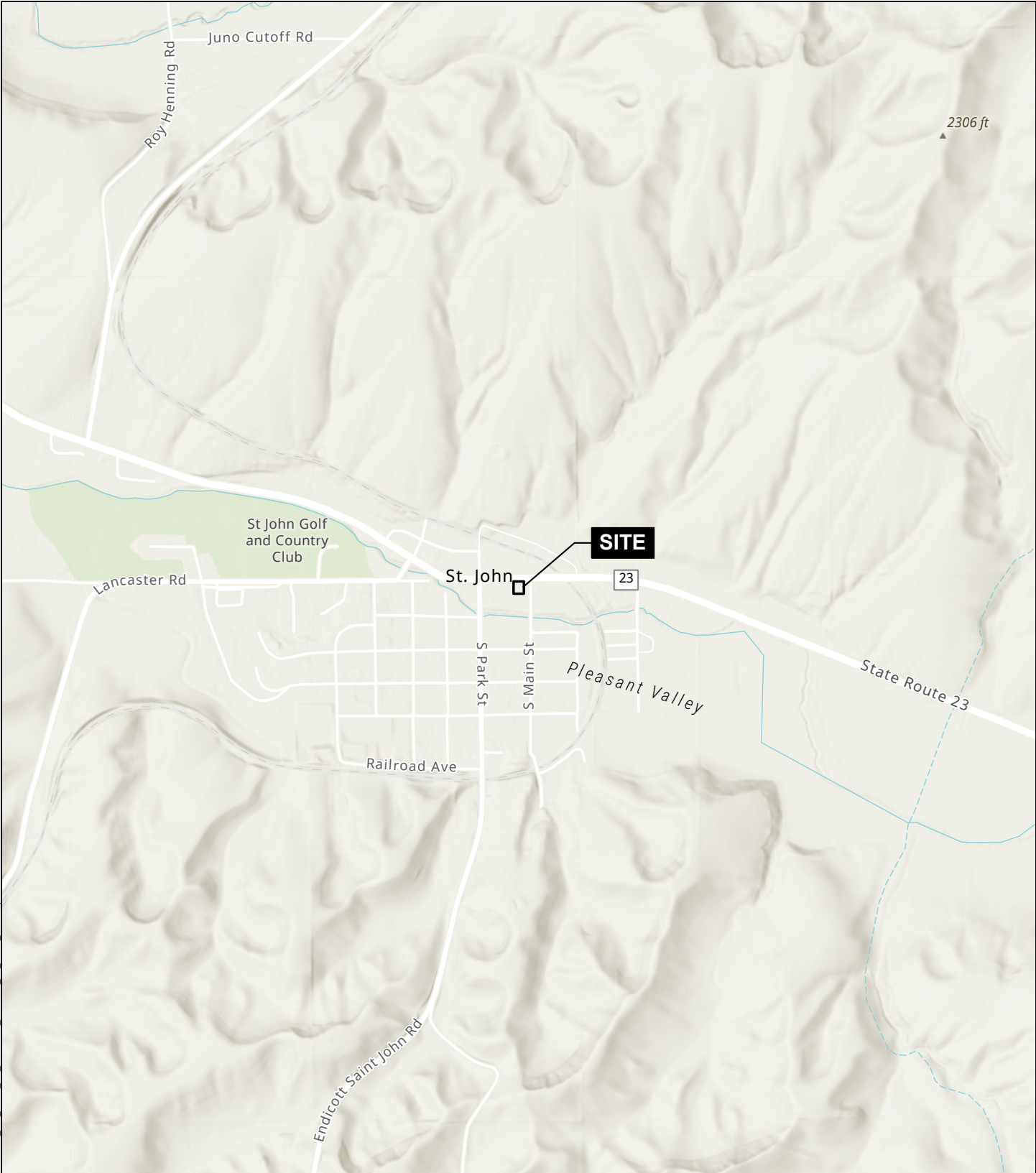
Alternative	Alternative Criteria		
	Risk Reduction Effectiveness	Implementability	Anticipated Cost
RAA-1: No Action	None	Implementable	\$ -
RAA-2: Select Soil Excavation and Disposal	Removes areas of greatest health risk to potential receptors	Implementable, and provides means to redevelop the Site.	Low End Estimate
			High End Estimate
			\$ 376,138
RAA-3: Excavate area where soil exceeds Ecology action levels and areas with potential vapor intrusion risks.	Removes health risks to potential receptors.	Implementable, but increased difficulty due to potential building demolition requirements, scale of excavation, potential stabilization requirements of neighboring buildings and excavation limits.	Low End Estimate
			High End Estimate
			\$ 1,747,812
			\$ 2,621,718

Abbreviation:

Ecology = Washington State Department of Ecology

RAA = Remedial Action Alternatives

FIGURES



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MAP SOURCE: ESRI
 SITE COORDINATES: 117°34'47"W 47°5'30"N

**HALEY
 ALDRICH**

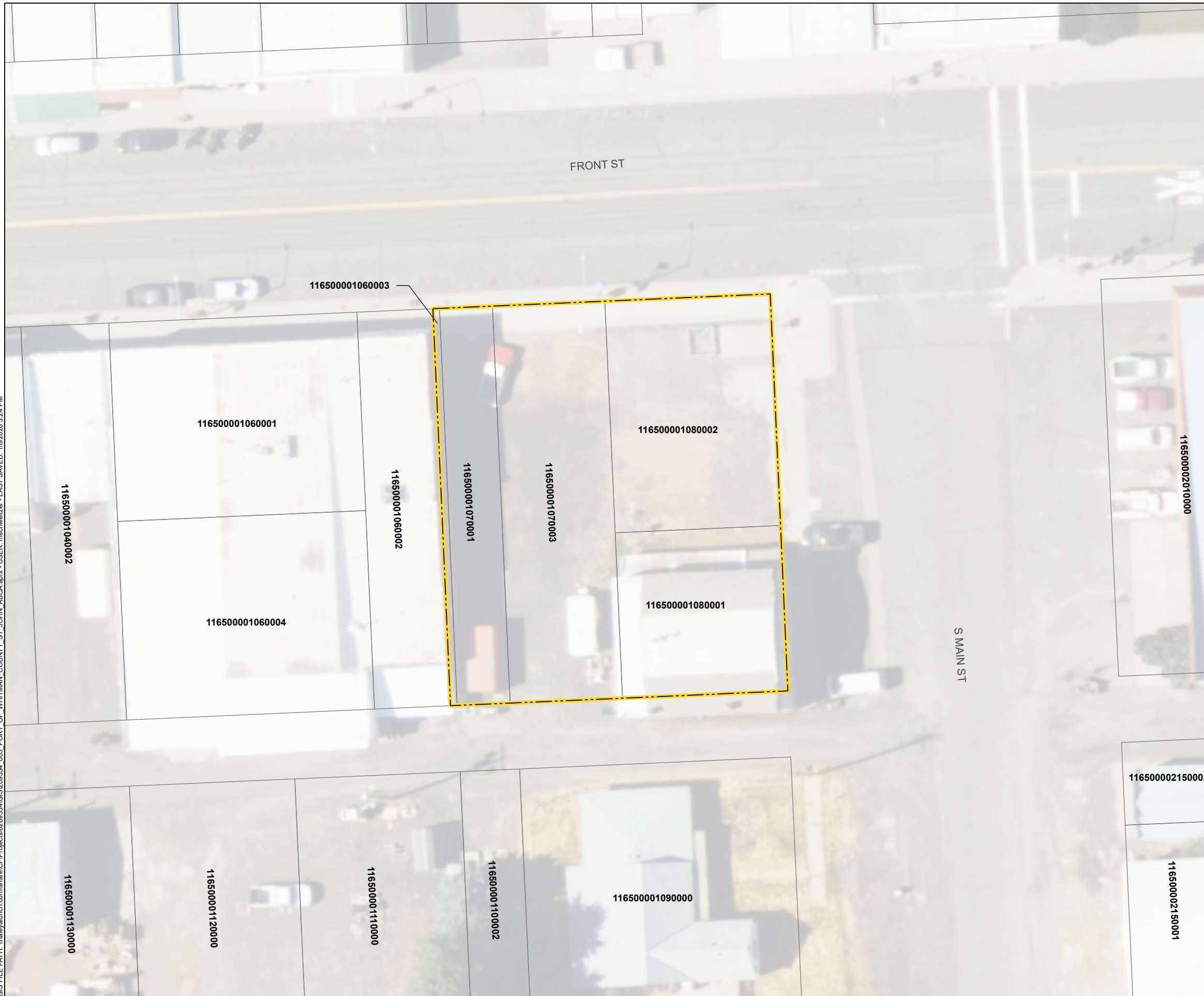
ST. JOHN CHEVRON SERVICE STATION
 PORT OF WHITMAN COUNTY
 WHITMAN COUNTY, WASHINGTON

VICINITY MAP

APPROXIMATE SCALE: 1 IN = 2000 FEET
 JANUARY 2026

FIGURE 1

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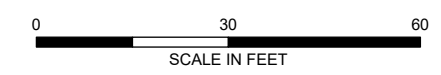


LEGEND

-  SITE BOUNDARY
-  PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: WHITMAN COUNTY
3. AERIAL IMAGERY SOURCE: HEXAGON IMAGERY PROGRAM, JULY 1, 2023



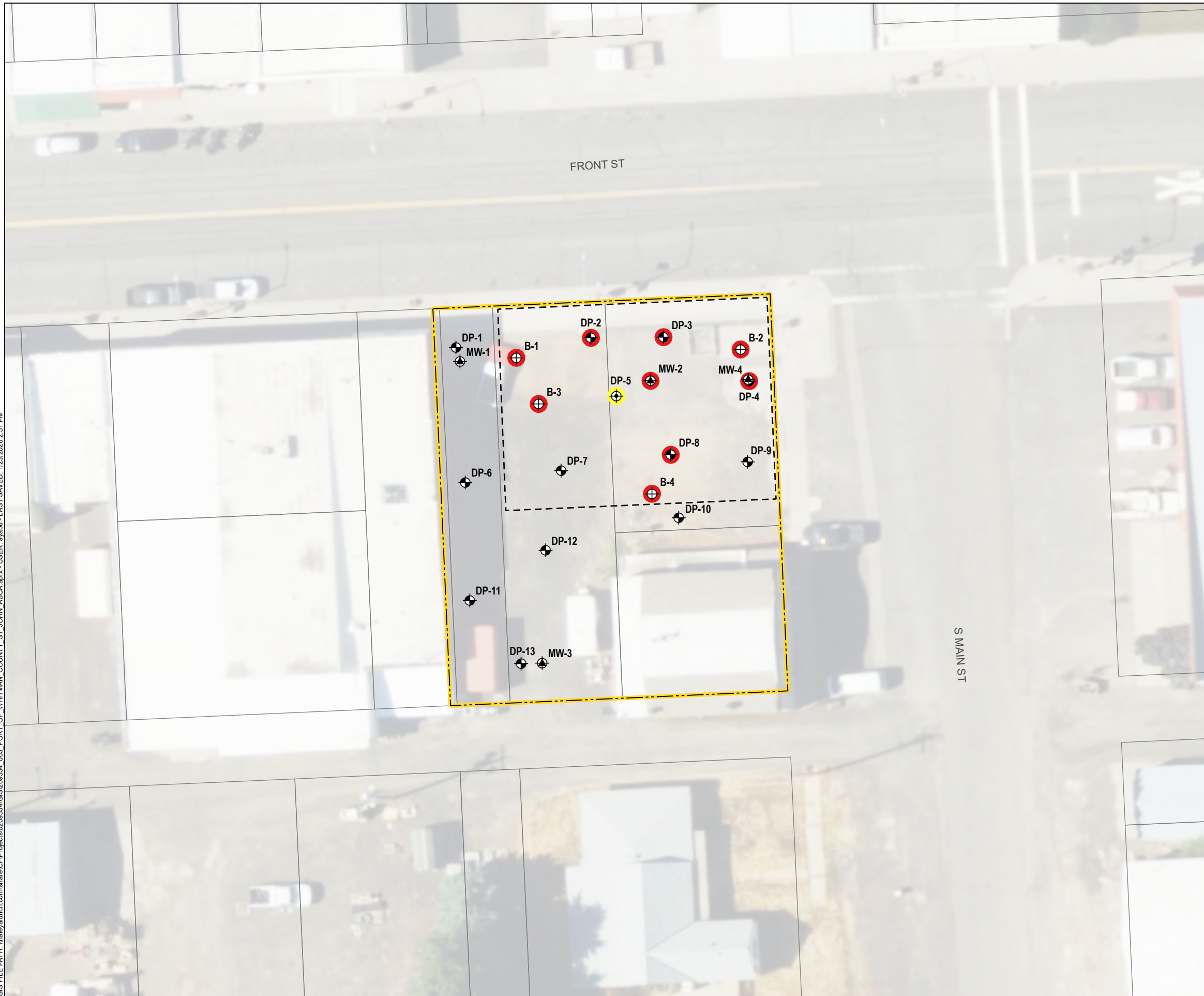
HALEY ALDRICH ST. JOHN CHEVRON SERVICE STATION
 PORT OF WHITMAN COUNTY
 WHITMAN COUNTY, WASHINGTON

SITE PLAN










JANUARY 2026

FIGURE 2

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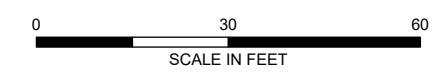


LEGEND

-  DIRECT PUSH BORING
-  DIRECT PUSH BORING / TEMPORARY WELL
-  MONITORING WELL
-  HOLLOW STEM AUGER BORING
-  MTCA METHOD A SCREENING LEVEL EXCEEDANCES - SOIL
-  MTCA METHOD A SCREENING LEVEL EXCEEDANCES - GROUNDWATER OCTOBER 2024
-  REMEDIAL AREA
-  SITE BOUNDARY
-  PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: WHITMAN COUNTY
3. MTCA = WASHINGTON STATE DEPARTMENT OF ECOLOGY'S MODEL TOXICS CONTROL ACT
4. WAC = WASHINGTON ADMINISTRATIVE CODE
5. MTCA METHOD A SCREENING LEVEL EXCEEDANCES = ANALYTICAL RESULTS INDICATE THAT CONCENTRATIONS OF A CONTAMINANT OF CONCERN IN SOIL AND/OR GROUNDWATER EXCEEDS THE SCREENING LEVELS LISTED UNDER MTCA METHOD A SOIL CLEANUP LEVELS FOR UNRESTRICTED LAND USES AND/OR MTCA METHOD A CLEANUP LEVELS FOR GROUND WATER, RESPECTIVELY, IN ACCORDANCE WITH WAC 173-340-900
6. AERIAL IMAGERY SOURCE: HEXAGON IMAGERY PROGRAM, JULY 1, 2023



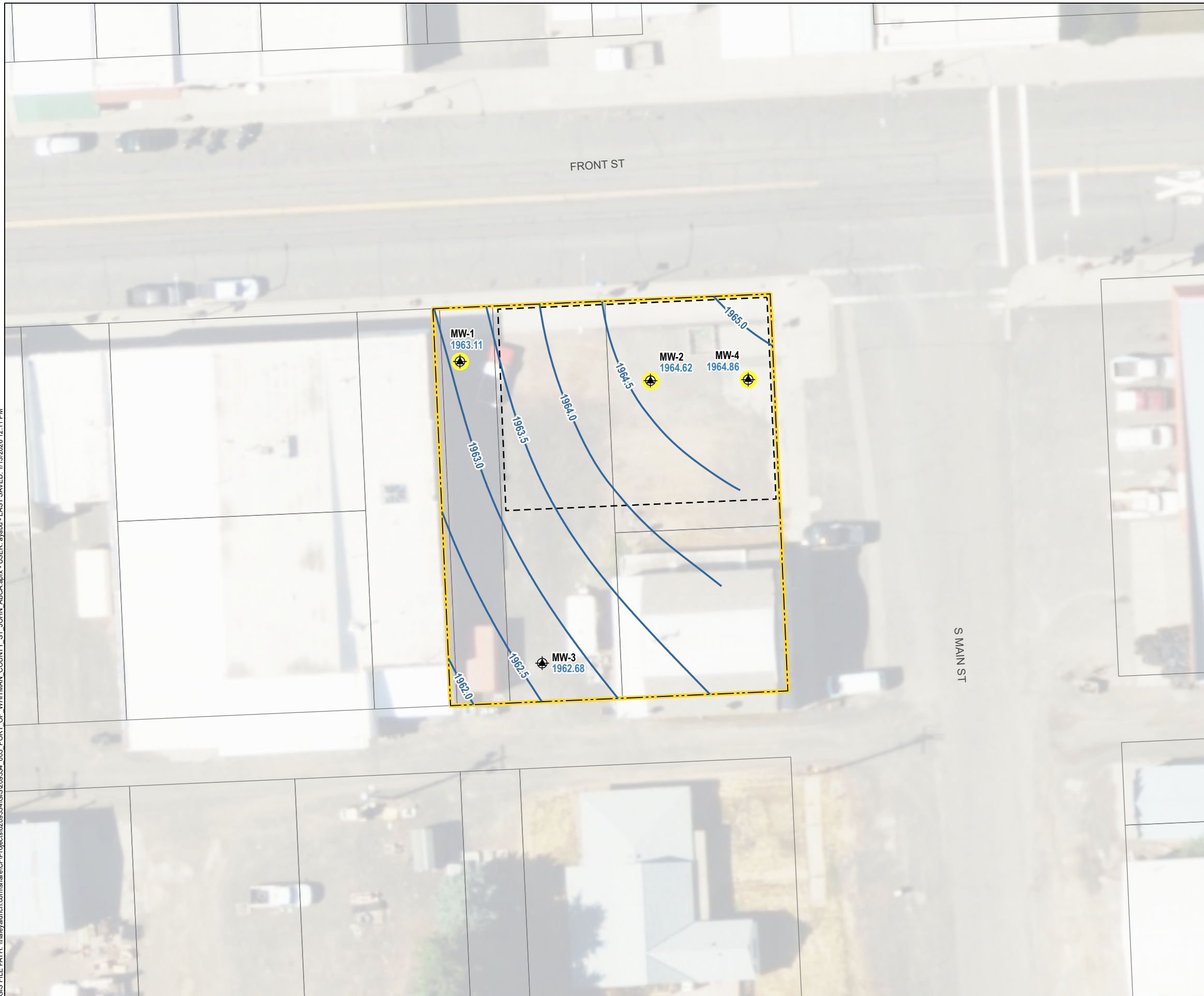
HALEY ALDRICH ST. JOHN CHEVRON SERVICE STATION
 PORT OF WHITMAN COUNTY
 WHITMAN COUNTY, WASHINGTON

**EXPLORATION LOCATIONS
 AND EXCEEDANCES**







JANUARY 2026

FIGURE 3

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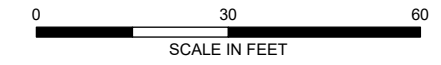


LEGEND

-  MONITORING WELL WITH GROUNDWATER ELEVATION IN FEET
-  MTCA METHOD A SCREENING LEVEL EXCEEDANCES
-  GROUNDWATER ELEVATION CONTOUR, 0.5-FT INTERVAL
-  REMEDIAL AREA
-  SITE BOUNDARAY
-  PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER MEASUREMENTS TAKEN NOVEMBER 11, 2025.
3. ELEVATIONS REFERENCE NAVD 88.
4. MTCA = WASHINGTON STATE DEPARTMENT OF ECOLOGY'S MODEL TOXICS CONTROL ACT
5. ASSESSOR PARCEL DATA SOURCE: WHITMAN COUNTY
6. AERIAL IMAGERY SOURCE: HEXAGON IMAGERY PROGRAM, JULY 1, 2023



HALEY ALDRICH ST. JOHN CHEVRON SERVICE STATION
PORT OF WHITMAN COUNTY
WHITMAN COUNTY, WASHINGTON

NOVEMBER 2025
GROUNDWATER ELEVATIONS
AND MTCA METHOD A EXCEEDANCES

JANUARY 2026

FIGURE 4