

State of Oregon
Department of Environmental Quality

Memorandum

Date: August 8, 2025

To: FILE

Through: Don Hanson, Lead Worker

From: Sarah Kingery
Western Region

Subject: Junction City Yard, LUST 20-90-4036; Staff Memorandum in support of a No Further Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended No Further Action (NFA) determination for the Junction City Yard in Junction City. As discussed in this report, contaminant concentrations in soil and groundwater are below acceptable risk levels.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 0360 and ORS 465.200 through 465.455.

The proposal is based on information documented in the administrative record for this site. A list of key documents used for this report is included at the end of the report.

1. BACKGROUND

Site location.

The site's location can be described as follows:

- Address: 28612 High Pass Road, Junction City, Lane County, Oregon.
- Latitude 44.215 North, longitude -123.226 West
- Tax lot 1400, Township 16 South, Range 4 West, Section 6

Site setting.

The site is approximately 2 acres in size. Flat Creek transects the southwest corner of the site. Agricultural lands bound the site to the west, east and south sides of the property. Rural residential properties are located north of the site, across High Pass Road (Figure 1). The site has a shop building used for storage and offices, a storage shed for stockpiled gravel, and miscellaneous outbuildings.

Physical setting.

The site is in the southern Willamette Valley and is 320 feet above mean sea. Soils beneath the site consist of a mixture of silty clays, silty sands, and silty gravels to depths of 11-12 feet below

ground surface (bgs). Sandy gravels were encountered beneath the silty soils to the maximum depth explored (16.5-feet bgs).

The depth to groundwater at the site ranges from 0.5 feet bgs in the winter to 10 feet bgs in the summer. Groundwater flow direction has been estimated, based on groundwater level measurements in onsite monitoring wells, as west to southwest. Flat Creek is located on the west side of the property (Figure 1). Flat Creek flows across the southwest corner of the property and trends to the northwest away from the site and the former location of the USTs. The creek's riparian zone is adjacent to the west property line and the center of the creek is approximately 80 feet from the site based on Google Earth images. The creek flows to the north and eventually joins the Long Tom River.

Site history.

The site has operated as a shop by lane county since 1952. Prior to 1952 land use was agricultural.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.

The site is zoned rural public facility (RPF). Adjacent agricultural lands are zoned E40 which stipulates exclusively farm use on minimum 40-acre parcels. Properties across High Pass Road are zoned residential (RR5) which stipulates a 5-acre minimum. Lane County currently uses the site for storage of supplies and equipment and stockpiling of rock materials. No crew has been stationed at the site for the past 20 years.

Groundwater use.

Groundwater beneath the site and surrounding properties is used for both irrigation and drinking water. One irrigation well is immediately east of the site boundary. Three residential wells are located north of the site at 28591, 28613, and 28629 High Pass Road. One drinking water well was identified onsite (well-1). The county uses bottled water for drinking water onsite, however there have not been any workers stationed at this site for over 20 years. Water from the onsite well is occasionally used for washing of equipment according to Lane County. A general survey of wells in the area through the Oregon Water Resources Department indicates that most domestic wells in the area are constructed to shallow depths of approximately 30 feet bgs. Future groundwater use on-site is possible, especially if the property were to be sold and redeveloped.

Surface water use.

Flat Creek is located adjacent to the west of the site. Flat Creek flows north and finally converges into the Long Tom River. Flat Creek is designated as a freshwater emergent wetland by the National Wetlands Inventory. The site is not paved. Stormwater infiltrates the site or drains to the ditches along the property boundary that connect to Flat Creek.

3. INVESTIGATION AND CLEANUP WORK

Two underground storage tanks (USTs) were decommissioned by removal in 1990. The USTs consisted of a 5,000-gallon diesel UST and a 10,000-gallon leaded gasoline UST (Figure 2). Free floating product was observed during decommissioning and later identified as diesel. Soil was remediated by excavation in several phases between 1990 and 1991. Approximately 5,000 cubic yards of contaminated soil was excavated and disposed of at the Franklin and Short Mountain Landfills. Due to shallow groundwater at the site, dewatering activities generated approximately 55,000 gallons of contaminated water which was disposed of in two ways: taken to short mountain landfill for use in dust suppression or discharged into the oil/water separator at Lane County/Delta Highway Yard in Eugene. Approximately 200 gallons of diesel was removed by skimming and disposed of by a recycling company.

In 1991 seven borings were drilled at the site, three of which were completed as monitoring wells MW-1, MW-2, and MW-3. Fifty-two soil samples were obtained as part of the decommissioning, remediation excavation activities, and exploratory borings. Soil sample analysis included TPH by EPA 418.1, benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA method 8020, polycyclic aromatic hydrocarbons (PAHs) by 8270. Soil samples from this phase of the project were not analyzed for lead. Two additional soil samples were collected in 2024 and analyzed for at least one of the following: gasoline and diesel-range hydrocarbons by method HCID-Gx and HCID-Dx, VOCs, PAHs, and total lead.

Groundwater monitoring was conducted between September 1990 and October 1993. Groundwater monitoring included sampling of 3 offsite domestic wells north of the site and the domestic well onsite. Domestic water samples were analyzed for BETX by EPA method 8020 and TPH by EPA methods 3510/8015 and for polycyclic aromatic hydrocarbons (PAHs) by EPA method 8310 on the last sampling event in November 1993. Samples from monitoring wells MW-1, MW-2 and MW-3 were analyzed for BETX by EPA method 8020 and TPH by EPA methods 3510/8015. MW-3 was also analyzed for PAHs by EPA method 8310.

Groundwater samples were collected in 2024 and analyzed for TPH-Gx, TPH-Dx, volatile organic compounds (VOCs) by EPA method 8260, PAHs by EPA method 8270SIM, and total lead by EPA method 200.8. Soil samples collected in 2024 were analyzed for TPH-Gx, TPH-Dx, and total lead.

Nature and extent of contamination.

Soil

Contaminated soil remaining after remedial excavation in 1991 contained total petroleum hydrocarbons (TPH) (characterized as diesel). The excavation extended to a depth of 10 feet bgs. One sample collected from the southeast corner floor of the excavation had a TPH concentration of 690 milligrams per kilograms (mg/kg). Samples collected from the other sections of the excavation floor had concentrations that ranged from not detected to 220 mg/kg. Confirmation soil samples collected from the wall of the final excavation had concentrations of TPH typically ranging from not detected to 540 mg/kg. Soil containing higher concentrations of TPH (maximum of 1400 mg/kg) were left in place in a 20-foot section next to MW-3. Remaining

impacted soil is located at depths ranging from 7.5 to 10 bgs. Additional soil samples were collected in 2024 to determine concentrations of lead in the contaminated portion of the site and concentrations of gasoline and diesel-range hydrocarbons in shallow soil along the property line. Lead was detected at a concentration of 1.87 mg/kg. Gasoline-range and diesel-range hydrocarbons were not detected in shallow soil along the western property line.

Groundwater

Concentrations of TPH and BTEX were not detected in MW-1 and MW-2 during the groundwater monitoring between 1990 and 1993. Groundwater collected from MW-3 along the western portion of the site contained BTEX, gasoline and diesel-range hydrocarbons. BTEX concentrations decreased to not detected in 1993. Gasoline concentrations decreased to 181 microgram per liter ($\mu\text{g/l}$) and diesel to 777 $\mu\text{g/l}$. Fluorene and phenanthrene (PAHs) were also detected in MW-3 at a maximum concentration of 1.4 $\mu\text{g/l}$ and 1.2 $\mu\text{g/l}$ respectively.

Diesel-range hydrocarbons were detected in two offsite wells (28591 and 28613 High Pass road) in July 1993 at concentrations of 100 and 120 $\mu\text{g/l}$. Groundwater samples collected from these wells during September and November 1993 did not detect diesel. BTEX and PAHs were never detected in the offsite domestic wells.

Groundwater grab samples collected onsite near MW-3 in 2024 detected diesel-range hydrocarbons at concentrations less than 100 $\mu\text{g/l}$. Fluorene and naphthalene were detected in this sample, but at low levels, below 1 $\mu\text{g/l}$. Total lead was detected at a maximum concentration of 5.5 $\mu\text{g/l}$. Diesel, fluorene, naphthalene and lead concentrations were all less than the occupational tapwater RBCs. 1-mehtylnaphthalene was detected at a concentration of 0.125 $\mu\text{g/l}$ which is one and a half times greater than the occupational tapwater RBC. This is the only instance where 1-methylnaphthalene was detected onsite.

4. RISK EVALUATION

Conceptual site model.

The primary source of contamination was the USTs which were removed 35 years ago, along with most of the contaminated soil and free product. Secondary sources remaining include soil and groundwater containing concentrations of petroleum hydrocarbons.

Pathways by which this contamination could reach human and ecological receptors are as follows:

- Leaching to groundwater
- Groundwater ingestion and inhalation from tapwater for all receptors.
- Groundwater in excavations for construction and excavation workers
- Soil ingestion, dermal contact and inhalation for construction and excavation workers

To evaluate human exposure to residual chemical contamination requires an assessment of the type and extent of that exposure. This is based on current and reasonably likely future site use. DEQ publishes risk-based concentrations (RBCs) for contaminants commonly encountered, for different types of exposure scenarios. These RBCs are conservative estimates of protective levels

of contaminants in soil, groundwater and air. Table 1 shows potential exposure pathways and receptors for this site. Based on this, applicable RBCs are identified and used for risk screening.

CONCEPTUAL SITE MODEL TABLE

Table 1. Identification of applicable RBCs, based on pertinent pathways and receptors

	Pathway	Receptor			
			Is pathway complete?	Is RBC Exceeded?	Comments
Soil	Ingestion, Dermal Contact, and Inhalation	Residential and/or Urban Residential	No	No	Contamination is at depths greater than 3 feet.
		Occupational	No	No	
		Construction Worker	Yes	No	
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential and/or Urban residential	Yes	No	
		Occupational	No	No	
	Volatilization to Indoor Air	Residential	No	No	See Note
		Commercial	No	No	
	Leaching to Groundwater	Residential and/or Urban residential	Yes	Yes	See groundwater section for additional pathway information.
		Occupational	Yes	Yes	
Groundwater	Ingestion & Inhalation from Tap Water	Residential and/or Urban residential	Yes	No	
		Occupational	Yes	No	
	Volatilization to Outdoor air	Residential	No	No	
		Urban residential	No	No	
		Occupational	No	No	There is no residual soil contamination above the water table.
	Vapor Intrusion into Buildings	Residential	No	No	
		Commercial	Yes	No	Contaminants in groundwater do not exceed RBCs.
	Groundwater in Excavation	Construction & excavation worker	Yes	No	
Ecological		Terrestrial & Surface Water	Yes	No	

Notes: DEQ does not have RBCs for volatilization to indoor air from soil. However, soil contaminated with greater than 500 ppm for diesel and 80 ppm for gasoline is considered a potential VI source.

Contaminant concentrations.

Soil contamination is not present in the upper 3 feet of soil at the site. Total petroleum hydrocarbons (TPH) identified as diesel are present in soil at depths ranging from 7.5 to 10.5 feet bgs primarily on the west side of the former excavation and property. Low levels of lead were also detected in soil. The highest concentration of TPH detected in the remaining soil was 1,400 mg/kg (detected in 1990). Concentrations of TPH and lead are below the soil ingestion, dermal contact, and inhalation RBCs for construction worker and excavation worker receptors. Remaining TPH concentrations are above the leaching to groundwater RBCs for all receptors. Lead concentrations are below all RBCs.

Residual soil contamination is present in some locations at concentration above the soil screening level for diesel (500 mg/kg). However, these concentrations are limited and groundwater concentrations are less than the RBCs for vapor intrusion. Groundwater concentrations a better predictor of risk and concentrations in groundwater indicate there is no unacceptable vapor intrusion risk.

Groundwater contamination does not extend offsite. Concentrations of diesel-range hydrocarbons, fluorene, 1-methylnaphthalene, naphthalene, and total lead were detected in groundwater from MW-3 as of 2024. Diesel was detected in groundwater at a concentration of 8.21 µg/l. Concentrations of diesel, fluorene, naphthalene and total lead were below RBCs to tapwater. 1-methylnaphthalene was detected at a concentration of 0.125 µg/l which is one and a half times above the occupational tapwater RBC. 1-methyldnaphthalene was not detected in other water samples analyzed for PAHs. Lane County does not use the onsite domestic well water for human consumption.

Human health risk.

TPH in soil exceeds the leaching to groundwater RBCs however, concentrations of residual contaminants in groundwater do not exceed the ingestion and inhalation from tapwater RBCs therefore this pathway is incomplete. Concentration of TPH and lead remaining in soil are below the other applicable RBCs and not a human health risk.

Concentrations of contaminants in groundwater are below the RBCs for ingestion and inhalation from tapwater RBCs and other RBCs and are not a human health risk at the site.

While there were low detections of diesel in two domestic water wells, at 28591 and 28613 High Pass Road, in 1993, the levels detected at that time were low, at or below current tap water screening levels. Subsequent testing did not detect contamination in the well water. Given that most of the contamination was addressed by removing contaminated soil and groundwater, the predominant groundwater flow has been shown to flow to the south/southwest, and the fact that natural attenuation has greatly reduced the levels of residual groundwater contamination on site, the off-site domestic wells should not be at risk of contamination now or in the future.

Ecological risk.

Soil contamination is not present in the upper 3 feet of soil at the site. Remaining contaminant concentrations in groundwater do not exceed ecological risk RBCs. There are, therefore, no unacceptable ecological risks identified for the site, including Flat Creek.

5. RECOMMENDATION

Following removal of contamination and based on sample results for soil and groundwater, acceptable risk levels are not exceeded, and a No Further Action determination is recommended for this site. The No Further Action determination should be recorded in DEQ's environmental data management system also known as Your DEQ Online (YDO) to reflect this decision.

6. ADMINISTRATIVE RECORD

1990-03-30_20-90-4036_UST_DecommissioningReport
1991-11-26_20-90-4035_CAP
1994-06-23_20-90-4036_Groundwater_Monitoring_Report
2023-03-24_20-90-4036_28612_NFA request letter report
2024-04-01_20-90-4036_SAP
2024-09-05_20-90-4035_Cleanup Report

These documents can be accessed through YDO. There may be additional documents in our paper files that are available through the public records request process.

7. ATTACHMENTS

Figure 1: General Site Location
Figure 2: Site and Sample Location Map

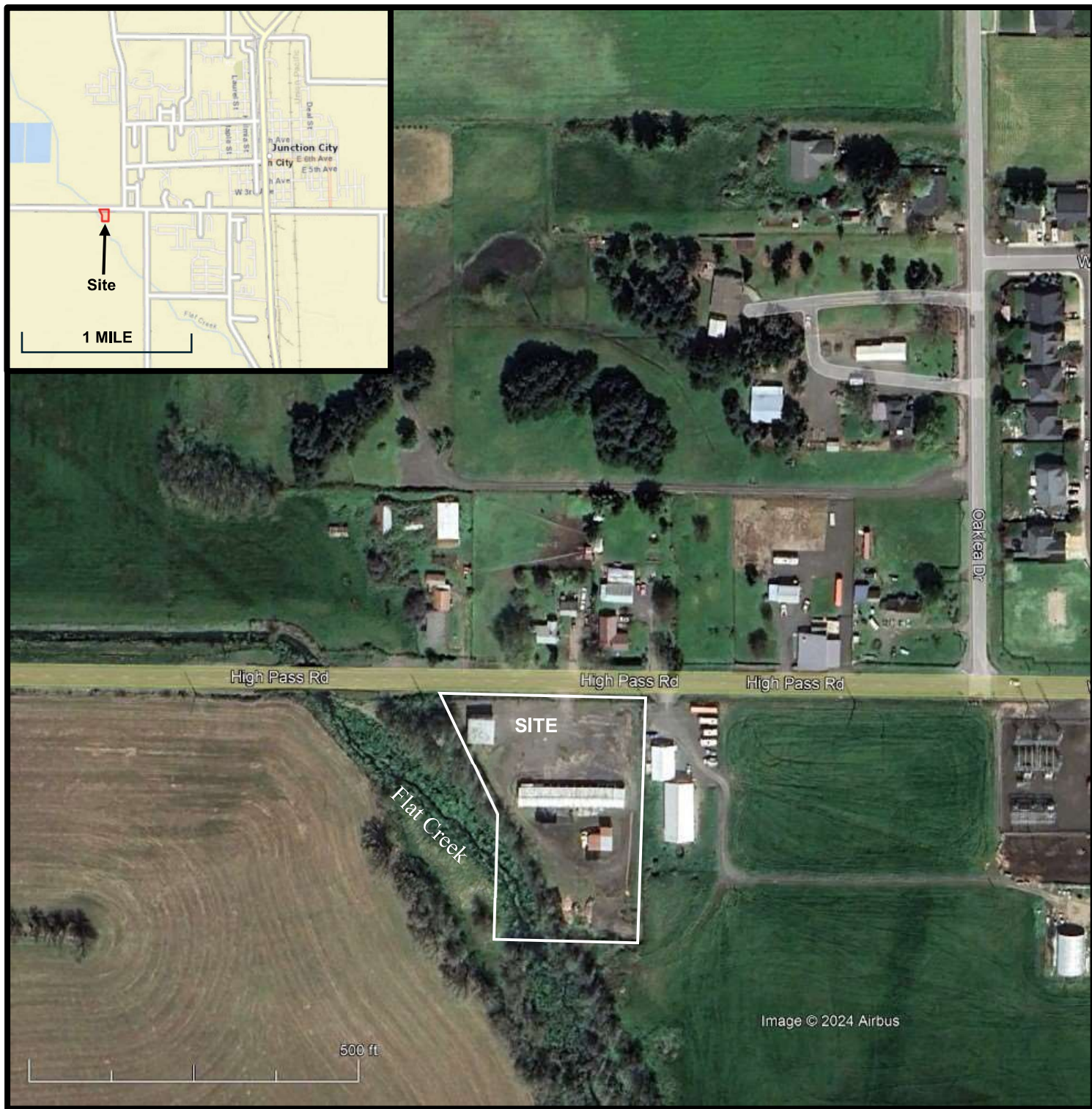
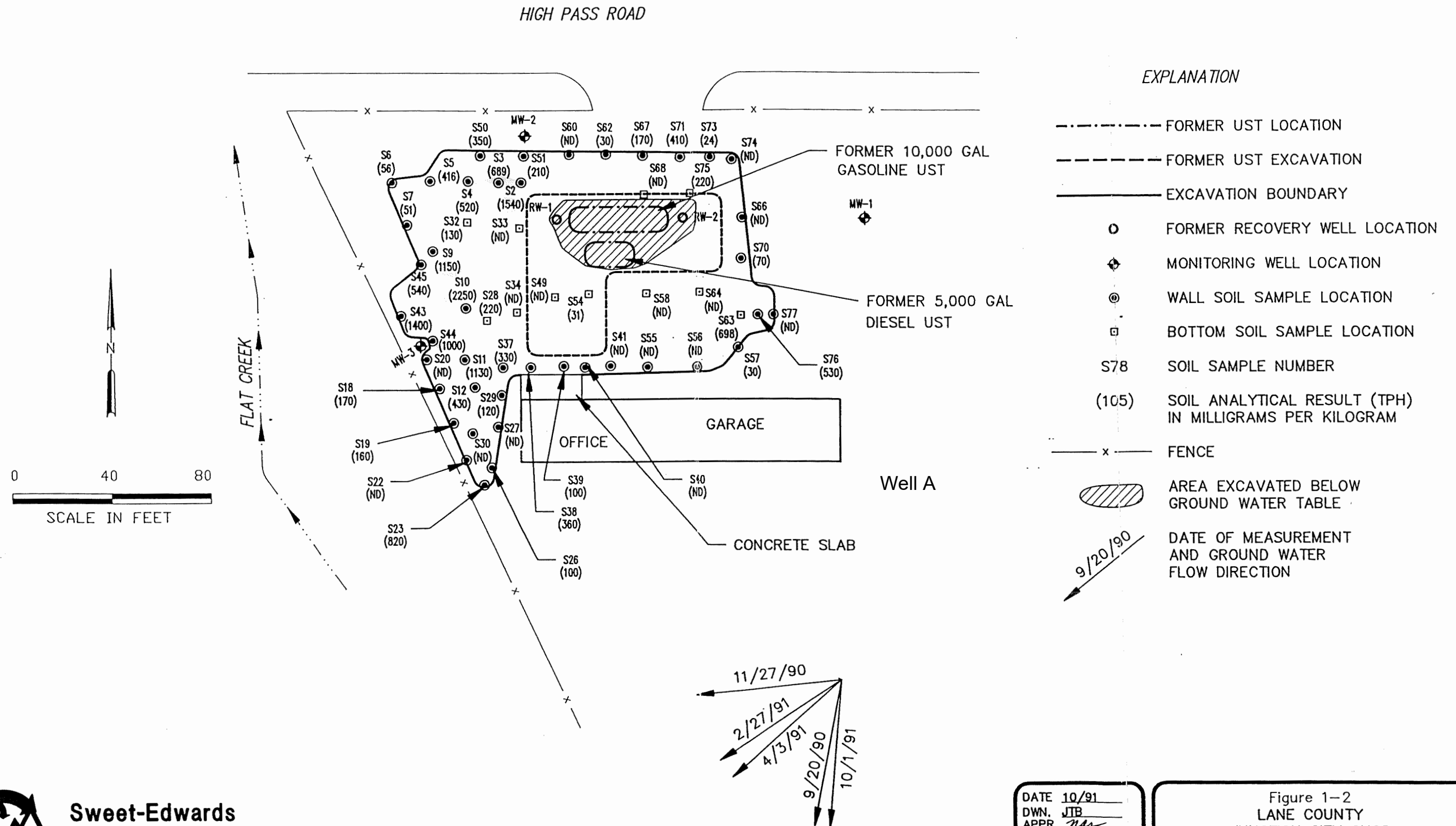


FIGURE 1: General Site Location

(Source: Google Earth; Lane County GIS)

Figure 2



Sweet-Edwards
EMCON

DATE 10/91
DWN. JTB
APPR. *[Signature]*
REVS.
PROJECT NO.
U8602.06

Figure 1-2
LANE COUNTY
JUNCTION CITY SHOP
JUNCTION CITY, OREGON
SITE AND SAMPLE LOCATION MAP