State of Oregon
Department of Environmental Quality Memorandum

Date: December 17, 2024

To: FILE

Through: Brad Shultz, Manager
Bruce Scherzinger, RG
Western Region Cleanup Program

From: Sarah Kingery
Western Region Cleanup Program

Subject: 7-Eleven Store # 24230, LUST #22-08-0575; 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 7-Eleven Store # 24230, in Lebanon. As discussed in this report, contaminant concentrations in soil, groundwater, and soil vapor are below acceptable risk levels.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 360 and ORS 465.200 through 465.455.

The proposal is based on information documented in the administrative record for this site. A copy of the administrative record index is presented at the end of this report.

1. BACKGROUND

Site location.
The site's location can be described as follows:
- Address: 1490 S Main Street, Lebanon, Linn County, Oregon.
- Latitude 45.5322º North, longitude 122.9073º West
- Tax lots 4600 and 4601, Township 12 South, Range 02 West, Section 15AA

Site setting.
The site is approximately half an acre in size and composed of two tax lots. Tax lot 4601 is square and extends from the southeast corner at the intersection of S Main Street (Highway 20) and East Milton Street to the northwest corner of the building. Tax lot 4600 is 'L' Shaped and surrounds tax lot 4601 to the north and west. East of the site, running north to south is Main Street also known as Highway 20. South of the site running east to west is Milton Street.

There is one building in the center of the site that covers about 2,750 square feet and is currently used as a 7-Eleven convenience store. The eastern two-thirds of the site is paved with asphalt

from the west edge of the building to S Main Street. The western third of the site, behind the building, is covered with crushed rock.

Properties to the north, east, and south are all commercial businesses and zoned HCM- Highway Commercial. Single-family homes are located to the southwest, west, and northwest of the site. The homes west and northwest of the site are zoned residential highway (RH), the closest of which is located approximately 80 feet away from the site. The homes southwest of the site are zoned residential mixed (RM) and located approximately 115 feet away from the site.

Physical setting.
The site sits at an average elevation of about 350 feet above mean sea level and is generally flat with a slight slope to the east. The surrounding area within the City of Lebanon is also generally flat with no large topographic changes.

The Geologic Map of Oregon (USGS, 1991) and the Preliminary Geologic Map of the Lebanon and One-horse Slough 7.5-Minute Quadrangles (Oregon Department of Geology and Mineral Resources, 2008) indicate the local Site area is underlain by Quaternary Alluvium. Based on subsurface investigations, the Site is underlain by artificial fill from ground surface to a depth of approximately 2 feet below ground surface (bgs). Beneath the fill, from approximately 2 to 6 feet bgs, is clayey silt to silt and underlying the silt is poorly graded to well graded gravel extending to depths of 15 feet (maximum depth explored).

Groundwater is present at depths ranging from approximately 3.5 to 6 feet bgs. Groundwater flow direction has typically been to the southeast with an average hydraulic gradient of approximately 0.035 vertical feet per horizontal foot.

Site history.
The Property appears to have been developed as early as 1946 with several generations of buildings and uses. Historical records indicate that the Property was used as a gasoline service station as early as 1946 until 1982. Review of the 1946 Oregon State Highway Map (obtained from the Linn County Building Department) shows a building labeled "Garage, Cone. Fl." in the northeast portion of the Site and another building labeled "Service Sta." in the southeast corner of the Site. A 1975 air photograph shows a building (use unknown) along the western Site boundary, a possible concrete pad (a paved area that does not match the surrounding pavement) in the central portion of the Site, an overhead canopy in the eastern portion of the Site, an above-ground sign in the southeast corner of the Site, and automobiles parked around the building and across the Site. The two structures shown on the 1946 Oregon State Highway Map are no longer present.

A 7-Eleven Convenience Store No. 24230 currently occupies the site. Based on available records, 7-Eleven has operated a convenience store at the Site since 1982 (when the current building was constructed). The Site has not been used as gasoline service station during this time.

BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.
The site and all other properties located along Main Street are zoned Z-HCM, Highway Commercial. This allows for limited mixed use with residences on upper floors. The nearest residential properties are located west of the site. Given the zoning information and the site's location along a busy highway, future residential or urban residential property use is considered unlikely.

Groundwater use.
The City of Lebanon's municipal water system supplies potable water for the Site and adjacent properties. The City of Lebanon municipal supply is sourced from the Santiam Canal. Water is diverted into the canal from the South Santiam River by a concrete diversion dam about two miles southeast of the city. Water flows from the canal to the Lebanon Water Treatment Plant.

Stantec conducted a search of the Oregon Water Resources Department well log database for Township 12 South, Range 2 West, Sections 10, 14, and 15 covering the Site and the majority of the City of Lebanon. A total of 320 private water supply well logs were identified in the City limits within these sections; however, none were identified for the Site or adjacent properties. Only two wells were identified within a quarter mile of the site one of which is up gradient. The down gradient property is located about 1,000 feet away. Given the developed nature of the area, city water is available to all properties within the area, and that no water wells are present within 1,000 feet of the site; no beneficial use of groundwater is expected.

Surface water use.
The closest body of water is the northerly-flowing Lebanon-Santiam Creek, which, at its closest point, is located approximately 700 feet west of the Site. The Lebanon-Santiam Creek originates from Cheadle Lake (located approximately 1.25 miles southeast of the Site). The northerly flowing South Santiam River (the source of the City of Lebanon's drinking water) is located approximately 1 mile east of the Site and it drains the watershed of the Cascade Mountains east of the Site. Surface storm water at the Site is intercepted by three on-site catch basins, which presumably drain off-site via subsurface piping.

2. INVESTIGATION AND CLEANUP WORK

Investigations and remediation at the site were conducted between 2008 and 2020. These included a Phase I historical record site assessment, subsurface soil, groundwater and soil gas assessments, geophysical surveys, and removal of underground storage tanks (USTs). Subsurface investigations included 16 borings on and offsite. Eight of the borings were completed as monitoring wells. Monitoring wells MW1 through MW-5 are located onsite and MW-6 through MW-8 are located offsite on the city of Lebanon right-of-way (ROW). Approximately 36 soil samples were collected. Analysis included gasoline-range hydrocarbons by method northwest total petroleum hydrocarbons as gasoline (NWTPH-Gx); diesel and oil-range hydrocarbons by method northwest total petroleum hydrocarbons as diesel and heavy oil (NWTPH-Dx), volatile organic compounds (VOCs) by USEPA method 8260C; polycyclic

aromatic hydrocarbons (PAHs) by USEPA method 8270D; and total lead by USEPA method 6020.

Groundwater samples were collected from borings as grab samples and from developed monitoring wells. Groundwater monitoring was conducted between 2013 and 2021. Samples were analyzed for gasoline, diesel, and oil-range hydrocarbons by NWTPH-Gx and NWTPH-Dx; VOCs by EPA method 8260, PAHs by EPA method 8270; and total and dissolved lead by EPA method 6020.

Passive soil gas sampling was conducted in 2019 to delineate areas of potential petroleum hydrocarbon impacts in groundwater and to assess potential vapor intrusion risk to nearby receptors. Twelve passive soil gas modules (SG-1 through SG-12) were deployed onsite and in the public ROW. The samples were analyzed for VOCs by EPA 8260 and for total TPH mass (entire chromatogram C4 to C20 range). Two active soil vapor samples were collected at the southeast corner of the site in 2020 and analyzed for VOCs by method TO-15, and fixed gases (oxygen, carbon monoxide, carbon dioxide and methane) by method D1946.

A geophysical study discovered three 1000-gallon USTs on the south side of the site and under the ROW. The USTs were removed on October 19, 2020. The USTs had visible rust holes. Approximately 30 tons of impacted soil were excavated from the UST excavation and disposed of at the Waste Management's Hillsboro, Oregon landfill. Ten soil samples collected from the UST excavation were analyzed for NWTPH-Gx and -Dx, VOCs, PAHs and total lead.

Nature and extent of contamination.
Based on the site history and investigations the contaminants of interest (COIs) are petroleum related, specifically gasoline, diesel and oil-range hydrocarbons, BTEX, naphthalene and lead. Soil, groundwater and soil vapor are impacted on and offsite. Based on investigations the locality of facility is in the E Milton Street right-of-way, extending from the former orphan USTs location to the intersection of E. Milton and Main Street. The LOF then extends along the east side of the site to a point between MW-2 and MW-1. Stantec's interpretation of the LOF is included on Figure 2. The LOF is the area that receptors are likely to encounter contamination. The highest concentrations of contaminants are in the southeast corner of the site and under the sidewalk on E Street. This is between the former USTs and historic fueling area.

<u>Soil</u>
Soil in the vicinity of the former USTs in the E Street ROW contains concentrations of gasoline, diesel and oil-range hydrocarbons. Some samples also contain concentrations of benzene, ethylbenzene, and total xylenes. The southeast corner of the property and the ROW were investigated by drilling two borings. Concentrations of gasoline-range hydrocarbons ranged from 80 to 5,960 mg/kg in soil. Diesel-range hydrocarbons ranged from 7.61 to 1,870 mg/kg. Some soil samples also included low concentrations of BTEX, 1,2,4-Trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, n-propylbenzene and naphthalene. The southeast corner of the property has the highest concentrations of remaining soil contamination and is approximately 75 feet from the convenience store. A summary of soil data is shown on Figures 5a and 5b.

Groundwater

Groundwater at the southeast corner of the site and in the Main Street and E Milton Street ROW contains concentrations of gasoline and diesel-range hydrocarbons and BTEX. An initial groundwater grab sample in 2008 from this area (B-8) detected TPH-G at a concentration of 55,700 µg/l and benzene at a concentration of 2,210 µg/l. Subsequent water sampling from a monitoring well MW-8 in the same location, shows that TPH-G and benzene concentrations have decreased after the removal of the USTs and over time to concentrations of 2,200 µg/l and 63.7 µg/l respectively (2021 sampling). Monitoring well MW-3, located between MW-8 and the convenience store, had a benzene concentration of 7.77 µg/l in 2021. A groundwater grab sample obtained from B-1 at the southeast corner of the store in 2008 did not detect the presence of contaminants. Based on the information that COIs were not detected in B-1, that lower concentrations of COIs are detected between the high concentrations in MW-8 and the store, and direction of groundwater flow at the site is towards the southeast corner of the site, groundwater contamination does not extend beneath the convenience store. Residual gasoline, diesel, benzene, ethylbenzene and total xylene in groundwater remains at the southeast corner of the property and does not extend across E street and E Milton Streets. A summary of groundwater results is shown on Stantec Figure 6.

Soil vapor

Soil vapor in the southeast corner of the site is contaminated with gasoline (low fraction TPH), benzene and ethylbenzene, at concentrations exceeding vapor intrusion into building RBCs for residential and commercial receptors. Active soil vapor sampling detected concentrations of low fraction TPH, benzene and ethylbenzene at concentrations in the vicinity of MW-8 (soil vapor sample SV-2). Analysis of a second sample (SV-1) obtained between MW-8 and the store did not detect the presence of gasoline. Concentrations of VOCs were detected in SV-1 below vapor intrusion RBCs. SV-1 was located north of MW-3. Concentrations of gasoline in groundwater (MW-3) at the time of the SV-1 sampling in 2020 were above the groundwater vapor intrusion RBCs. However, gasoline was not detected in soil vapor in this location and SV-1 likely delineates the extent of gasoline in soil vapor in this direction. Concentrations of oxygen detected in the subsurface ranged from 17.2% to 18.4%.

3. RISK EVALUATION

Conceptual site model.

Contamination at the site and in the E street ROW is from historical releases from USTs and fueling activities. Removal of the USTs and natural attenuation has resulted in concentrations of contamination declining. People are the primary receptors for the contamination. This could include occupational, construction, and excavation workers. Ecological receptors are not expected to be affected due to lack of terrestrial habitat, and the lack of surface water receptors in the vicinity of the site.

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.

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	There is no contamination above 3 feet.
		Occupational	No	No	
		Construction Worker	Yes	No	
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential and/or Urban residential	No	No	
		Occupational	No	No	
	Volatilization to Indoor Air	Residential	N/A	N/A	See Note
		Commercial	N/A	N/A	
	Leaching to Groundwater	Residential and/or Urban residential	No	Yes	There is no beneficial use of shallow groundwater. Municipal water is provided to the site and surrounding properties.
		Occupational	No	Yes	
Groundwater	Ingestion & Inhalation from Tap Water	Residential and/or Urban residential	No	Yes	There is no beneficial use of shallow groundwater. Municipal water is provided to the site and surrounding properties.
		Occupational	No	Yes	
	Vapor Intrusion into Buildings	Residential	No	Yes	Commercial property, residential properties greater than 30 feet lateral distance from contamination.
		Commercial	No	Yes	Commercial building greater than 30 feet from groundwater plume.
	Groundwater in Excavation	Occupational	Yes	No	
Soil Vapor	Vapor Intrusion into Buildings	Residential	No	Yes	Commercial and residential buildings are greater than 30 feet from plume.
		Commercial	No	Yes	
Ecological		Terrestrial & Surface Water	No	No	

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.
Concentrations of contaminants of concern are show below. The concentrations in the left-hand column are the highest concentrations detected at the site, most recently sampled. Soil removed from the site is not represented on this table. The concentrations are compared to the key exposure routes of concern, which are direct contact, vapor intrusion into indoor air (groundwater and soil vapor), construction and excavation workers, and groundwater in excavations.

Soil

Contaminant of Concern	Maximum Concentration mg/kg	Are any applicable RBCs exceeded?
Gasoline-range hydrocarbons	5,960	No
Diesel-range hydrocarbons	1870	No
Benzene	0.409	No
Toluene	.0599	No
Ethylbenzene	25.6	No
Xylenes	0.205	No
Naphthalene	2.270	No

Groundwater

Contaminant of Concern	Maximum Concentration µg/l	Are any applicable RBCs exceeded?
Gasoline-range hydrocarbons	2,840	No
Diesel-range hydrocarbons	2,480	No
Benzene	63.7	No
Toluene	9.3	No
Ethylbenzene	128	No
Xylenes	23.6	No

Soil Vapor

Contaminant of Concern	Maximum Concentration µg/m³	Are any applicable RBCs exceeded?
TPH Low Fraction	8,220,000	Yes
Benzene	10,500	Yes
Toluene	5,160	No
Ethylbenzene	26,800	Yes
Xylenes	686	No

Soil
There is no remaining shallow (0-3 feet) soil contamination accessible to occupational receptors. Concentrations of contaminants remaining in soil at depths greater than 3 feet are below the RBCs for construction and excavation workers.

Groundwater
Gasoline, benzene, and ethylbenzene are present in groundwater at the southeast corner of the site at concentrations greater than the RBCs for ingestion and inhalation from tapwater. City water is provided to the site and surrounding area and shallow groundwater beneath the site has

no beneficial use therefore the ingestion and inhalation from tapwater pathway is incomplete. Gasoline, benzene, and ethylbenzene are present in groundwater at concentrations greater than the RBCs for vapor intrusion into buildings. However, there are no buildings on this portion of the site and the current convenience store is located greater than 30 lateral feet from the groundwater contamination making this pathway incomplete. A soil vapor sample from a vapor point next to MW-3 detected concentration less than the RBCs for vapor intrusion providing a further line of evidence that the vapor intrusion pathway is incomplete.

Soil vapor
Soil vapor in the southeast corner of the site (south of MW-3) and in the ROW contains TPH (low fraction), benzene and ethylbenzene at concentrations above the vapor intrusion RBCs. The onsite building is located greater than 30 feet from the zone of soil vapor contamination making this pathway incomplete. Other buildings in the area, including residential are greater than 30 feet from the soil vapor contamination and the pathway is therefore incomplete.

Human health risk.
The site is zoned commercial and is being used for commercial purposes into the foreseeable future. Residential properties in the area are greater than 30 feet from remaining contamination at the site and are therefore not being considered as receptors.

There is no human health risk to construction and excavation worker receptors because contaminants of concern are below the RBCs for soil ingestion, dermal contact and inhalation and groundwater in excavations pathways.

There is no human health risk from groundwater ingestion and inhalation. Shallow groundwater at the site does not have a beneficial use. Water is provided to the site and surrounding properties by the local municipality therefore the ingestion and inhalation pathway is incomplete.

Vapor intrusion into buildings is an incomplete pathway for contaminants that remain in ground water and soil vapor because occupational receptors are greater than 30 lateral feet from remaining contamination. Future receptors could be impacted if a building was constructed on the southeast corner of the site however, given zoning restrictions that stipulate a 10-foot setback from the property line this is considered unlikely. The area where soil vapor concentrations are greater than the RBCs is limited and does not extend onto the site beyond the 10-foot building setback.

Ecological risk.
The site is a commercial property with no sensitive areas onsite or in the vicinity. There is no surface water onsite or adjacent that would interact with groundwater beneath the site. There are, therefore, no unacceptable ecological risks identified for the site.

4. RECOMMENDATION

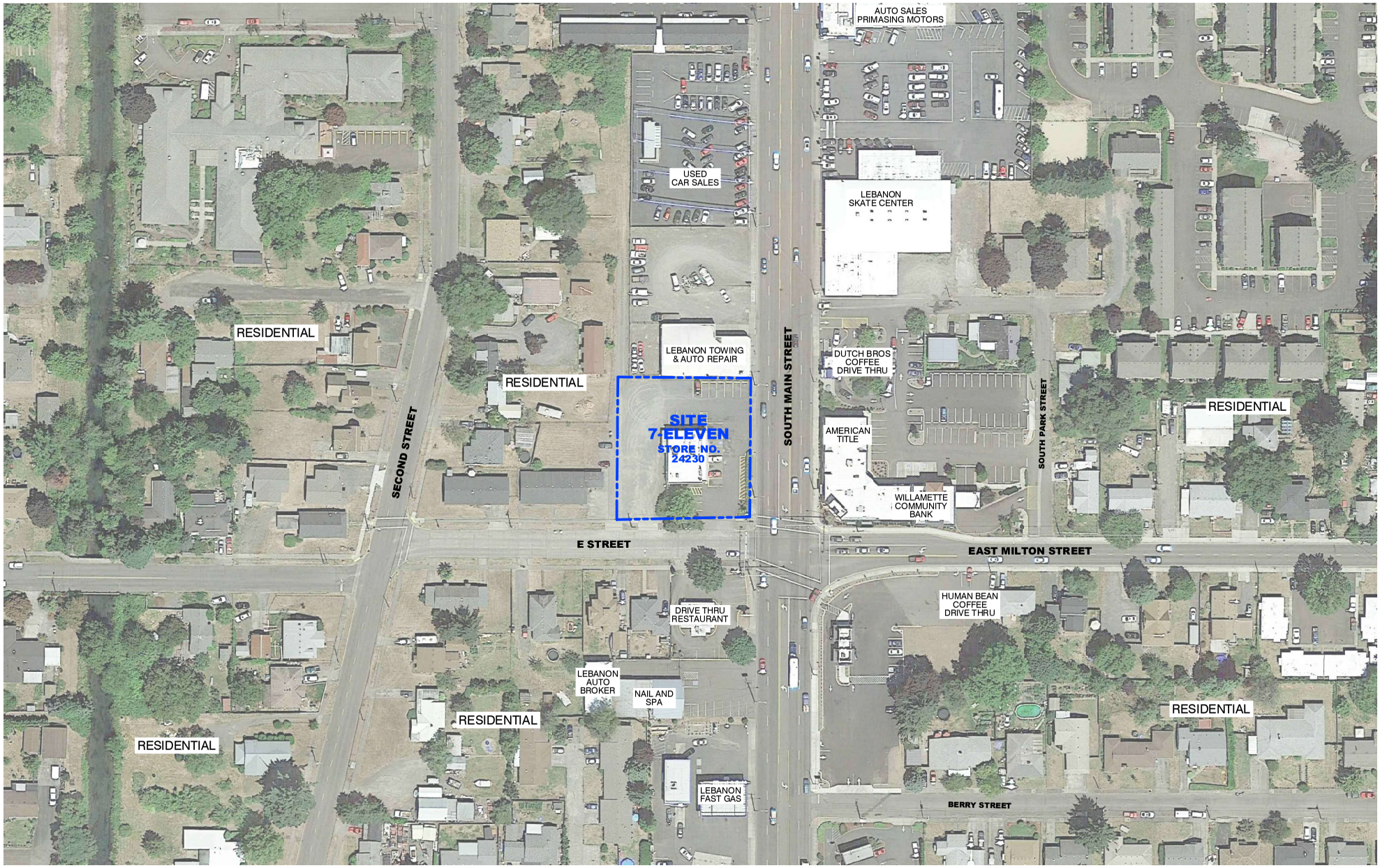
Based on sample results for soil, groundwater, soil vapor, acceptable risk levels are not exceeded, and a No Further Action determination is recommended for this site. The No Further Action determination should be recorded in DEQ's online database Your DEQ Online (YDO).

5. ADMINISTRATIVE RECORD

2008-05-22_22-08-0575_PhaseI_PhaseII.pdf
2013-12-19_22-08-0575_Subsurface Investigation Report.pdf
2017-07-21_22-08-0575_DRAFT_CSM.pdf
2019-08-29_22-08-0575_PassiveSGResults.pdf
2020-03-13_22-08-0575_GWMonitoring_2017_Q3.pdf
2020-05-29_22-08-0575_GWMonitoring_2020_Q2.pdf
2020-07-08_22-08-0575_FocusedAssessmentRpt.pdf
2020-08-27_22-08-0575_USTRemovalWorkPlan.pdf
2020-10-28_22-08-0575_GWMonitoring_2020_Q3.pdf
2020-10-30_22-08-0575_USTDecomChecklist.pdf
2021-01-20_22-08-0575_USTRemovalRpt.pdf
2021-01-20_22-08-0575_UST_SystemRemoval_Report.pdf
2021-05-07_22-08-0575_GWMonitoring_2020_Q4.pdf
2021-06-25_22-08-0575_CSM.pdf

6. ATTACHMENTS

Site Vicinity map (Stantec Figure 2)
Site Plan (Stantec Figure 3)
Soil Sample Analytical Results (Stantec Figures 5a and 5b)
Groundwater Analytical Results (Stantec Figure 6)



N

0 150 300

APPROXIMATE SCALE IN FEET

Stantec

601 SW 2ND AVE, SUITE 1400
PORTLAND, OREGON 97204
PHONE (503) 297-1631/297-5429 (FAX)

FOR:

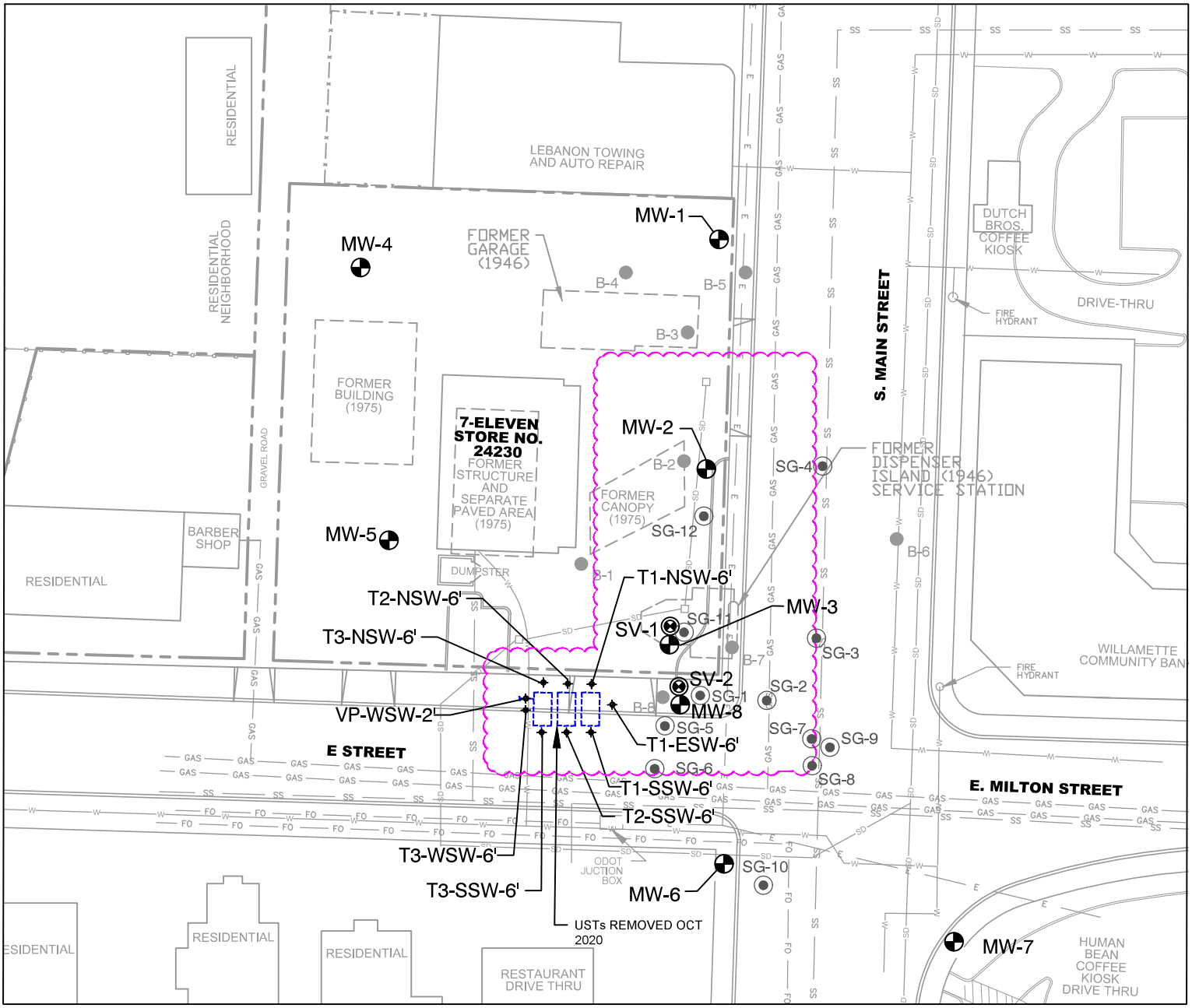
7-ELEVEN NO. 24230
1490 SOUTH MAIN STREET
LEBANON, OREGON

SITE VICINITY MAP

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703904	LRP	RM	PF	MAY 2020

FILEPATH:C:\program files\adsk_common\temp\AcPublish_24360\Unsaved Drawing1.dwg | Layout Tab: FIG-2 SITE VICINITY | Drafter: lpalmer | May 22, 2020 at 10:09



LEGEND:

MW-1	MONITORING WELL
B-4	PREVIOUS SOIL BORINGS
T1-ESW-6'	UST REMOVAL SAMPLE
SG-10	APPROXIMATE LOCATION OF PASSIVE SOIL GAS SAMPLE POINT (APRIL 2019)
SV-2	SOIL VAPOR SAMPLE
	PROPERTY BOUNDARY
x — x	CHAIN-LINK FENCE
	WOODEN FENCE
GAS GAS	NATURAL GAS
FO FO	FIBER OPTIC COMMUNICATION
SS	SANITARY SEWER
SD	STORM DRAIN
SD	WATER
E	ELECTRICAL
	FORMER USTs (REMOVED OCT 2020)
	LOCALITY OF FACILITY

N

0 50' 100'

Stantec
1687 114TH AVE SE, SUITE 100
BELLEVUE, WASHINGTON
PHONE: (425) 869-9448 FAX: (425) 869-1190

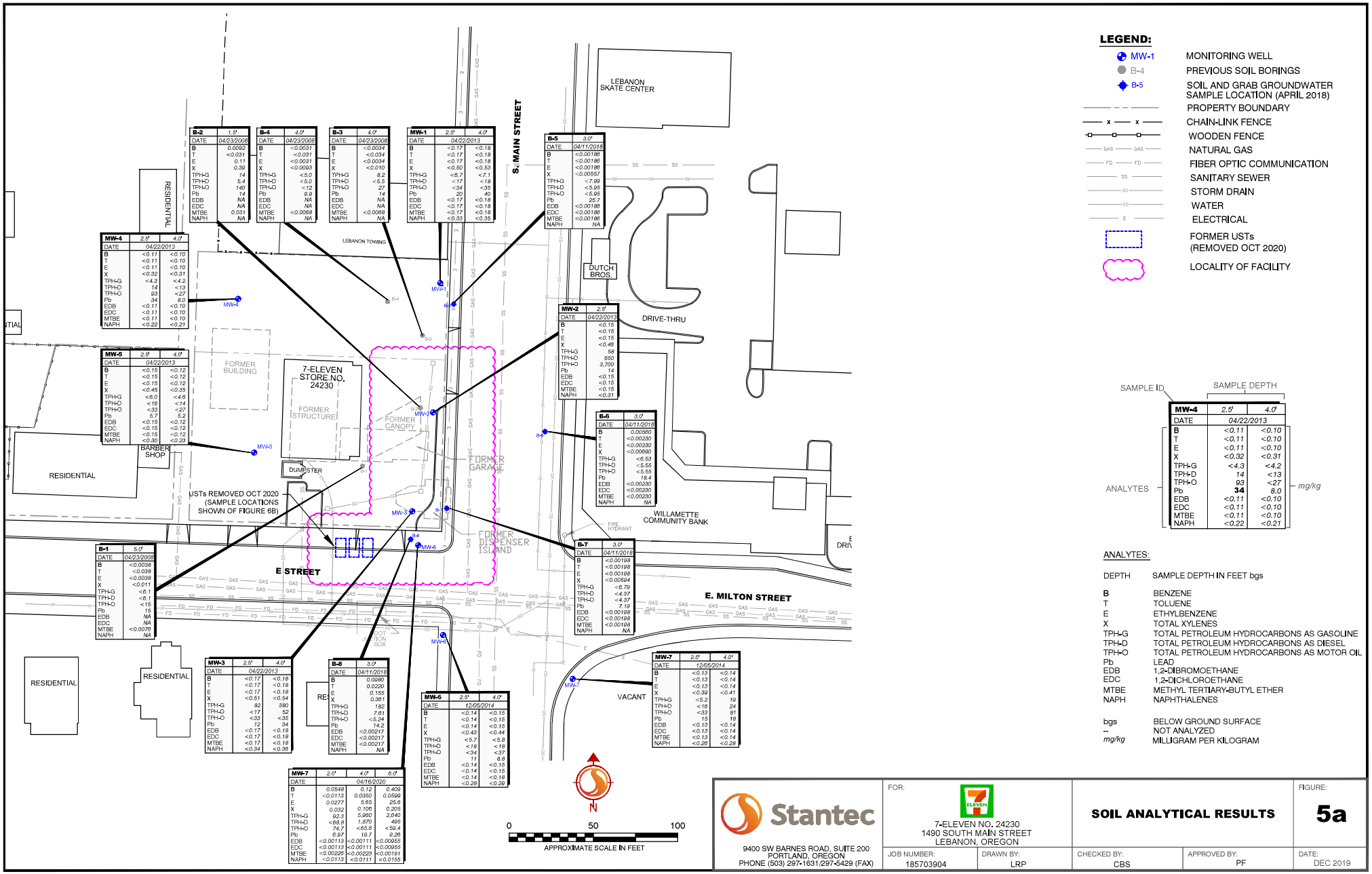
FOR: 7-ELEVEN NO. 24230
1490 SOUTH MAIN STREET
LEBANON, OREGON

SITE PLAN WITH SAMPLING LOCATIONS AND UTILITY LAYOUT

FIGURE: **3**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703904	LRP/JBL	BM	PF	FEB 2021

FILEPATH:E:\(M) CADD (US0332-PPFSS01)\00_OTHER OFFICES\Bellevue, WA\185703904\24230_Site Plan_20210114.dwg | Layout Tab: Site Plan | Drafter: JLieberman | May 12, 2021 at 16:23



B-2	1.5'
DATE	04/23/2008
B	0.0092
T	<0.031
E	0.11
X	0.39
TPH-G	14
TPH-D	5.4
TPH-O	140
Pb	14
EDB	NA
EDC	NA
MTBE	0.031
NAPH	NA

B-4	4.0'
DATE	04/23/2008
B	<0.0031
T	<0.0031
E	<0.0031
X	<0.0093
TPH-G	<5.0
TPH-D	<5.0
TPH-O	<12
Pb	9.9
EDB	NA
EDC	NA
MTBE	<0.0068
NAPH	NA

B-3	4.0'
DATE	04/23/2008
B	<0.0034
T	<0.034
E	<0.0034
X	<0.010
TPH-G	8.2
TPH-D	<5.5
TPH-O	27
Pb	14
EDB	NA
EDC	NA
MTBE	<0.0068
NAPH	NA

MW-1	2.5'	4.0'
DATE	04/22/2013	
B	<0.17	<0.18
T	<0.17	<0.18
E	<0.17	<0.18
X	<0.50	<0.53
TPH-G	<6.7	<7.1
TPH-D	<17	<18
TPH-O	<34	<35
Pb	20	40
EDB	<0.17	<0.18
EDC	<0.17	<0.18
MTBE	<0.17	<0.18
NAPH	<0.33	<0.35

B-5	3.0'
DATE	04/11/2018
B	<0.00186
T	<0.00186
E	<0.00186
X	<0.00557
TPH-G	<7.99
TPH-D	<5.95
TPH-O	<5.95
Pb	25.7
EDB	<0.00186
EDC	<0.00186
MTBE	<0.00186
NAPH	NA

MW-4	2.5'	4.0'
DATE	04/22/2013	
B	<0.11	<0.10
T	<0.11	<0.10
E	<0.11	<0.10
X	<0.32	<0.31
TPH-G	<4.3	<4.2
TPH-D	14	<13
TPH-O	93	<27
Pb	34	8.0
EDB	<0.11	<0.10
EDC	<0.11	<0.10
MTBE	<0.11	<0.10
NAPH	<0.22	<0.21

MW-2	2.5'
DATE	04/22/2013
B	<0.15
T	<0.15
E	<0.15
X	<0.46
TPH-G	58
TPH-D	650
TPH-O	3,700
Pb	14
EDB	<0.15
EDC	<0.15
MTBE	<0.15
NAPH	<0.31

MW-5	2.5'	4.0'
DATE	04/22/2013	
B	<0.16	<0.12
T	<0.15	<0.12
E	<0.15	<0.12
X	<0.45	<0.35
TPH-G	<6.0	<4.6
TPH-D	<16	<14
TPH-O	<33	<27
Pb	5.7	5.2
EDB	<0.15	<0.12
EDC	<0.15	<0.12
MTBE	<0.16	<0.12
NAPH	<0.30	<0.23

B-6	3.0'
DATE	04/11/2018
B	0.00560
T	<0.00230
E	<0.00230
X	<0.00690
TPH-G	<6.53
TPH-D	<5.55
TPH-O	<5.55
Pb	18.4
EDB	<0.00230
EDC	<0.00230
MTBE	<0.00230
NAPH	NA

B-7	3.0'
DATE	04/11/2018
B	<0.00198
T	<0.00198
E	<0.00198
X	<0.00594
TPH-G	<6.79
TPH-D	<4.97
TPH-O	<4.97
Pb	7.19
EDB	<0.00198
EDC	<0.00198
MTBE	<0.00198
NAPH	NA

B-1	5.0'
DATE	04/23/2008
B	<0.0038
T	<0.038
E	<0.0038
X	<0.011
TPH-G	<6.1
TPH-D	<6.1
TPH-O	<15
Pb	15
EDB	NA
EDC	NA
MTBE	<0.0076
NAPH	NA

MW-3	2.5'	4.0'
DATE	04/22/2013	
B	<0.17	<0.18
T	<0.17	<0.18
E	<0.17	<0.18
X	<0.51	<0.54
TPH-G	82	380
TPH-D	<17	52
TPH-O	<33	<35
Pb	12	34
EDB	<0.17	<0.18
EDC	<0.17	<0.18
MTBE	<0.17	<0.18
NAPH	<0.34	<0.36

B-8	3.0'
DATE	04/11/2018
B	0.0980
T	0.0220
E	0.155
X	0.351
TPH-G	182
TPH-D	7.01
TPH-O	<5.24
Pb	14.2
EDB	<0.00217
EDC	<0.00217
MTBE	<0.00217
NAPH	NA

MW-5	2.5'	4.0'
DATE	12/05/2014	
B	<0.14	<0.15
T	<0.14	<0.15
E	<0.14	<0.15
X	<0.43	<0.44
TPH-G	<5.7	<5.8
TPH-D	<16	<16
TPH-O	<34	<37
Pb	11	8.8
EDB	<0.14	<0.15
EDC	<0.14	<0.15
MTBE	<0.14	<0.16
NAPH	<0.28	<0.29

MW-7	2.5'	4.0'
DATE	12/05/2014	
B	<0.13	<0.14
T	<0.13	<0.14
E	<0.13	<0.14
X	<0.39	<0.41
TPH-G	<5.2	19
TPH-D	<16	24
TPH-O	<33	81
Pb	15	18
EDB	<0.13	<0.14
EDC	<0.13	<0.14
MTBE	<0.13	<0.14
NAPH	<0.26	<0.28

MW-7	2.0'	4.0'	6.0'
DATE	04/16/2020		
B	0.0548	0.12	0.409
T	<0.0113	0.0350	0.0599
E	0.0277	5.65	25.6
X	0.032	0.106	0.205
TPH-G	92.3	5,060	2,640
TPH-D	<68.8	1,870	495
TPH-O	74.7	<65.8	<59.4
Pb	6.67	19.7	9.26
EDB	<0.00113	<0.00111	<0.00055
EDC	<0.00113	<0.00111	<0.00055
MTBE	<0.00226	<0.00223	<0.00191
NAPH	<0.0113	<0.0111	<0.0155

LEGEND:

- MW-1 — MONITORING WELL
- B-4 — PREVIOUS SOIL BORINGS
- B-5 — SOIL AND GRAB GROUNDWATER SAMPLE LOCATION (APRIL 2018)
- PROPERTY BOUNDARY
- CHAIN-LINK FENCE
- WOODEN FENCE
- NATURAL GAS
- FIBER OPTIC COMMUNICATION
- SANITARY SEWER
- STORM DRAIN
- WATER
- ELECTRICAL
- FORMER USTs (REMOVED OCT 2020)
- LOCALITY OF FACILITY

SAMPLE ID / SAMPLE DEPTH

MW-4	2.5'	4.0'
DATE	04/22/2013	
B	<0.11	<0.10
T	<0.11	<0.10
E	<0.11	<0.10
X	<0.32	<0.31
TPH-G	<4.3	<4.2
TPH-D	14	<13
TPH-O	93	<27
Pb	**34**	8.0
EDB	<0.11	<0.10
EDC	<0.11	<0.10
MTBE	<0.11	<0.10
NAPH	<0.22	<0.21

ANALYTES — mg/kg

ANALYTES:

DEPTH	SAMPLE DEPTH IN FEET bgs
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPH-O	TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
Pb	LEAD
EDB	1,2-DIBROMOETHANE
EDC	1,2-DICHLOROETHANE
MTBE	METHYL TERTIARY-BUTYL ETHER
NAPH	NAPHTHALENES
bgs	BELOW GROUND SURFACE
--	NOT ANALYZED
mg/kg	MILLIGRAM PER KILOGRAM

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FOR: 7-ELEVEN NO. 24230
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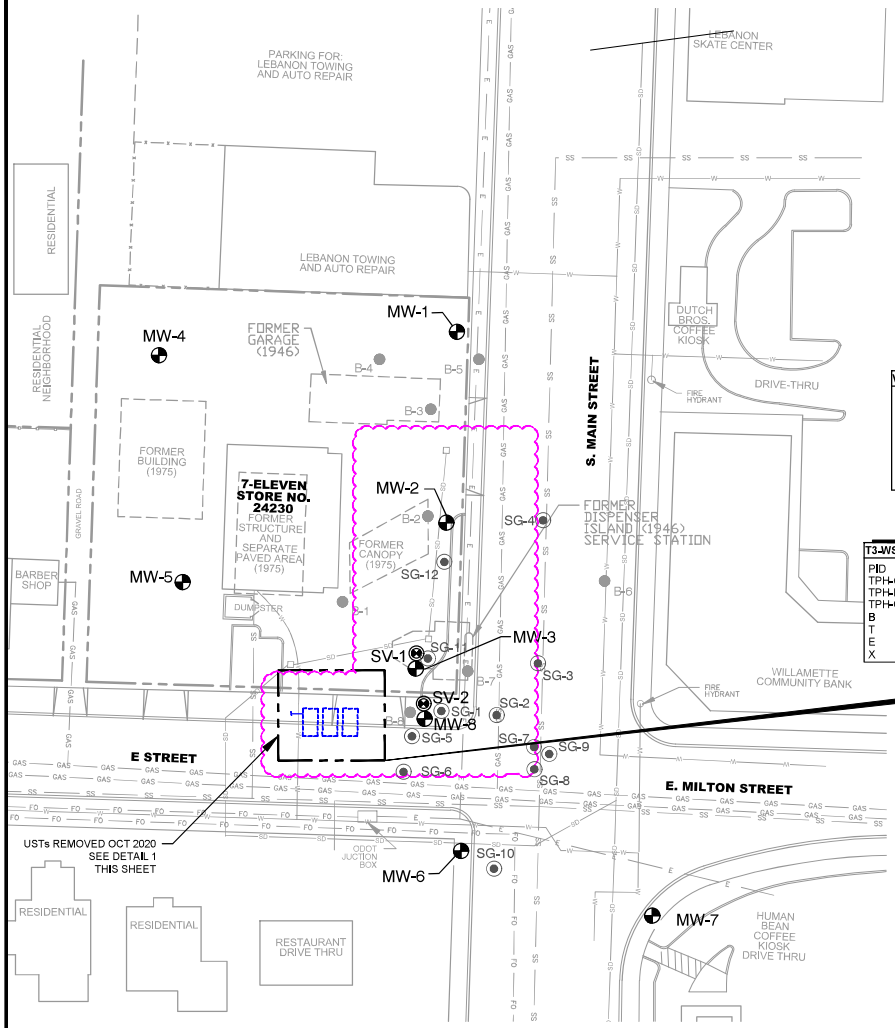
LEBANON, OREGON

SOIL ANALYTICAL RESULTS

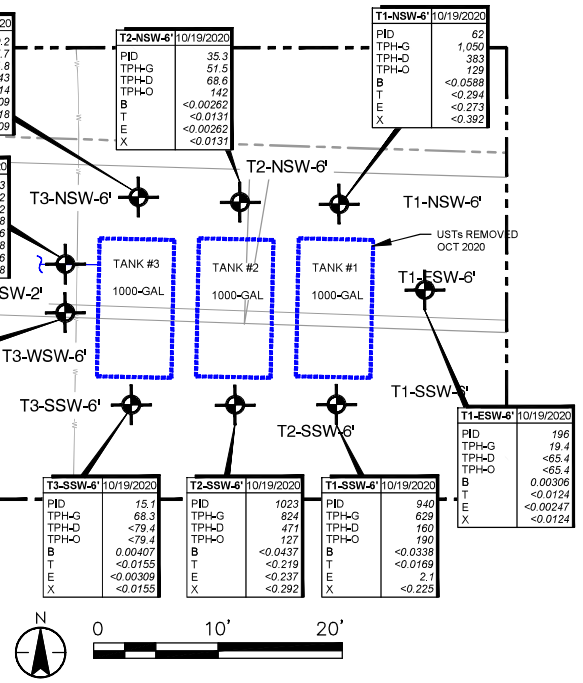
FIGURE: **5a**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703904	LRP	CBS	PF	DEC 2019

FILEPATH:M:\00_OTHER OFFICES\Bellevue, WA\185703904\SITE PLAN.dwg | Layout Tab: FIG-6 SOIL ANALYTICAL RESULTS | Drafter: JLieberman | Jun 24, 2021 at 14:48



SITE PLAN



DETAIL 1

LEGEND:

- MW-1 — MONITORING WELL
- B-4 — PREVIOUS SOIL BORINGS
- T1-ESW-6' — UST REMOVAL SAMPLE
- SG-10 — APPROXIMATE LOCATION OF PASSIVE SOIL GAS SAMPLE POINT (APRIL 2019)
- SV-2 — SOIL VAPOR SAMPLE
- PROPERTY BOUNDARY
- CHAIN-LINK FENCE
- WOODEN FENCE
- NATURAL GAS
- FIBER OPTIC COMMUNICATION
- SANITARY SEWER
- STORM DRAIN
- WATER
- ELECTRICAL
- FORMER USTs (REMOVED OCT 2020)
- LOCALITY OF FACILITY

DEPTH OF SAMPLE
SAMPLE ID
SAMPLE DATE

ANALYTES	T1-NSW-6' 04/11/18
TPH-G	**55,700**
TPH-D	**6,970**
TPH-O	<100
B	**2,210**
T	**1,070**
E	**2,440**
X	**3,530**

<	NOT DETECTED AT OR ABOVE THE LABORATORY REPORTING LIMIT
--	NOT ANALYZED/SAMPLED
µg/L	MICROGRAMS PER LITER

ANALYTES:

TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
TPH-O	TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

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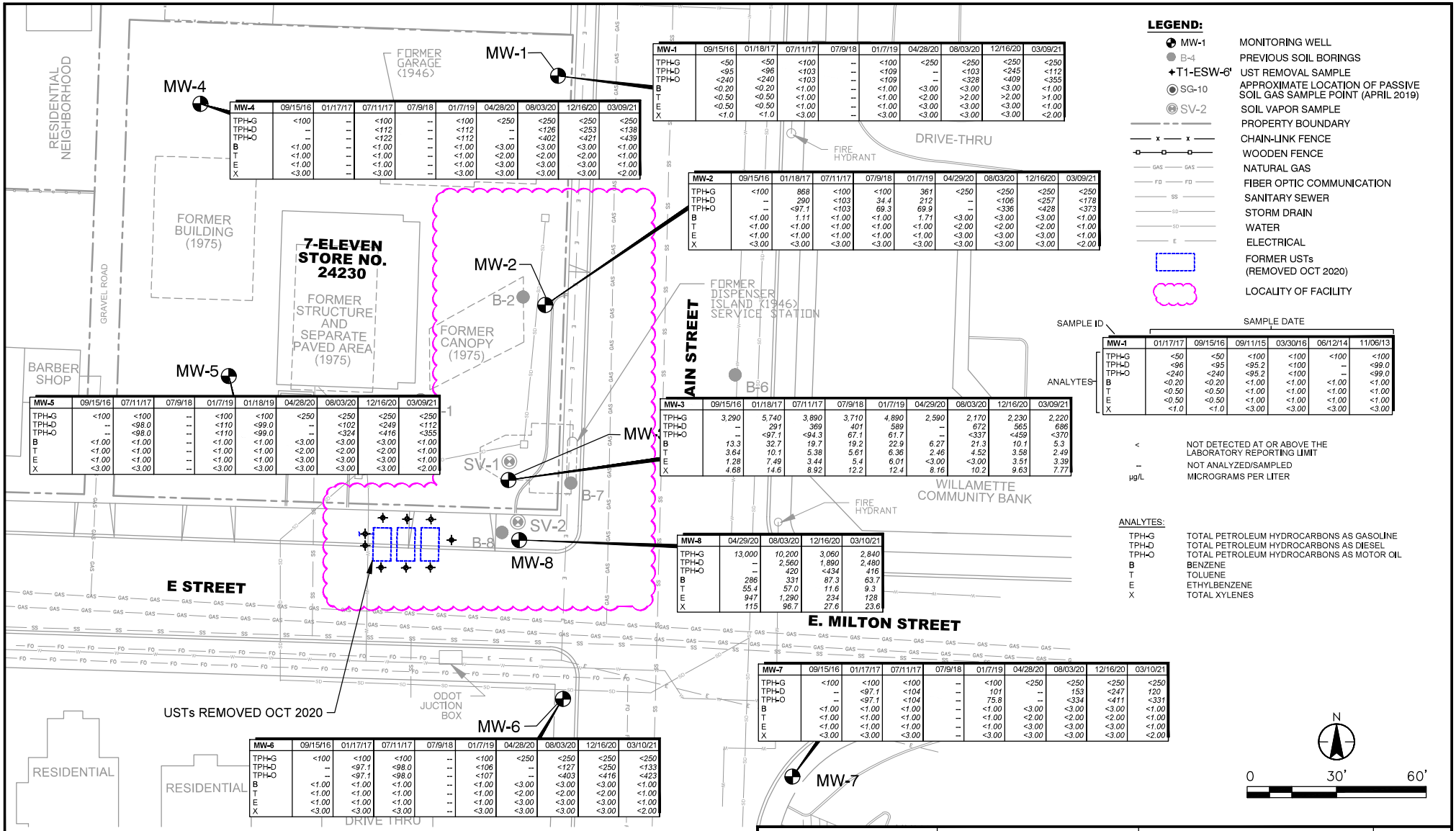
FOR: 7-ELEVEN NO. 24230
1490 SOUTH MAIN STREET
LEBANON, OREGON

UST SOIL SAMPLE ANALYTICAL RESULTS

FIGURE: **5b**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703904	LRP	PF	PF	JAN 2021

FILEPATH:E:\(M) CADD (US0332-PPFSS01)\00_OTHER OFFICES\Bellevue, WA\185703904\24230_Site Plan_20210114.dwg | Layout Tab: UST Soil Sample Ana | Drafter: JLieberman | May 12, 2021 at 16:24



MW-1	09/15/16	01/18/17	07/11/17	07/9/18	01/7/19	04/28/20	08/03/20	12/16/20	03/09/21
TPH-G	<50	<50	<100	--	<100	<250	<250	<250	<250
TPH-D	<95	<96	<103	--	<109	--	<103	<245	<112
TPH-O	<240	<240	<103	--	<109	--	<328	<409	<355
B	<0.20	<0.20	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
T	<0.50	<0.50	<1.00	--	<1.00	<2.00	>2.00	>2.00	>1.00
E	<0.50	<0.50	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
X	<1.0	<1.0	<3.00	--	<3.00	<3.00	<3.00	<3.00	<2.00

MW-2	09/15/16	01/18/17	07/11/17	07/9/18	01/7/19	04/29/20	08/03/20	12/16/20	03/09/21
TPH-G	<100	868	<100	<100	361	<250	<250	<250	<250
TPH-D	--	290	<103	34.4	212	--	<106	<257	<178
TPH-O	--	<97.1	<103	69.3	69.9	--	<336	<428	<373
B	<1.00	1.11	<1.00	<1.00	1.71	<3.00	<3.00	<3.00	<1.00
T	<1.00	<1.00	<1.00	<1.00	<1.00	<2.00	<2.00	<2.00	<1.00
E	<1.00	<1.00	<1.00	<1.00	<1.00	<3.00	<3.00	<3.00	<1.00
X	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<2.00

MW-3	09/15/16	01/18/17	07/11/17	07/9/18	01/7/19	04/29/20	08/03/20	12/16/20	03/09/21
TPH-G	3,290	5,740	3,890	3,710	4,890	2,590	2,170	2,230	2,220
TPH-D	--	291	369	401	589	--	672	565	686
TPH-O	--	<97.1	<94.3	67.1	61.7	--	<337	<459	<370
B	13.3	32.7	19.7	19.2	22.9	6.27	21.3	10.1	5.3
T	3.64	10.1	5.38	5.61	6.36	2.46	4.52	3.58	2.49
E	1.28	7.49	3.44	5.4	6.01	<3.00	<3.00	3.51	3.39
X	4.68	14.6	8.92	12.2	12.4	8.16	10.2	9.63	7.77

MW-4	09/15/16	01/17/17	07/11/17	07/9/18	01/7/19	04/28/20	08/03/20	12/16/20	03/09/21
TPH-G	<100	--	<100	--	<100	<250	<250	<250	<250
TPH-D	--	--	<112	--	<112	--	<126	<253	<138
TPH-O	--	--	<122	--	<112	--	<402	<421	<439
B	<1.00	--	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
T	<1.00	--	<1.00	--	<1.00	<2.00	<2.00	<2.00	<1.00
E	<1.00	--	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
X	<3.00	--	<3.00	--	<3.00	<3.00	<3.00	<3.00	<2.00

MW-5	09/15/16	01/17/17	07/9/18	01/7/19	01/18/19	04/28/20	08/03/20	12/16/20	03/09/21
TPH-G	<100	<100	--	<100	<100	<250	<250	<250	<250
TPH-D	--	<98.0	--	<110	<99.0	--	<102	<249	<112
TPH-O	--	<98.0	--	<110	<99.0	--	<324	<416	<355
B	<1.00	<1.00	--	<1.00	<1.00	<3.00	<3.00	<3.00	<1.00
T	<1.00	<1.00	--	<1.00	<1.00	<2.00	<2.00	<2.00	<1.00
E	<1.00	<1.00	--	<1.00	<1.00	<3.00	<3.00	<3.00	<1.00
X	<3.00	<3.00	--	<3.00	<3.00	<3.00	<3.00	<3.00	<2.00

MW-6	09/15/16	01/17/17	07/11/17	07/9/18	01/7/19	04/28/20	08/03/20	12/16/20	03/10/21
TPH-G	<100	<100	<100	--	<100	<250	<250	<250	<250
TPH-D	--	<97.1	<98.0	--	<106	--	<127	<250	<133
TPH-O	--	<97.1	<98.0	--	<107	--	<403	<416	<423
B	<1.00	<1.00	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
T	<1.00	<1.00	<1.00	--	<1.00	<2.00	<2.00	<2.00	<1.00
E	<1.00	<1.00	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
X	<3.00	<3.00	<3.00	--	<3.00	<3.00	<3.00	<3.00	<2.00

MW-7	09/15/16	01/17/17	07/11/17	07/9/18	01/7/19	04/28/20	08/03/20	12/16/20	03/10/21
TPH-G	<100	<100	<100	--	<100	<250	<250	<250	<250
TPH-D	--	<97.1	<104	--	101	--	153	<247	120
TPH-O	--	<97.1	<104	--	75.8	--	<334	<411	<331
B	<1.00	<1.00	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
T	<1.00	<1.00	<1.00	--	<1.00	<2.00	<2.00	<2.00	<1.00
E	<1.00	<1.00	<1.00	--	<1.00	<3.00	<3.00	<3.00	<1.00
X	<3.00	<3.00	<3.00	--	<3.00	<3.00	<3.00	<3.00	<2.00

MW-8	04/29/20	08/03/20	12/16/20	03/10/21
TPH-G	13,000	10,200	3,060	2,840
TPH-D	--	2,560	1,890	2,480
TPH-O	--	420	<434	416
B	286	331	87.3	63.7
T	55.4	57.0	11.6	9.3
E	947	1,290	234	128
X	115	96.7	27.6	23.6

MW-1	01/17/17	09/15/16	09/11/15	03/30/16	06/12/14	11/06/13
TPH-G	<50	<50	<100	<100	<100	<100
TPH-D	<96	<95	<95.2	<100	--	<99.0
TPH-O	<240	<240	<95.2	<100	--	<99.0
B	<0.20	<0.20	<1.00	<1.00	<1.00	<1.00
T	<0.50	<0.50	<1.00	<1.00	<1.00	<1.00
E	<0.50	<0.50	<1.00	<1.00	<1.00	<1.00
X	<1.0	<1.0	<3.00	<3.00	<3.00	<3.00

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GROUNDWATER ANALYTICAL RESULTS

FIGURE: **6**

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185703904	LRP	DH	PF	FEB 2021

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