State of Oregon
Department of Environmental Quality Memorandum

Date: October 7, 2025

To: FILE

Through: Don Hanson, Western Region Lead Worker

From: Sarah Kingery
Western Region

Subject: Coos Bay Pacific Pride, LUST 06-15-1789 and 06-16-0741; Davis Oil Cardlock, LUST 06-91-0096; Staff Memorandum in support of a Conditional 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 (with conditions) for the Coos Bay Pacific Pride/Davis Oil Cardlock site, in Coos Bay. 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 list of key documents used for this memorandum are included at the end of the document.

1. BACKGROUND

Site location.
The site's location can be described as follows:
- Address:62590 Hwy 101, Coos Bay, Coos County Oregon.
- Latitude 43.347º North, longitude -124.1982º West
- Tax lot 4500, Township 26 South, Range 13 West, Section 02AD

Site setting.
The site is a flat, rectangular property approximately 0.34 acre in size. The site is paved and occupied by a Pacific Pride Cardlock (DEQ facility ID 10858) with gasoline and diesel dispensers beneath a canopy. There are two 6,000-gallon underground storage tanks (USTs) and on 10,000-gallon above ground storage tank (AST). There are no buildings at the site. The property is bordered by Linton Avenue to the north. Brainard Creek runs through a culvert along the north property boundary. Highway 101, the Coos Bay Rail Line and Isthmus Slough are located east of the site. The business LNL Lumber Outlet is located west of the site.

Physical setting.

The site is located at an approximate elevation of 10 feet above mean sea level in an area of historically filled wetlands. Portions of the Site are reportedly subject to tidal flooding during heavy winter storms and tidal surges (HydroCon March 2023). Based on site investigations the property is underlain by five to eight feet of fine sand and silty sand overlying a black, silty clay deposit. Depth to ground water has been measured on site ranging from approximately 2 to 5 feet below ground surface (bgs). Groundwater flow direction is to the east towards Isthmus Slough. The nearest surface water is Brainard Creek on the north side of the site and Isthmus Slough to the east. A stormwater ditch between the site and Hwy 101 is hydraulically connected with Isthmus Slough via Brainard Creek. Depth to groundwater was monitored for tidal influence and no tidal influence was observed in monitoring wells. However, observations and samples collected from the adjacent ditch indicate that there is a tidal influence on the stormwater ditch, likely from the slough backing up during high tides into the Brainard Creek and stormwater ditch pipes.

Site history.
Chambers Plumbing owned the site and operated it as a key-lock fueling station. It was purchased by Harry Davis in 1989 and converted to a card lock. Pacific Northern Environmental (PNE) owned and operated onsite from 2001 to 2007, and Carson has operated the cardlock from 2007 to the present.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.
This site is outside the City of Coos Bay urban growth boundary. This site is designated Industrial zoning (IND). This zone provides areas for a range of manufacturing, commercial, and industrial activities. Residential uses are permitted only for existing dwellings; however, there are no dwellings on the site. The site is currently used as a cardlock fuel station. Industrial use of the property and nearby properties is expected to remain industrial. Adjacent properties are also zoned IND and include a lumber shop and a truck repair shop. The site is located within the LG Tsunami Inundation Zone, which may affect future development.

Groundwater use.
Drinking water to the site and surrounding area is supplied by the City of Coos Bay. HydroCon conducted a review of the Oregon Water Resources Department records and found the nearest water wells to be over 1,800 feet or more from the site and upgradient. They determined shallow groundwater beneath the site is inadequate for water-supply purposes. DEQ does not expect groundwater to be used at this site or surrounding properties in the future.

Surface water use.
Isthmus Slough is a saltwater body that is part of Coos Bay. It is located 180 feet east of the site. Brainard Creek flows through the industrial area alternating between surface water and piped water. The creek is piped on the north side of the site. The drainage ditch located on the east of the site flows north and connects to the Brainard Creek pipe and then flows east under Highway 101 discharging into the slough. Stormwater from the site and Highway 101 drains into the ditch that borders the east side of the site.

3. INVESTIGATION AND CLEANUP WORK

Environmental investigations and cleanup work at this site have been conducted since 1991 and are under three different DEQ LUST file numbers (06-91-0096, 06-15-1789, 16-16-0741). The initial release was in 1991 when it was discovered that underground piping had leaked diesel. Approximately 1,000 cubic yards of soil was excavated and treated offsite. New USTs were placed into the excavation and observation wells were placed in the excavation with the USTs. A site assessment was conducted in 2002 that included soil and groundwater sampling to document the remaining contamination related to the 1991 release. A no further action (NFA) determination was granted by DEQ in 2003.

In 2015 a heavy sheen was reported on water flowing in the stormwater ditch and DEQ assigned a new LUST file for the site (06-15-1789). In 2018, 12 soil samples were collected from the ditch in sediment and shallow soil. Samples were analyzed for diesel and oil-range hydrocarbons by method NWTPH-Dx; gasoline-range hydrocarbons by method NWTPH-Gx; volatile organic compounds (VOCs) using EPA method 8260; semi-volatile organic compounds (SVOCs) using EPA method 8270; polychlorinated biphenyls (PCBs) using EPA method 8082; and total metals using EPA method 6020.

In 2016 a release was reported at the site during maintenance and replacement of a broken spill bucket on a gasoline UST (LUST 06-16-0741). Approximately 1.45 tons of gasoline contaminated soil was removed and disposed of at the River Bend Landfill. The spill bucket was replaced.

In 2019 sediment and soil were excavated from the bottom of the ditch under permits with the Oregon Department of Transportation and the Army Corps of Engineers. Approximately 18.5 tons of contaminated soil was removed and taken to the Waste Management Landfill in Hillsboro, Oregon. The ditch was backfilled to a depth of 2 feet bgs. Backfill material included a layer of granulated carbon that aids in the removal of contaminants from water.
Surface water sampling was conducted in the drainage ditch in 2021. Samples were analyzed by method NWTPH-Gx, NWTPH-Dx, benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8260 and PAHs by EPA Method 8270.

In 2021 DEQ determined that diesel contamination persisting in the stormwater ditch adjacent to the site, and in shallow groundwater, was associated with contamination left in place following the cleanup of the 1991 diesel fuel release. Thus, DEQ re-opened LUST project 06-91-0096.

An additional subsurface investigation was conducted in 2021, and 7 additional borings were drilled onsite. Three of the borings were completed as monitoring wells. Four quarters of groundwater monitoring was completed. Soil and groundwater samples were analyzed for NWTPH-Gx, NWTPH-Dx, and VOCs. Groundwater was also analyzed for PAHs.

Nature and extent of contamination.
Gasoline and diesel-range soil contamination is present (measured in 2021) at depths of 5 to 8.5 feet on the eastern side of the site. Diesel contamination is much more widespread than the gasoline contamination from the spill bucket release. Diesel concentrations range from 916 to 22,200 mg/kg. Gasoline concentrations range from 9.22 to 1,100 mg/kg. Low levels of benzene and isopropylbenzene were detected. A soil boring completed in 2002 east of the drainage ditch (between the ditch and Hwy 101) did not detect diesel contamination. Therefore, it appears that the ditch acts as somewhat of a barrier to contaminant migration to the east, and DEQ feels that site related contamination should not be present beneath Hwy 101.

Groundwater beneath the site contains concentrations of gasoline and diesel-range hydrocarbons, benzene, toluene, total xylenes, methyl tert-butyl ether, isopropylbenzene, and 1,2,4-trimethylbenzene. PAHs detected in groundwater were fluoranthene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, phenanthrene, pyrene, and dibenzofuran. Surface water in the ditch contained concentrations of diesel, the highest detections were at low tide.

4. RISK EVALUATION

Conceptual site model.
The primary sources of contamination were a 1991 diesel release from a section of underground piping and a release from a spill bucket. Contamination is present in soil, groundwater and possibly soil gas, however soil gas was not evaluated. Pathways by which this contamination could reach human and ecological receptors are soil ingestion, dermal contact and inhalation, volatilization to outdoor, vapor intrusion into buildings, and ingestion and inhalation from tapwater. The human and ecological receptors currently and reasonably likely affected, are occupational/commercial and aquatic life in salt water.

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	NA	Soil contamination is at depths greater than 3 feet below ground surface. No residential use anticipated.
		Occupational	No	NA	

		Construction Worker	Yes	No	A site-specific RBC was calculated based on a 45-day construction duration.
		Excavation Worker	Yes	No	
	Volatilization to Outdoor Air	Residential and/or Urban residential	No	NA	
		Occupational	Future	No	
	Volatilization to Indoor Air	Residential	No	NA	Note 1
		Commercial	Future	Yes	
	Leaching to Groundwater	Residential and/or Urban residential	No	NA	Shallow groundwater is not used for human consumption. Water is supplied by City of Coos Bay. Note 2
		Occupational	No	NA	
Groundwater	Ingestion & Inhalation from Tap Water	Residential and/or Urban residential	No	NA	Shallow groundwater is not used for human consumption. Water is supplied by City of Coos Bay.
		Occupational	No	NA	
	Vapor Intrusion into Buildings	Residential	No	NA	
		Commercial	Future	Yes	
	Groundwater in Excavation	Occupational	Yes	No	
Ecological		Terrestrial & Surface Water	Yes	Yes	TPH, specifically diesel and heavy oil range hydrocarbons exceed the freshwater RBCs during periods of low tide.

Notes:

1. DEQ does not have risk-based concentrations for soil vapor intrusion risk. However, there are screening levels that identify soil contamination as a potential source for vapors. Concentrations of both gasoline and diesel-range hydrocarbons detected in soil at the site exceed the screening levels of 80 mg/kg for gasoline and 500 mg/kg for diesel.
2. Groundwater is not used for drinking. This pathway is therefore not considered, in accordance with Section B.3.2.4 of DEQ's RBDM guidance. City water is provided. Local groundwater is not currently used for drinking water and is not likely to be used for this purpose in the future.

Contaminant concentrations.

Soil contamination remaining at the site is related to the previous diesel release (06-91-0096) and the dispenser leak (06-16-0741). A site-specific risk-based RBC for soil dermal contact, ingestion, and inhalation was calculated for this site and approved by DEQ. The site-specific RBC is 26,000 mg/kg for construction worker receptors. The RBC for other receptors does not change. Gasoline and diesel-range hydrocarbons in soil are below applicable RBCs for this site based on current use. The various VOCs and PAHs detected in soil are also below the generic RBCs for applicable RBCs.

Gasoline and diesel-range hydrocarbons are present in groundwater at concentrations exceeding the vapor intrusion RBCs for commercial receptors. The concentrations are below the groundwater in excavation RBCs for construction and excavation workers.

Surface water in the ditch had concentrations of diesel exceeding the fresh and saltwater ecological RBCs during low tide. Concentrations were below the RBCs during high tide.

Human health risk.
Occupational human health risk at the site is acceptable given the current occupational use with no buildings. Drinking water to the site and surrounding area is supplied by the City of Coos Bay therefore the site poses no unacceptable risk to tapwater. Groundwater exposure in excavations will pose no unacceptable risk to construction and excavation workers. Contamination does not appear to migrate off site in soil or groundwater.

If buildings were constructed at the site for human use (workers, customers) there could be a risk of vapor intrusion for commercial receptors. This can be mitigated with a deed restriction that restricts additional construction at the site unless certain conditions are met (described below in the recommendations).

Ecological risk.
The site is paved and less than 0.5 acre in size. Based on Coos County tax maps it is approximately 0.34 acre. The ditch has a terrestrial exposure area less than the size of the site. The site qualifies for a Terrestrial (upland) Ecological Exclusion. Tidal water interacts with the ditch on the east side of the site during high tide when Isthmus Slough backs up into the Brainard Creek pipe and flows into the ditch (opposite of typical flow direction). Contaminant concentrations were higher during low tide when tidal water dilution was eliminated. During Low tide, diesel concentrations were detected at 651 ug/l which is only slightly above the saltwater/freshwater ecological RBC of 640 ug/l. This concentration is significantly less than diesel concentrations collected closest to the remedial excavation where concentrations in groundwater ranged from 1,200 to 24,000 during the 2022 sampling. Diesel concentrations in groundwater are two to 40 times greater than diesel in the ditch indicating that groundwater contamination is not significantly impacting surface water. Furthermore, the mixing of surface water from Brainard Creek and the slough dilute the concentrations below the RBCs.

5. RECOMMENDATION

A conditional no further action (NFA) is recommended for this site because there is a potential future risk to human health if buildings were constructed on the site for human use. To mitigate the risk, an Easement and Equitable Servitude (EES), may be recorded on the property that requires the following conditions:

1. Only with the prior written approval of DEQ, the Owner may construct future buildings for human occupation on the property. Future buildings constructed at the site must incorporate DEQ-approved, professionally designed, and installed vapor mitigation engineering control(s) into the building design.

Alternatively, additional cleanup and/or site assessment could be conducted in accordance with a DEQ-approved work plan adequate to demonstrate that residual contamination does not pose unacceptable vapor intrusion risks to future building occupants. The owner shall not construct

future buildings or allow other parties to occupy and/or construct future buildings for human occupation unless this requirement has been satisfied, or it has been demonstrated to the satisfaction of DEQ that this prohibition on construction is no longer necessary to protect human health.

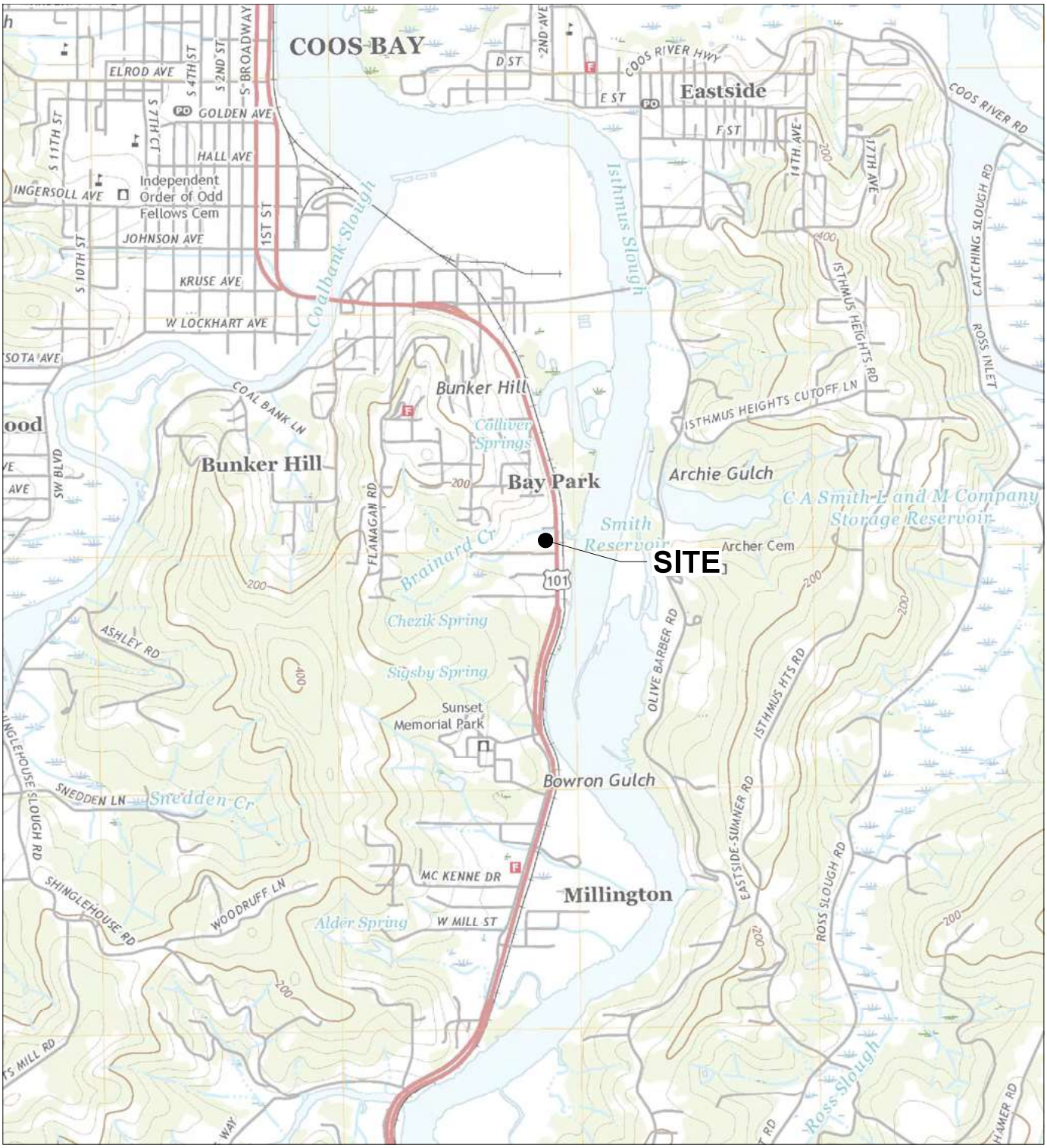
Following recording of the EES and based on sample results for soil and groundwater acceptable risk levels are not exceeded, and a conditional No Further Action determination is recommended for this site. The conditional No Further Action determination should be recorded in should be recorded in DEQ's environmental data management system also known as Your DEQ Online (YDO) under project numbers 06-91-0096, 06-15-1789 and 06-16-0741.

6. ADMINISTRATIVE RECORD

2023-03-01_96-15-1789 4thQuarterMon-And-Closure-Report
2018-08-09_06-15-1789 Technical Memo Supplemental Site Investigation
2021-10-20_06-16-0741-CBPacPride-SIWorkPlan
2019-10-18_06-15-1789 Technical Memo Drainage Ditch Limited Sediment Removal Summary
2021-03-31_06-15-1789 TechnicalMemoDrainageDitchWaterSamplingSummary
2022-11-07_06-15-1789-3QGWMReport
2022-08-11_06-15-1789-2QGWMReport

7. ATTACHMENTS

1. Figure 1-Vicinity map
2. Figure 3-Monitoring well locations, sample locations, historical features.



NOTE(S):

USGS, COOS BAY QUADRANGLE
OREGON - COOS COUNTY
7.5 MINUTE SERIES (TOPOGRAPHIC)

0 2000 4000

SCALE IN FEET
1" = 2000'

HydroCon
314 W 15th Street, Suite 300, Vancouver, Washington 98660
Phone 360.703.6079 Fax 360.703.6086

DATE: 7-26-2022
DWN: MW
CHK: DB
APPROVED: DB
PRJ. MGR: CS
PROJECT NO: 2021-083.001

FIGURE 1
SITE LOCATION MAP
3Q2022 GROUNDWATER MONITORING REPORT
CARSON - PACIFIC PRIDE CARDLOCK
1655 U.S. HIGHWAY 101
COOS BAY, OREGON

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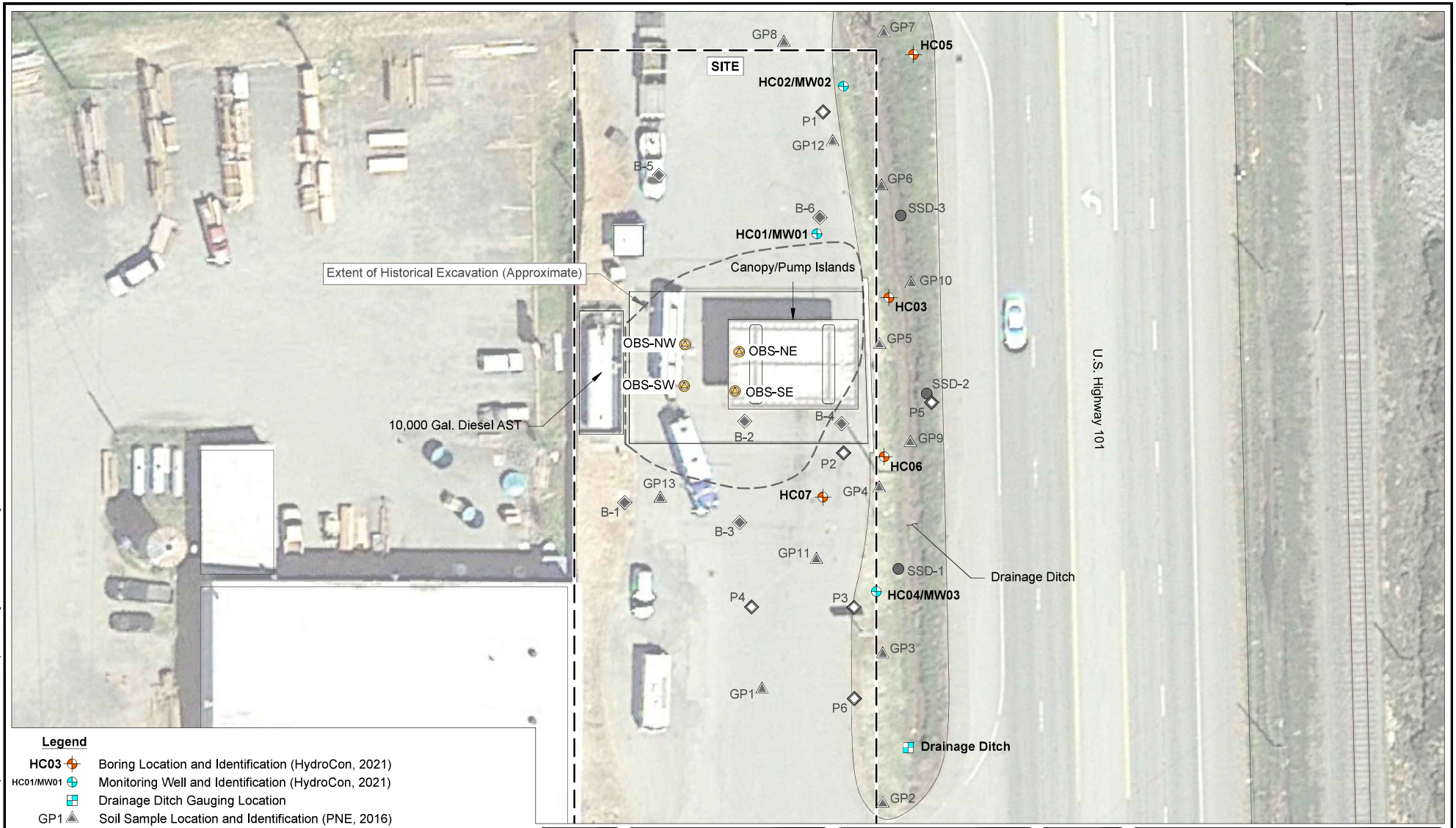

Legend

HC03	Boring Location and Identification (HydroCon, 2021)
HC01/MW01	Monitoring Well and Identification (HydroCon, 2021)
	Drainage Ditch Gauging Location
GP1	Soil Sample Location and Identification (PNE, 2016)
SSD-1	Surface Soil Ditch Sidewall Sample Location and Identification (PNE, 2016)
P1	Push Probe Location and Identification (BB&A, 2002)
B-1	Soil Boring Location and Identification (BB&A, 1991)
OBS-SW	Observation Well
— —	Subject Site Property Boundary (Approximate)

N W E S

0 30 60

SCALE IN FEET
1" = 30'

HydroCon
314 W 15th Street, Suite 300, Vancouver, Washington 98660
Phone 360.703.6079 Fax 360.703.6086

DATE: 7-27-2022
DWN: MW
CHK: DB
APPROVED: CS
PRJ. MGR: CS
PROJECT NO: 2021-083.001

FIGURE 3
MONITORING WELL LOCATIONS
• Q2022 GROUNDWATER MONITORING REPORT
CARSON - PACIFIC PRIDE CARDLOCK
1655 U.S. HIGHWAY 101
COOS BAY, OREGON

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