State of Oregon
Department of Environmental Quality Memorandum

Date: June 14, 2024

To: FILE

Through: Brad Shultz and Don Hanson

From: Sarah Kingery
Western Region

Subject: Lane County Delta Complex IV, LUST 20-03-1830; 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 Lane County Delta Complex IV, in Eugene. 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 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: 3040 N Delta Highway, Eugene, Lane County Oregon.
- Latitude 44º05'55" North, longitude 123º05'49" West
- Tax lot 200, Township 17 South, Range 3 West, Section 18

Site setting.
The site is located at a lane county public works facility, approximately 16 acres in size. The USTs were located north of the fueling area in a paved part of the site. There are currently 2 20,000 USTs located in this tank pit location that were installed in 2003 (one UST has two compartments). The USTs are in a paved part of the facility near some warehouse buildings. The property is adjacent to sand and gravel operations to the north. The adjacent properties are zoned for sand, gravel, and rock products. Delta Highway borders the east side of the property. Zoning to the east on the other side of Delta Highway consists of mixed commercial and residential.

Physical setting.
The site is flat and at an elevation of approximately 390 feet above mean sea level (Figure 1). Boring logs from investigations completed at the site indicate that the subsurface material primarily consists of sand, silty sand and cobbles up to 5-inch diameter. Depth to first groundwater was typically observed at 23 to 26 feet during drilling and was measured at 19 to 24 feet in completed monitoring wells. Groundwater in this area has historically fluctuated dramatically due to the proximity to the Willamette River and significant pumping operations at the adjacent sand and gravel quarry. The Willamette River is located 1,600 feet west of the USTs. A large unnamed lake associated with quarry activities is approximately 500 feet north of the site.

Site history.
The UST facility number for this site is UST 3523. Five LUST files have been opened in association with UST Facility 3523 including the LUST file that is the subject of this staff memo. Four of the LUST files have previously received No Further Action determinations:

LUST No.	File Name	Data Closed	General Information
20-93-4119	Delta Complex	12/27/96	Petroleum contaminated soil and groundwater associated with two 20,000-gallon gasoline and two 20,000-gallon diesel USTs
20-93-4226	Lane County Auto Complex	12/27/96	
20-95-7044	Delta Complex II	2/21/96	Waste oil tank, Soil contamination
20-02-7002	Delta Public Works Facility	6/01/24	8000-gallon diesel generator tank leak and product recovery
20-03-1830	Lane County Delta Complex IV	Open	Summarized in this staff memo

The site is occupied by a mix of administrative buildings, vehicle maintenance garages, a fueling station, and construction machinery storage areas. The fueling station serves Lane County's vehicle fleet. A 1986 UST survey indicated that there were 8 tanks at the facility at that time. LUST 20-03-1830 focuses on four USTs that were located on the north side of fleet services (Figure 2).

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.
The subject property is used as the public works facility for Lane County. Buildings at the site include a warehouse, gravel storage, paint storage, maintenance building, fleet services, fueling area, and other building structures for occupational uses. The site is paved with some landscaping and is zoned Light-Medium Industrial. Adjacent properties are zoned for sand, gravel, and rock products. Properties to the west of the site consist of residential and commercial areas. Zoning at the site and surrounding areas is not expected to change.

Groundwater use.
The subject site and surrounding properties are connected to a municipal water supply. The nearest surface water body is the Willamette River located approximately 1,600 feet to the west of the site. A beneficial use survey was conducted in 2004 for LUST project 20-02-7002. No domestic water supply wells were identified within ¼-mile of the subject property. Three domestic water supply wells were identified between ¼-mile and ½-mile of the subject site, however, all three were located side gradient of the release location. Three production wells are located at the site which are used for heating and cooling systems for the Lane County facility.

Surface water use.
The Willamette River is located approximately 1,600 feet to the west of the site. A lake associated with sand and gravel operations is approximately 500 feet north of the site. The locality of facility (LOF) does not include these bodies of water. There is no surface contamination associated with this site that would come into contact with stormwater.

3. INVESTIGATION AND CLEANUP WORK

Petroleum contamination was encountered in soil and groundwater in 1993 during a UST system upgrade. The system included four 20,000-gallon USTs (two gasoline and two diesel), associated piping, and dispensers. LUST file 20-93-4119 was opened. The investigation included the construction of monitoring wells MW-1 through MW-6. Monitoring wells MW-2, MW-3, MW-4 are in the vicinity of the upgraded USTs. MW-5 is located south of the USTs and the fueling area. MW-1 is located near the gravel storage shed and the location of a former wash water UST (Figure 2). Groundwater was found to be contaminated with benzene and naphthalene. Groundwater monitoring was conducted in each well until concentrations of contaminants complied with the numeric groundwater cleanup levels for four consecutive sampling events. By 1996, concentrations of petroleum related compounds had reduced to levels less than the numeric groundwater cleanup levels or were not detected in MW-1 through MW-6. LUST file 20-93-4119 was given a No Further Action determination in December 1996. Monitoring wells were not sampled as part of this current LUST project.

The four tanks that were upgraded in 1993 were decommissioned by removal in 2003. Seven confirmation soil samples were obtained from the north and south walls of the excavation at the ends of each UST. Samples collected from the south wall were analyzed for NWTP-HCID. Samples collected from the north wall were analyzed for TPH-Dx and TPH-Gx. Eight soil samples were collected underneath the dispensers and at 90° junctions in the piping runs and sampled for NWTPH-HCID. Ground water was not encountered during the UST decommissioning. Burgeson-Boese & Associates, Inc. (BB&A) submitted a 20-day report to DEQ on September 26, 2003. Soil contamination was detected during the decommissioning, resulting in DEQ opening LUST 20-03-1830.

Nature and extent of contamination.
The contaminants of interest (COIs) at the site are diesel-range hydrocarbons, isopropylbenzene, n-Propylbenzene, 1,3,5-Trimethylbenzne, naphthalene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, and pyrene.

Diesel-range hydrocarbons were detected in the north wall of the excavation at a depth of 16.5 feet. Gasoline-range hydrocarbons were also detected however they were flagged by the analytical laboratory as the light component of diesel rather than gasoline. Concentrations of diesel-range hydrocarbons ranged from 447 mg/kg to 9,410 mg/kg. These concentrations are much lower than the maximum total petroleum hydrocarbons concentration of 29,000 mg/kg detected in excavation soil samples in 1993.

One soil sample was also analyzed for Volatile Organic Compounds (VOCs) and for Polynuclear Aromatic Hydrocarbons (PAHs). Naphthalene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Isopropylbenzene, n-Propylbenzene,1,3,5-Trimethylbenzne were detected at concentrations less than the applicable risk-based concentrations (RBCs).

4. RISK EVALUATION

Conceptual site model.
The source of contamination was four USTs which have been removed and replaced. Soil contamination remains beneath the site at approximately 16 feet below ground surface (bgs) in the sidewalls of the UST excavation. Groundwater contamination is no longer considered a risk and LUST file 20-93-4119, related to groundwater contamination, was closed in 1996.

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 (see next page) 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	Yes	Soil contamination is at a depth greater than 3 feet where residential and occupational receptors would not encounter soil. See Note 1
		Occupational	No	Yes	
		Construction Worker	No	Yes	Soil contamination is at a depth greater than 15 feet where construction worker receptors would not encounter soil.
		Excavation Worker	No	No	
	Volatilization to Outdoor Air	Residential and/or Urban residential	No	No	See Note 1
		Occupational	No	No	
	Volatilization to Indoor Air	Residential	No	N/A	See Note 2
		Occupational	No	N/A	
	Leaching to Groundwater	Residential and/or Urban residential	No	No	
		Occupational	No	No	
Groundwater	Ingestion & Inhalation from Tap Water	Residential and/or Urban residential	No	No	See Notes 3 and 4
		Occupational	No	No	
	Vapor Intrusion into Buildings	Residential	No	No	
		Commercial	No	No	
	Groundwater in Excavation	Occupational	No	No	See Note 5
Ecological		Terrestrial & Surface Water	No	No	

Table 1 Notes:

1. The site is a non-residential facility and is zoned light-medium industrial. There are no zoning changes anticipated for the future.
2. 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.
3. Groundwater is not used for drinking. This pathway is therefore considered incomplete, in accordance with Section B.3.2.4 of DEQ's RBDM guidance.
4. 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.
5. Groundwater is approximately 23 feet below ground surface. Construction and excavation work are generally limited to a depth of approximately 15 feet. The pathway of exposure for construction and excavation workers to contaminated groundwater is incomplete.

Contaminant concentrations.
Sampling conducted in 2003 found diesel-range hydrocarbons were present in soil in the north wall of the former UST excavation at a maximum concentration of 9,410 mg/kg. Concentrations of VOCs and PAHs are summarized in the table below. All concentrations of VOCs and PAHs detected are below the applicable RBCs.

Analyte Detected	Concentration µg/kg (ppb)
Naphthalene	210
Acenaphthene	320
Fluorene	320
Phenanthrene	870
Anthracene	54
Fluoranthene	24
Pyrene	52
Isopropylbenzene	38
n-Propylbenzene	580
1,3,5-Trimethylbenzne	15

Human health risk.
Residual soil contamination remains at depth. There are no residential receptors at this site and all residential pathways are considered incomplete.

The concentration of diesel-range hydrocarbons in soil exceeds the RBC for soil ingestion, dermal contact, and inhalation for construction workers. Because the contaminated soil is at a depth greater than 15 feet it is unlikely that construction workers will encounter this contamination, therefore this pathway is incomplete. PAHs and VOC concentrations are all below the RBCs.

The diesel concentrations detected in soil in 2003 exceeded the potential vapor intrusion screening levels in soil outlined in DEQ's draft Guidance for Assessing and Remediating Vapor Intrusion into Buildings, 2023. However, in accordance with the 2023 Guidance, vapor intrusion

from the residual contamination should not present an unacceptable risk to workers or visitors at the Delta Complex site based on the following lines of evidence:

1. There is a vertical separation of 16 feet between soil contamination and the ground surface;
2. There is a lateral separation of greater than 30 feet between soil contamination and existing buildings, and;
3. The contaminant source was removed over 20 years ago so significant natural attenuation of contaminants in the subsurface is expected.

Based on these lines of evidence, DEQ considers the Vapor Intrusion into Buildings exposure pathway to be incomplete.

Based on the data provided to DEQ, exposure pathways of residual contamination are incomplete. Therefore, there are no unacceptable human health risks identified for the site.

Ecological risk.
The site is an active industrial/commercial facility with no ecological habitat. There is no soil contamination at the surface that could affect stormwater and surface water. The groundwater contamination was remediated in 1996 and should not present a risk of impact to surface water in the vicinity of the site. There are, therefore, no unacceptable ecological risks identified for the site.

5. RECOMMENDATION

DEQ recommends a No Further Action determination for this site based on the information provided. The No Further Action determination should be recorded in DEQ's environmental data management system also known as Your DEQ Online (YDO) under project number 20-03-1830.

6. ADMINISTRATIVE RECORD

2023-12-15_20-03-1830_statusupdate.pdf
2003-08-28_20-03-1830_Release_Incident_Info.pdf
2003-09-22_20-03-1830_20DayReport.pdf
2023-01-20_20-03-1830_3040_NFA_REQUEST_LETTER.pdf
See also: project documents from 20-93-4119 in YDO.

7. ATTACHMENTS

1. Figure1-Site Location Map
2. Figure 2-Site Plan
3. Figure 3-Facility Map

Figure 1: Vicinity Map-Lane County Delta Complex IV, LUST 20-03-1830

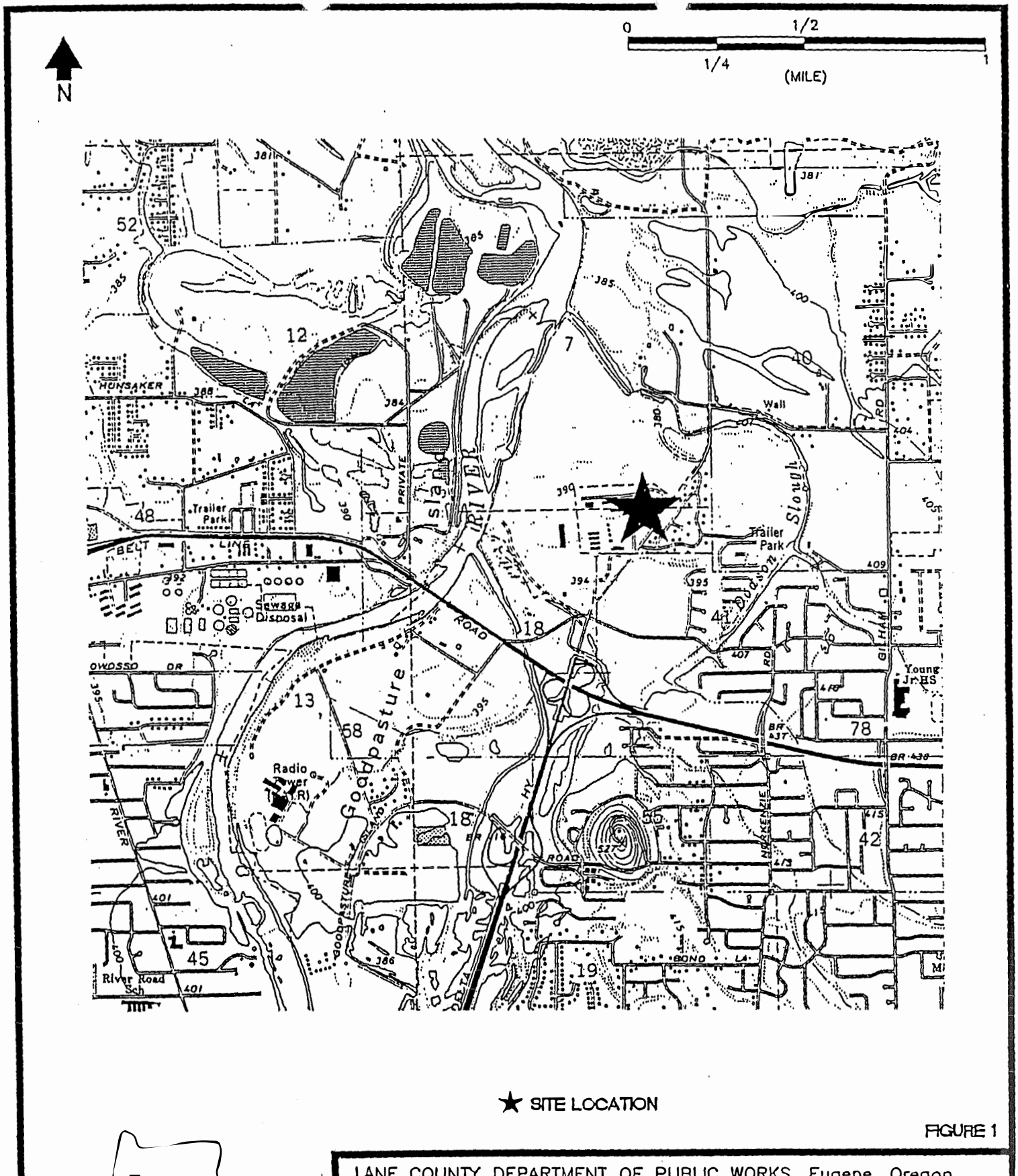

FIGURE 1

LANE COUNTY DEPARTMENT OF PUBLIC WORKS, Eugene, Oregon

SITE LOCATION MAP

Bergeson-Boese & Associates, Inc.
Environmental Engineering
65 Centennial Loop
Eugene, Oregon 97401
(503) 484-9484

Job Code:	LCD01QSR.95U
CADD File:	MAPS\USGS-TTL
Scale:	NOTED
Drawn:	N/A
Checked:	CHRIS STINE
Date:	3/27/95

Figure 2: Site Plan-Lane County Delta Complex IV, LUST 20-03-1830

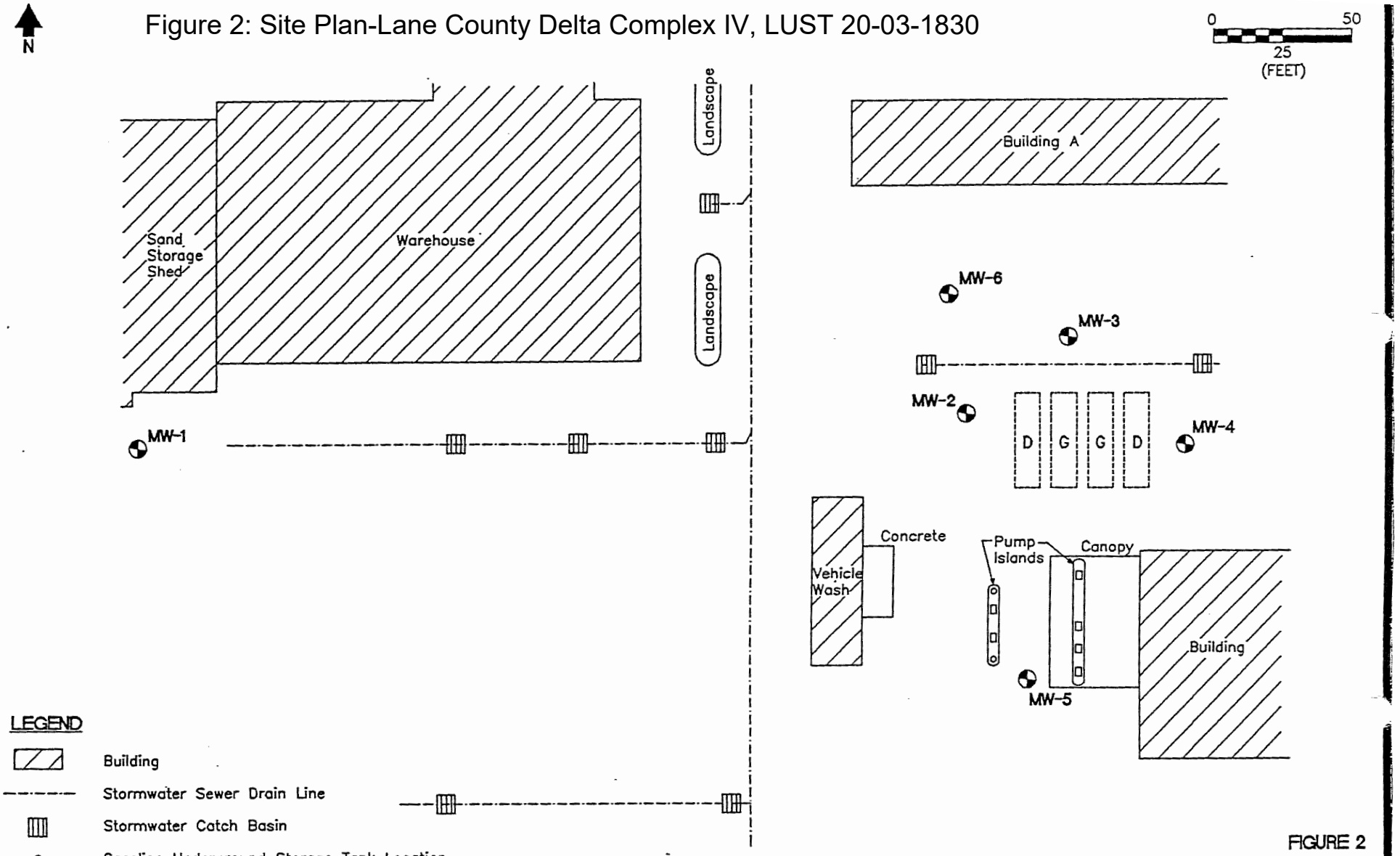

FIGURE 2

LANE COUNTY DEPARTMENT OF PUBLIC WORKS, Eugene, Oregon

SITE PLAN

Bergeson–Boese & Associates, Inc.
Environmental Engineering

65 Centennial Loop
Eugene, Oregon 97401
(503) 484–9484

Job Code: LCD01QSR.95U
CADD File: UST\QSR\LCD01
Scale: 1" = 50'
Drawn: ERIC GRAPE
Checked: CHRIS STINE
Date: 8/15/95

Figure 3-Facility Map

Lane County Delta
Complex IV
LUST 20-03-1830