Stormwater System Decommissioning Work Plan

Tax Lots 500 and 600, North Central Avenue and Rossanley Drive, Medford, Oregon

ECSI Site Identification Number 537

Prepared for:
Roseburg Forest Products
July 23, 2024
Project No. M1419.14.007

Prepared by:
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The material and data in this report were prepared under the supervision and direction of the undersigned.

Maul Foster & Alongi, Inc.

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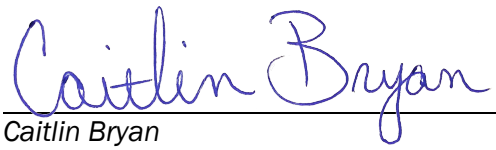

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Contents

Abbreviations

DEQ	Oregon Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
HAZWOPER	Hazardous Waste Operations and Emergency Response
MFA	Maul Foster & Alongi, Inc.
PCP	pentachlorophenol
RFP	Roseburg Forest Products
SMP	Site Management Plan

1 Introduction

On behalf of Roseburg Forest Products (RFP), Maul Foster & Alongi, Inc. (MFA) has prepared this work plan to outline activities related to the decommissioning of the stormwater system for tax lots 372W24500 and 372W24600 (referred to as tax lots 500 and 600), at North Central Avenue and Rossanley Drive, in Medford, Oregon (the Property). This work plan is prepared for Oregon Department of Environmental Quality (DEQ) review and approval as per the remedial action scope of work discussed below.

2 Background

2.1 Prospective Purchaser Agreement

In May 2024, RFP and DEQ entered into an Order on Consent (the "Prospective Purchaser Agreement") for the Property.1 As part of the Order on Consent, in exchange for providing protection from potential liabilities related to hazardous substances, RFP has committed to completion of a Remedial Action Scope of Work.

The Remedial Action Scope of Work (to be completed within six months of acquiring the Property) is summarized as follows:

- Installation of Property access controls (perimeter fencing and signage prohibiting trespassing);
- landscaping around the perimeter of the Property to limit windblown transport of contaminated surface soils;
- decommissioning of the existing stormwater system;
- development of a Site Management Plan (SMP); and
- to restrict groundwater use at the Property.

This SMP outlines precautions and procedures to protect human health and the environment from contaminated media at the Property.[2] The SMP identifies known contaminated media at the Property, excavation protocols, soil and groundwater handling procedures, and waste characterization and disposal requirements. The precautions and procedures outlined in the SMP

1 DEQ. 2024. State of Oregon Department of Environmental Quality in the Matter of Roseburg Forest Products Co. Order on Consent. DEQ No. 23-03 2024-009329.

[2] MFA. 2024b. *Draft Site Management Plan. Tax Lots 500 and 600, North Central Avenue and Rossanley Drive, Medford, Oregon.* Maul Foster & Alongi, Inc.: Portland, OR. June 21.

are to be followed during activities or work that takes place on the Property that involve surface or subsurface disturbance of soil or other environmental media (e.g., catch basin solids).

2.2 Former Site Operations

The Property was previously the central portion of a 104-acre lumber mill that operated from the 1920s until 1988.[3] Currently, the Property is vacant and all above ground structures have been removed. The lumber mill had numerous operators including Brownslee-Olds Lumber Company, Owen-Oregon Lumber Mill, Medford Corporation Lumber Mill, Medite Lumber Mill, and MEDCO Corporation. Previous features and structures on the Property included storage sheds, racks, mills, garages, and a portion of a 10-acre log pond. Additionally, a 100' cylindrical steel refuse burner was located near the southwest portion of the Property. A large, treated soil stockpile still exists along a portion of the Property's northern border. All of these structures were removed between 1988 (the year of the mill closure) and 2000.

Previous site operations included plywood and plywood-product manufacturing, which required thermosetting of phenol-formaldehyde resins. These thermosetting tasks took place in one of five veneer dryers and generated adhesive sludge that was intermixed with log bark for burning in an onsite boiler. This former sludge and refuse burning on the MEDCO site could be a potential source of the dioxin/furan soil contamination on the Property. Sanborn Fire Insurance Maps show several refuse burners on the MEDCO site, one of which was adjacent to the southern boundary of the Property, to the west of the 10-acre long pond.

2.3 Property Conditions

The Property is largely void of features and is not known to contain active utilities, other than a municipal sewer line that may bisect the Property. Utilities related to historical operations remain in the subsurface.

2.3.1 Soil and Groundwater Conditions

Soil and groundwater on the Property have been shown to contain moderate to low-level concentrations of arsenic and dioxin/furans above risk-based criteria (MFA, 2024a). Sediment, from two catch basins on the Property, was observed to contain dioxin/furans exceeding the DEQ risk-based concentrations (RBC) for ingestion, dermal contact, and inhalation for occupational workers and one sample exceeded the construction worker RBC (see Table 2-1).

Pentachlorophenol (PCP) was used, in what appears to have been a limited fashion, on the Property in conjunction with former operations. Sampling conducted in 2021 did not reveal pentachlorophenol PCP contamination in any of the sampled locations. However, since the potential for PCP contamination does still exist, any characterization of environmental media (e.g. soil, groundwater) to be disposed of off-site should include analysis for this contaminant as required by the SMP.

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[3] MFA. 2024a. *Phase I Environmental Site Assessment and Focused Investigation. Tax Lots 500 and 600, North Central Avenue and Rossanley Drive, Medford, Oregon.* Maul Foster & Alongi, Inc.: Portland, OR. July 10.

2.3.2 Stormwater System

Remaining subsurface utilities, including the stormwater conveyance system, remain on the Property. As-built diagrams for these systems are not available and thus the full extent of subsurface utilities is unknown.

In May of 2022, MFA subcontracted a camera scope to evaluate the extent and condition of the stormwater system on the Property. The location of the discharge point for the remaining stormwater system is tentatively confirmed and appears to have been discharged to the Hopkins Canal on the northern end of the Property. Portions of the stormwater system that were observed during the camera scope survey were intact (offsets notwithstanding); however, it was infeasible to survey the entire system due to blockages at assumed catch basin connection points, likely caused by site grading of surface soils during previous activities on the Property. Portions of the stormwater system not accessible for survey may have been removed, disconnected, or damaged during demolition. A magnetometer survey of select portions of the Property was also conducted.

The extent of the system surveyed is depicted on Figure 2-1 and may not represent all remaining portions of the system.

3 Stormwater System Decommissioning

3.1 Decommissioning Procedure

A public and private utility locate will be conducted prior to ground disturbing activities. During decommissioning, the private locator will assist with identification of any previously unlocated portions of the stormwater system. Decommissioning efforts will primarily focus on the disconnect location, catch basins, vaults, and manholes. All identified catch basins, vaults, and manholes attached to the stormwater system will be decommissioned according to the procedures described below.

An initial step to physical decommissioning activities shall be to advance an excavation at the furthest identifiable downgradient point of the stormwater system, and the stormwater pipe will be decommissioned with non-shrink grout at that location per the procedure described below; thereby preventing any off-site mobilization of stormwater or sediment (see “Disconnect Location” on Figure 2-1).

All located catch basins, vaults, and manholes on the stormwater line will be filled with low-slump concrete mix after the corresponding stormwater pipe (into and out of the catch basin, vault or manhole) has been plugged with non-shrink grout. Additionally, trench dams or comparable industry-standard features may be used to eliminate potential grout loss into the pipe. The contractor will additionally grout any identified terminus of pipe runs of significant length (i.e., greater than 200 feet) of the stormwater system, if the terminus is identified on the Property. If it is apparent that the system goes off Property, a test pit will be advanced just inside of the property line and the pipeline will be grouted at that location to prevent the transport of flow.

3.2 Waste Characterization Sampling

RFP conducted a site walk post-purchase of the Property and did not observe significant quantities of sediment within the catch basins. Therefore, sediment removal and thus waste characterization sampling is not anticipated to be necessary. However, if significant sediment is observed to need to be removed from a catch basin, vault, manhole and/or from portions of the stormwater pipe to enable grouting, sediment will be handled, stored, tested and properly disposed of as per the SMP.

If necessary, MFA will collect a composite waste characterization sample from the removed and containerized sediment for disposal. The waste characterization sample shall be analyzed for the following constituents (at minimum):

- Metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)
- Dioxins and furans
- Gasoline-, diesel, and oil-range hydrocarbons
- Pentachlorophenol

MFA will be present to conduct oversight during decommissioning and will conduct waste characterization sampling if needed. A hazardous waste determination should be done on any environmental media generated for characterization and off-site disposal.

3.3 Disposal

If necessary, sediment and or water that must be removed to enable decommissioning will be securely stored in Oregon Department of Transportation approved drums or a baker tank. The containerized material will be securely stored on the Property until characterization sampling and waste profiling are complete and the material is removed for off-site disposal. The results of the waste characterization will help determine the appropriate receiving facility. The material will then be transported and disposed of in accordance with all applicable regulations.

Disposal quantities will be documented, and disposal receipts and other relevant documents will be provided within the construction completion report. As the catch basins, vaults, and manholes will be removed from use via filling with concrete, physical removal of infrastructure is not anticipated at this time. If physical infrastructure removal is necessary to enable decommissioning of the system, it will be disposed of at an approved off-site receiving facility as general construction debris. Care will be taken to ensure the physical construction debris is generally free of sediment/soil.

3.4 Health and Safety Considerations

When soil is substantively breached, as defined in Section 4.1.1 of the SMP (MFA, 2024b), construction worker safety will be ensured by following the procedures defined in a project-specific Health and Safety Program. A project-specific Health and Safety Program is also required for projects involving personnel conducting investigations for the presence or extent of contamination. Development of a Health and Safety Program is the responsibility of each entity performing applicable work at the Property, and it is the responsibility of each entity to ensure that their personnel abide by their project-specific health and safety requirements.

Each project-specific Health and Safety Program will be informed by and, when applicable, will comply with 29 Code of Federal Regulations 1910.120 and Division 2 of OAR 1910.120, including Hazardous Waste Operations and Emergency Response (HAZWOPER) training (to the extent the project involves an operation requiring such training). Note that HAZWOPER training is not required for construction or maintenance activities, for investigations for the mere presence or extent of contamination, or for any other project activity that is not specifically identified as an operation covered by 29 Code of Federal Regulations 1910 and/or Division 2 of Oregon Administrative Rule 1910.120. In addition, each project-specific Health and Safety Program will outline procedures to ensure worker safety in areas where dioxins/furans are present. No project-specific Health and Safety Program is required when soil and groundwater are encountered by construction and excavation workers, unless otherwise noted in the SMP in Sections 4.3, and 4.2.

The Property should be secured during construction activities to prevent adverse health and safety risks or affects to the public. Figure 3-1 depicts an example of a potential site layout during construction, featuring a construction staging area within a broader exclusion zone that contains the known extent of utilities on the Property. The exclusion zone could be demarcated to prohibiting trespassing during decommissioning, if deemed to be necessary.

4 Reporting

All components of the completion of the remedial action scope of work, including the location, configuration, and details of the stormwater system decommissioning activities, will be documented within a single report and submitted to DEQ.

Limitations

The services undertaken in completing this work plan were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this work plan apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Figures

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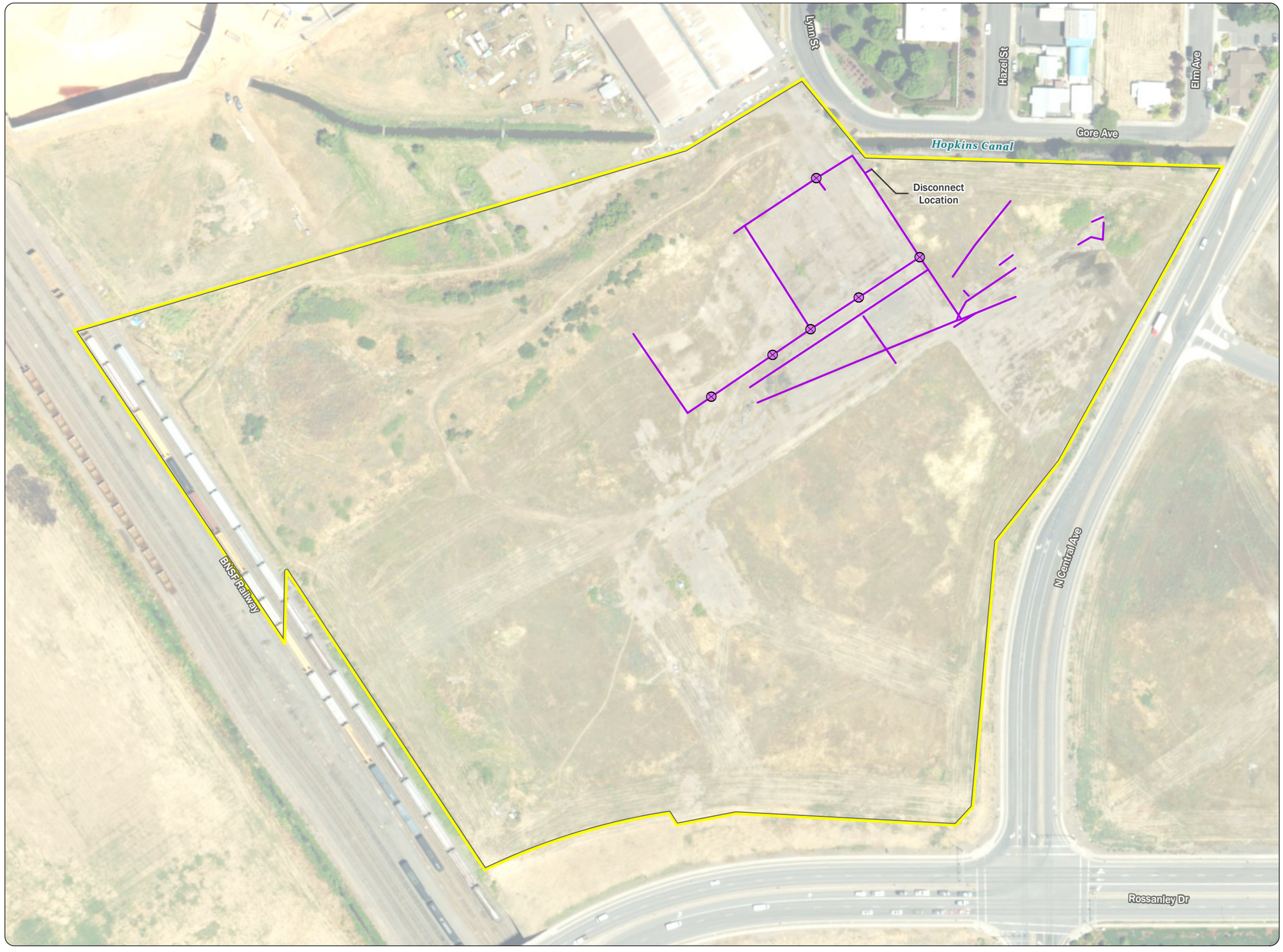

Figure 2-1
Potential Stormwater System Extent

Tax Lots 372W24-600 and 372W24-500
Medford, OR

Legend

- Manhole/Vault/Catch Basin
- Detected Utility Line
- Property Boundary

Note
All utility feature locations are approximate. Utility features have been identified using a magnetometer and may not reflect stormwater system piping. Stormwater pipes and manholes or catch basins not depicted on this figure may be present on the property.

0 100
Feet

Data Sources
Aerial photograph obtained from the State of Oregon (2022); tax lot data obtained from Jackson County (2024).

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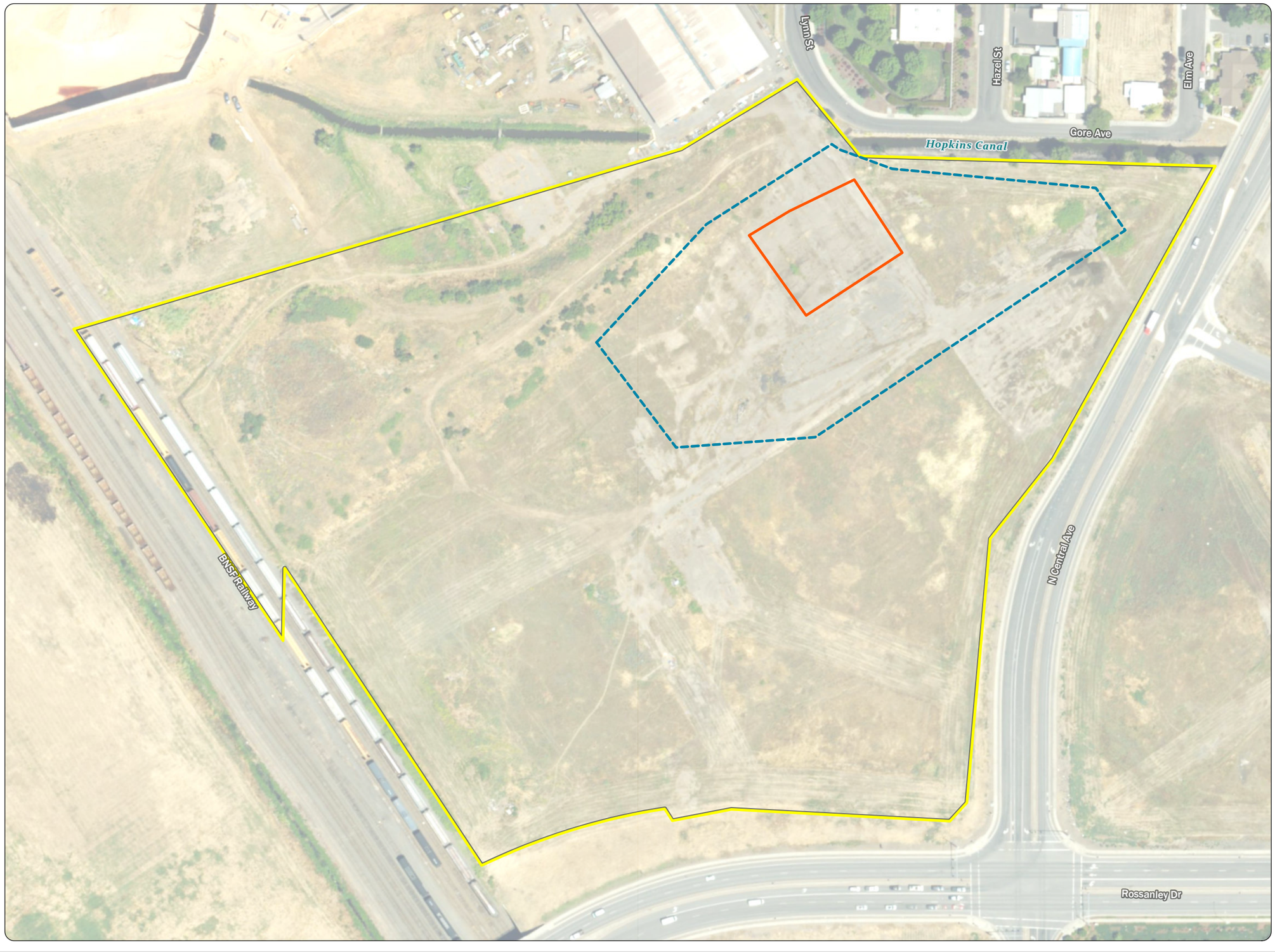

Figure 3-1
Construction Laydown and Exclusion Zone Areas

Tax Lots 372W24-600 and 372W24-500
Medford, OR

Legend

- Staging Area
- Exclusion Zone
- Property Boundary

0 100
Feet

Data Sources
Aerial photograph obtained from the State of Oregon (2022); tax lot data obtained from Jackson County (2024).

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Table

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Table 2-1
Summary of Catch Basin Solids Analytical Results
Tax Lots 500 and 600, North Central Avenue and Rossanley Drive
Medford, Oregon

Location:	Soil, Ingestion, Dermal Contact, and Inhalation[1]			Soil, Leaching to Groundwater[1]	Soil, Vapor Intrusion into Buildings[1]	Soil, Volatilization to Outdoor Air[1]	YD1	YD2
Sample Name:	Occupational	Construction Worker	Excavation Worker				YD1-S-0505	YD2-S-0505
Sample Date:				Occupational	Occupational	Occupational	5/5/2022	5/5/2022
TPH (mg/kg)								
Gasoline-Range Hydrocarbons	20,000	9,700	NV	130	NV	69,000	9.96 U	7.82 U
Diesel-Range Hydrocarbons	14,000	4,600	NV	NV	NV	NV	61.3 U	283 U
Oil-Range Hydrocarbons	14,000[a]	4,600[a]	NV	NV	NV	NV	882	1,840
Dioxins and Furans (pg/g)								
1,2,3,4,6,7,8-HpCDD	NV	NV	NV	NV	NV	NV	2,020	4,790
1,2,3,4,6,7,8-HpCDF	NV	NV	NV	NV	NV	NV	465	797
1,2,3,4,7,8,9-HpCDF	NV	NV	NV	NV	NV	NV	37.6 U	51
1,2,3,4,7,8-HxCDD	NV	NV	NV	NV	NV	NV	47.1 UJK	61.8
1,2,3,4,7,8-HxCDF	NV	NV	NV	NV	NV	NV	24.7 UJK	79.1
1,2,3,6,7,8-HxCDD	NV	NV	NV	NV	NV	NV	267	222
1,2,3,6,7,8-HxCDF	NV	NV	NV	NV	NV	NV	31.6 UJK	56.6 UK
1,2,3,7,8,9-HxCDD	NV	NV	NV	NV	NV	NV	157	148
1,2,3,7,8,9-HxCDF	NV	NV	NV	NV	NV	NV	32.1 U	46.8 U
1,2,3,7,8-PeCDD	NV	NV	NV	NV	NV	NV	47.9 UJK	34.4 UJK
1,2,3,7,8-PeCDF	NV	NV	NV	NV	NV	NV	13.2 U	17.7 U
2,3,4,6,7,8-HxCDF	NV	NV	NV	NV	NV	NV	37.1 UJK	52.1
2,3,4,7,8-PeCDF	NV	NV	NV	NV	NV	NV	67.7 UK	52.8
2,3,7,8-TCDD	16	170	4,800	31	130,000	130,000	6.73 U	11.8 U
2,3,7,8-TCDF	NV	NV	NV	NV	NV	NV	16 U	11.6
OCDD	NV	NV	NV	NV	NV	NV	18,100	47,200 J
OCDF	NV	NV	NV	NV	NV	NV	525	1,160
Total HpCDDs	NV	NV	NV	NV	NV	NV	4,120	9,060
Total HpCDFs	NV	NV	NV	NV	NV	NV	1,150	2,480 J
Total HxCDDs	NV	NV	NV	NV	NV	NV	2,020 JK	1,550 JK
Total HxCDFs	NV	NV	NV	NV	NV	NV	884 UJK	1,670 K
Total PeCDDs	NV	NV	NV	NV	NV	NV	343 UJK	318 UJK
Total PeCDFs	NV	NV	NV	NV	NV	NV	600 UJK	581 JK
Total TCDDs	NV	NV	NV	NV	NV	NV	28.7 UK	74.1 UK
Total TCDFs	NV	NV	NV	NV	NV	NV	397 UK	80.7 UK
Dioxin and Furan TEQ[b][2]	16	170	4,800	31	130,000	130,000	120 J	173 J

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Table 2-1
Summary of Catch Basin Solids Analytical Results
Tax Lots 500 and 600, North Central Avenue and Rossanley Drive
Medford, Oregon

Notes

Shading (color key below) indicates values that exceed screening criteria; non-detects (U, UJK, UK) were not compared with screening criteria. When multiple criteria are exceeded, the highest value is shaded.

Soil, Ingestion, Dermal Contact, and Inhalation, Occupational

Soil, Ingestion, Dermal Contact, and Inhalation, Construction Worker

Soil, Leaching to Groundwater, Occupational

DEQ = Oregon Department of Environmental Quality.

J = result is estimated.

JK = result is estimated and an estimated maximum potential concentration.

mg/kg = milligrams per kilogram.

ND = not detected.

NV = no value.

pg/g = picograms per gram.

RBC = risk-based concentration.

TEF = toxicity equivalence factor.

TEQ = toxicity equivalence.

TPH = total petroleum hydrocarbons.

U = result non-detect at the detection limit or reporting limit.

UJK = result is non-detect, estimated, and an estimated maximum potential concentration.

UK = result is non-detect and an estimated maximum potential concentration.

[a]Screening level value is for generic diesel/heating oil, since generic residual-range hydrocarbon values are not available.

[b]Dioxin and furan TEQ calculated as the sum of each detected congener concentration multiplied by the corresponding TEF value with non-detect results also multiplied by one-half.

References

[1]DEQ. 2018. Table: *Risk-Based Concentrations for Individual Chemicals* . Oregon Department of Environmental Quality, Environmental Cleanup Program. May.

[2]Van den Berg et al. 2006. *The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds* .