



**Contaminated Media Management  
Plan**

Edgewood Shopping Center  
350-390 E. 40<sup>th</sup> Avenue  
Eugene, Oregon 97405  
DEQ ECSI # 4586

April 4, 2023

Prepared for:

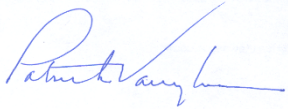
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# Sign-off Sheet


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# CONTAMINATED MEDIA MANAGEMENT PLAN

## 1.0 INTRODUCTION

This Contaminated Media Management Plan (CMMP) has been prepared by Stantec Consulting Services Inc. (Stantec) on behalf of Mr. Robert Breeden for the Edgewood Shopping Center located at 350-390 E. 40<sup>th</sup> Avenue in Eugene, Oregon (hereafter referred to as "Property").

### 1.1 OBJECTIVES

The purpose of this CMMP is to provide Property-specific information and guidance regarding the control and management of contaminated environmental media (soil and groundwater) that may be encountered during Property redevelopment activities. This document includes:

- A description of the type and magnitude of hazardous substances detected in soil and groundwater samples collected at the Property.
- Procedures for the management of soil that may contain petroleum or hazardous substances at concentrations resulting in classification of the soil as a solid waste during Property redevelopment activities.
- Procedures for the management of groundwater that may contain petroleum or hazardous substances at concentrations that would limit its discharge to the City of Eugene stormwater management system.
- Measures to control access to the Property prior to and during redevelopment activities.
- Measures to control the off-site migration of contaminated soil via erosion and/or track-off; and
- Procedures for minimizing worker exposure to hazardous substances present in soil during Property redevelopment.

### 1.2 PROPERTY LOCATION AND DESCRIPTION

The Property is in a residential and commercial area of Eugene, Lane County, Oregon. The Site consists of approximately 4.52 acres developed with an 'L' shaped, partial two-story shopping center building located along the western and southern Site boundaries, and an additional single-story square commercial building with a single tenant is in the northeastern quadrant of the Site. A Site Location Map is provided as **Figure 1**, and a Site Plan is attached as **Figure 2**.

### 1.3 SITE HISTORY

Historical documents indicate that the Property was developed for commercial use starting in 1968. Prior to development, the Property was undeveloped bare land. The present-day Property buildings have been occupied by a variety of tenants including but not limited to a Safeway grocery store, a dry cleaner, office spaces, flower shop and sports bar.

The northeastern portion of the Property was formerly occupied by a retail gasoline service station and car wash listed as the McCool Property located at 4010 Donald Street and is identified as an Oregon Department of Environmental Quality (DEQ) Leaking Underground Storage Tank (LUST) and Environmental Cleanup Site Identification (ECSI) facility. Chlorinated solvents are listed as present in the groundwater at the McCool Property at concentrations above the federal drinking water Maximum

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Contaminant Levels (MCLs). According to DEQ the reported groundwater contamination could be due to rinse water from the former car wash, an off-site source or the drycleaners at the Edgewood Shopping Center.

### 1.4 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

#### 1.4.1 SECOR October 2007 Phase I ESA

SECOR (now Stantec) noted that the Property was in a well-developed residential and community commercial area of Eugene, Lane County, Oregon and consists of approximately 4.52 acres of land developed with an 'L' shaped partial two-story building with multiple tenants and a single-story square building with a single tenant.

The assessment identified the following Recognized Environmental Condition (REC) in connection with the Property:

- A dry cleaner has been located at the Subject Property from approximately 1968 to approximately 2004. According to historical reports provided to SECOR, groundwater at the subject Property has been impacted by chlorinated hydrocarbons (i.e., tetrachloroethene [PCE] and trichloroethene [TCE]) which constitute a REC in connection with the Subject Property.

SECOR recommended further investigation to identify the vertical and lateral extent of the chlorinated hydrocarbon contamination within the groundwater

#### 1.4.2 SECOR 2007 Phase II Environmental Site Assessment

The investigation consisted of collection of groundwater and soil samples at the subject property for laboratory analysis to assess the: 1) current water quality within the existing monitoring well network; 2) evaluate whether chlorinated solvents had likely migrated off-site; 3) evaluate a yet undefined sources of PCE near well MW-5; and 4) to determine if there was evidence that PCE had impacted sub-slab soil within the former dry cleaner space.

Laboratory analysis identified the presence of PCE and TCE in all groundwater samples collected during the 2007 Phase II Environmental Site Assessment (ESA). Cis-1,2-dichloroethene (DCE), which is a chemical usually associated with the degradation of PCE and TCE, was identified in wells MW-2, MW-3 and MW-4. No other compounds were identified by the laboratory.

PCE was detected in soil collected from borings B-5 (east of MW-4) and B-8 (in alley way west of MW-5) at low concentrations. DCE was detected in soil collected from boring B-9 (in the alley way and northwest of MW-5) albeit at a low concentration. All samples were extracted within required holding times and the laboratory did not report any data qualifiers. The method reporting limits for each analyte were all below the lowest DEQ risk-based concentration (RBC) screening level for each chemical compound of concern.

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### 1.4.3 Stantec 2009 and 2010 Vapor Intrusion Assessments

On November 19, 2008, Stantec collected three time-integrated indoor air samples in accordance with United States Environmental Protection Agency (EPA) Method TO-15. One sample was collected from within the on-site management office (Breedon Office); one from the former dry cleaner tenant space; and one ambient air sample was collected near the parking lot. PCE, detected in the former dry-cleaner space, was the only compound detected above then-current DEQ RBCs. On June 18, 2009, indoor air and sub-slab soil gas samples were subsequently collected in all tenant spaces where access was granted. Except for the sample collected at the flower/gift shop immediately adjacent to the former dry-cleaner, PCE was detected in all sub-slab soil gas samples at concentrations below the then-current occupational DEQ RBC for soil gas. PCE was detected in sub-slab soil gas (9,300 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]) above its then current DEQ occupational RBC at the flower/gift shop; however, a concurrent indoor air sample contained PCE at  $0.44 \mu\text{g}/\text{m}^3$  which was well below its then current occupational indoor air RBC ( $1.9 \mu\text{g}/\text{m}^3$ ).

### 1.4.4 Membrane Probe Assessment

Fifteen Membrane Interface Probe (MIP) borings were advanced for further characterization of subsurface contaminants in vicinity of the former dry-cleaner facility during March 2011. Additionally, two hydraulic Profiling Tool (HPT) borings were advanced to identify the hydraulic properties of subsurface soils and identify potential preferential pathways for subsurface contaminant migration.

## 2.0 NATURE AND EXTENT OF CONTAMINATION

### 2.1 SOIL

The source of contaminants of interest (COI) contamination at the Property originated from past releases associated with a former dry-cleaning operation at the Site. The source area was in the alley area in the vicinity of former groundwater monitoring well MW-5 (**Figure 2**). The characterization of soil quality in the alley area was completed during the December 2017 advancement and installation of groundwater monitoring well DW-1 in the suspected source area. Sample results contained 1.37 milligrams per kilogram (mg/kg) of PCE at 5-feet below ground surface (bgs) and 1.11 mg/kg PCE at 15-feet bgs. No TCE was detected above laboratory reporting limits (LRLs) in soil samples collected during the advancement of DW-1.

Based on historical soil sampling, the extent of soil impacts in the alley appeared to extend from MW-5 approximately 35 feet in length (west-east along the alley way) and 20 feet in width (north-south across the alley way).

An interim removal action (IRA) was implemented in August 2020 following DEQ approval. Approximately 850 cubic yards of soil extending to a depth of approximately 12-feet bgs was removed in the source area surrounding the former location of MW-5. Confirmation sampling indicated that residual soil did not contain PCE, TCE or 1,2-DCE above any applicable DEQ RBCs.

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### 2.2 GROUNDWATER

Groundwater monitoring events have been conducted at the Property periodically since approximately 2007. As a result, the groundwater gradient beneath the Property has been calculated to flow in a north-northeasterly direction for all events conducted at the Property. Results indicated previous PCE impacts to groundwater on the Property have ranged from 100,000 micrograms per liter ( $\mu\text{g/L}$ ) at the former location of MW-5 in the suspected source area to 610  $\mu\text{g/L}$  in MW-6 located at the approximate northeast corner of the Site, or the furthest on-Site downgradient position relative to groundwater flow direction indicating that groundwater impacts may extend into E. 40<sup>th</sup> Avenue.

Over 7,000-gallons of water infiltrating the IRA excavation was treated on Property and discharged under permit to the City of Eugene sanitary sewer system during the IRA described above. As of September 19, 2022 groundwater concentrations of PCE and TCE in replacement well MW-5R installed within the IRA excavation footprint are 112  $\mu\text{g/L}$  and 1.29  $\mu\text{g/L}$ , respectively.

Cumulative groundwater analytical results are included in **Table 1**, and historic soil analytical results are included in **Table 2**.

### 3.0 SOIL MANAGEMENT METHODS

Based on soil testing completed to date, no remaining on-Property soil has been identified that must be managed as a solid waste. The following subsections describe methods that must be employed to identify and manage unanticipated and unknown contaminated soil.

Management and handling of contaminated media shall be conducted in accordance with Oregon Revised Statutes (ORS), Chapter 459 Solid Waste Management (ORS 459.005 through 459.997), Chapter 466 Hazardous Waste (ORS 466.005 through 466.385), and Chapter 468B Water Quality (ORS 468B.150 to 468B.190).

#### 3.1 RESPONSIBLE PERSONNEL

A qualified environmental professional (EP) will provide training to construction personnel who will be present during grading and excavation activities and who will be responsible for determining reuse/disposal options for excess soil. This training will include: 1) familiarizing construction personnel with all environmental data obtained at the Property, and 2) educating construction personnel regarding the lines of evidence that may indicate the presence of petroleum or hazardous substances in soil. If directed to do so Stantec personnel will be on-Property periodically during grading activities to ensure that construction personnel are sufficiently knowledgeable to act in the role of responsible person. Stantec personnel, if retained, also will be "on-call" to answer questions via phone and/or to travel to the Property should assistance with soil management be required.

#### 3.2 SOIL CLASSIFICATIONS AND METHODS OF CLASSIFICATION

Soil excavated during construction at the Property will be classified either as 1) petroleum-containing soil that exhibits staining or odor (referred to herein as "PCS"); 2) no apparent impact soil (i.e., NAPI Soil); or

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3) unanticipated and unknown contaminated soil, which is soil exhibiting evidence of contamination inconsistent with that typical of PCS. Soil classification will be based on available environmental assessment data, and upon olfactory and visual lines of evidence (e.g., odor and staining). Each soil type, and the methods that will be used in classifying soil types, is described below.

### 3.2.1 No Apparent Impact Soil

Except for soil removed during the IRA, prior assessment activities have identified no evidence of contamination that would require soil to be classified as a solid waste in the depth interval 0-13 feet bgs across the entire Property. Therefore, the default classification for soils in this depth interval is NAPI Soil, unless field evidence indicating the soil should be classified differently is identified. NAPI soils can generally be described as soil, brown in color, exhibiting no staining or chemical odors. NAPI soil may be reused on-Property in an unrestricted manner and may also be disposed off-Property in an unrestricted manner.

### 3.2.2 PCS

During assessment activities at the former gasoline service station/car wash completed at the northeast corner of the Property, soil containing petroleum and exhibiting staining and odors was identified at a depth extending to about 14 feet bgs. However, it is not anticipated that substantial soil contamination remains. PCS characteristics include: 1) staining, generally dark gray in color; 2) a gasoline-, diesel-, or heavy oil-like odor; and/or 3) elevated photo-ionization detector (PID) instrument measurements.

PCS may be disposed off-Property, at an appropriate disposal facility (i.e. RCRA Subtitle D permitted landfill), such as the Coffin Butte landfill in Corvallis, Oregon.

### 3.2.3 Unanticipated and Unknown Contaminated Soil

Although the Property has been adequately assessed, areas and types of impact in unassessed areas where petroleum or hazardous substance releases have occurred may be discovered during redevelopment of the Property. The unanticipated and unknown soil type is used to categorize soil dissimilar in nature from NAPI Soil and PCS. On-Property reuse of unanticipated and unknown soil is not permitted. Following further evaluation (required when unanticipated and unknown soil is identified) soil initially classified as unanticipated and unknown contaminated soil may be reclassified as either NAPI Soil or PCS.

## 3.3 SOIL EXCAVATION OBSERVATION AND MONITORING

During construction grading/excavation activities all soil must be inspected to confirm it has been properly classified. For example, soil in the depth interval 0-13 feet bgs is anticipated to be classified as NAPI soil. All soil excavated in this depth interval must be inspected to confirm that this is the correct classification. Inspection methods employed must include:

- Observation of the soil for visual evidence of contamination (i.e., staining).
- Observation of the soil for olfactory evidence of contamination (i.e., diesel- or heavy oil-like odors);
- and

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- Observation of the soil for unusual staining, or chemical odors other than diesel- or heavy oil-like odors.

It is strongly suggested that a PID also be utilized when inspecting soils as a final line of evidence.

### 3.4 EXCLUSION ZONE AND DECONTAMINATION

Before beginning soil excavation where contamination is possible (i.e., below and within 3-feet of the former dry cleaner), the Contractor must establish an exclusion zone around the excavation/grading area. Fencing of the exclusion zone is required during the entire duration of the excavation/grading project to minimize access to the exclusion zone by unauthorized persons. Entrance/exit locations to the exclusion zone must be limited. The boundaries of the exclusion zone must be located at or wholly within the boundaries of the Property. Designation of the entire Property as the exclusion zone during Property grading and excavation activities is acceptable.

Equipment may move freely within the exclusion zone. Equipment washing is not required within the exclusion zone. Equipment must be broom-cleaned when moving between excavation areas within the exclusion zone. If practicable, truck loading areas should be established at the boundary of the exclusion zone so that trucks may be loaded without entering the exclusion zone, thereby eliminating required decontamination upon exiting the exclusion zone. Trucks must be broom-cleaned before leaving the loading area. Decontamination procedures for personnel exiting the exclusion zone must be described in the site-specific health and safety plan prepared for the Property by the Contractor.

### 3.5 CONTROL OF PCS AND OTHER CONTAMINATED SOIL

The Contractor must use means and methods to prevent off-Property migration of any visible or measurable quantities of PCS or other contaminated soils (if any) as airborne dust, track-out, or stormwater runoff. For example, if/as needed the Contractor may need to provide the following.

1. A water truck to wet soils to suppress airborne dust.
2. Broom clean soil from the exterior of vehicles before they leave designated soil loading areas or the Property.
3. Graveled aprons and/or a wheel wash at egress point(s) from the Property.
4. Catch basin sediment filters installed in catch basins located in streets near the Property to prevent PCS or other contaminated soils from entering the City of Eugene stormwater management system.
5. Silt fences or other erosion control devices to prevent PCS or other contaminated soils suspended in stormwater from migrating off-Property.

### 3.6 STAGING OF EXCESS CONTAMINATED SOIL

Temporary staging and or stockpiling of excess soil by the Contractor may be permitted in areas designated by the EP. Excess soil temporarily stockpiled on-Property must be segregated by type, placed on plastic sheeting (6-mil minimum), covered with tarps during periods of rain, wind or inactivity to prevent transport of soil. The edges of the tarps must be weighed down. Stockpiles must be always kept neat.

If directed and authorized by EP, the Contractor may temporarily stockpile soil classified as PCS and/or unanticipated and unknown contaminated soil, but must separate PCS stockpiles from NAPI Soil

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stockpiles. The soil must be placed atop plastic sheeting and surrounded by a berm. The stockpile also must be covered with tarps during periods of rain, wind or inactivity to prevent soil transport. The edges of the tarps must be weighed down.

### **3.7 EXCAVATION AND LOADING OF CONTAMINATED SOIL**

The Contractor must load all soil being transported off-Property for disposal using the following procedures.

1. Notify the EP no less than 24 hours prior to beginning excavation of Property soil.
2. Use water as necessary to prevent the generation of visible dust during excavation activities. The Contractor will minimize equipment traffic through the exclusion zone to prevent PCS or other contaminated soils from being transported via track-off to other parts of the Property, or off Property.
3. Maintain excavation equipment in good working order. The Contractor must immediately clean up any spilled hydraulic oils or other hazardous substances from equipment.
4. Locate loading areas for PCS in, or at the edge of (preferred), the exclusion zone.
5. Wet PCS with free water will not be loaded into trucks.
6. Load trucks in a manner that prevents the spilling, tracking or dispersal of PCS. Cover all loads that contain PCS prior to exiting the Property.
7. Remove PCS from the exterior of each truck before the truck leaves the loading area. Place any PCS collected in the loading area back into the truck.
8. Establish specific truck haul routes before beginning off-Property PCS transport. Use on-Property truck routes that minimize or prevent movement of trucks over contaminated areas.
9. Ensure that loaded truck weights are within acceptable limits.

### **3.8 TRANSPORTATION OF PCS OR OTHER CONTAMINATED SOIL**

The Contractor must comply with any and all applicable federal, state, or local laws, codes, and ordinances that govern or regulate contaminated soil transportation. Prior to transportation, obtain all required permits and furnish all labor, materials, equipment, and incidentals required for soil transport. Ensure that all drivers hauling contaminated soil have in their possession all applicable state and local vehicle insurance requirements, valid driver's license, and vehicle registration and license. Inform all drivers of haul vehicles of the following.

1. The nature of the material being hauled.
2. The required route to and from the disposal site and/or disposal staging area.
3. The applicable city street regulations and requirements, and State of Oregon Department of Transportation codes, regulations and requirements.
4. The legal maximum load limits per vehicle.

Do not allow PCS or other contaminated soil to be spilled or tracked off-Property. No visible or measurable contaminated soil may be released to off-Property areas. Cover the load of each truck carrying contaminated soil with a well-secured tarp prior to leaving the Property. All contaminated soil on the exterior of the trucks must be removed prior to the truck leaving the Property. Trucks will not be allowed off-Property if free liquids are draining from the load. The Contractor must be prepared to line trucks upon request by the EP and use trucks for the transportation of contaminated soil that are substance compatible, licensed, insured, and permitted pursuant to federal, state, and local statutes,

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rules, regulations and ordinances. Provide all weigh tickets issued by the disposal facility the receives PCS.

### 3.9 DISPOSAL OF PCS AND OTHER CONTAMINATED SOILS

Contaminated soil will be transported to a landfill permitted to accept it. Soils classified as a solid waste will be permitted for disposal at the Coffin Butte landfill, which is a RCRA Subtitle D permitted landfill. Unanticipated and unknown soil classified as a hazardous waste (if any) will be permitted for disposal at the Chemical Waste Management Arlington RCRA Subtitle C Landfill (or equivalent). Prior to excavation, transportation, and disposal of contaminated soil, the Contractor must obtain acceptance from the landfill for disposal of the soil. If necessary, the EP will assist the Contractor in obtaining required disposal permits. Prior to initiating soil hauling/disposal, the Contractor must submit permit documents authorizing acceptance of the soil by the disposal facility to Stantec for review and approval.

At least 14 days prior to transport of contaminated soil, the Contractor must provide a contact name and solid waste permit number for each facility that will receive contaminated soil. The Contractor must provide the EP at least 72-hour notice prior of initial transport of contaminated soil off the Property, and at least 24-hour notice for all subsequent contaminated soil transportation events.

The Contractor must properly prepare bills of lading or other related documents required by the disposal facility. All receipts for disposal must be submitted to the EP within 2 days of receipt of the contaminated soil at the disposal facility.

### 3.10 UNANTICIPATED AND UNKNOWN CONTAMINATED SOIL MANAGEMENT

The Contractor must complete the following in response to suspected unanticipated and unknown contaminated soil identified by the monitoring procedures described in Section 3.3.

1. Upon discovery of suspected unanticipated and unknown contaminated soil, immediately suspend all activities in the vicinity and notify the EP.
2. Within 4 hours of notification the EP will conduct an initial field evaluation and will assess whether the soil is potential unanticipated and unknown contaminated soil that requires further evaluation. If the field evaluation indicates that the soil is potential unanticipated and unknown contaminated soil, the EP (with assistance from the Contractor) will collect samples for laboratory analysis. Testing results will be obtained within 72 hours. The EP will discuss with the Contractor whether to continue excavating soils and placing soil in temporary stockpiles or cease excavation until laboratory testing results are received.
3. Suspect unanticipated and unknown contaminated soils must be stockpiled separately from other soils. Suspect unanticipated and unknown contaminated soil must be placed atop plastic sheeting (6-mil minimum) and surrounded by a berm. The stockpile must also be covered with tarps during periods of rain, wind or inactivity to prevent soil transport. The edges of the tarps must be weighed down.
4. The stockpile must be always kept neat.
5. The EP must approve the location of any and all suspected unanticipated and unknown contaminated soil stockpiles.

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If the EP determines that potentially hazardous unanticipated and unknown contaminated soil has been encountered, the Contractor will comply with the following requirements.

1. Secure the area as necessary to restrict and protect workers and the public from exposure.
2. Modify the Site-specific Health and Safety Plan (HASp) prepared by the Contractor as necessary, to address new contaminants, hazards, and other contaminated media concerns associated with the unanticipated and unknown contamination. The EP will provide unanticipated and unknown contaminated soil sampling and analysis results to assist in making appropriate document modifications. Stantec will approve all document modifications.
3. Do not excavate, temporarily store, manage, load, haul, or dispose potentially hazardous unanticipated and unknown contaminated soil until directed by the EP. Once directed, perform all excavation, temporary storage, management, loading, hauling, and disposal of unanticipated and unknown contaminated soil in accordance with Sections 3.5 through 3.9 of this CMMP.
4. Until authorized by the EP, do not transport unanticipated and unknown contaminated soil off-Property. The EP will direct the disposal of the unanticipated and unknown contaminated soil. If the contaminated soil is a RCRA or state-only hazardous waste, remove and dispose of the soil within 30 days of being directed by the EP.
5. If underground storage tanks (USTs) are encountered, immediately inform the EP, and manage according to Oregon Administrative Rules (OAR) 340-122. The Contractor must provide complete written documentation to Stantec of full compliance with all applicable UST regulatory requirements.

### 4.0 GROUNDWATER MANAGEMENT

Groundwater sampling at the Property has indicated evidence of significant groundwater contamination. As a result, the activities required at the Property to facilitate construction dewatering are different than those required at a clean site.

Should construction dewatering of groundwater or stormwater and discharge be necessary during Property redevelopment, the Contractor must, at a minimum, follow permit requirements described in the City of Eugene Public Works Department permit for discharge of pre-treated water into the City-owned sanitary sewer system. Other permits may be required, and it is the responsibility of the Contractor to ensure all necessary permits are secured and complied with. On-Property treatment prior to discharge may include bag filtration and activated carbon filtration.

Required protocols include sampling and testing of groundwater. Minimum test parameters for baseline contaminants must include chlorinated volatile organic compounds (VOCs) including PCE, TCE and DCE.

### 5.0 IMPORTED MATERIAL

All materials (e.g., soil, rock, crushed concrete) imported to the Property for use as fill must be uncontaminated and free of debris. Purchases of native materials (e.g., crushed rock) from commercial sources must be supported by receipts and/or weight tickets. Non-commercial sources of fill material or materials of unknown origin must be supported by chemical analysis approved by the EP to document

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that the materials are not contaminated. Samples of such material must be collected and analyzed prior to the material being transported to the Property. Results of the analyses must be provided to the EP prior to placing fill on the Property.

### **6.0 CONTRACTOR HEALTH AND SAFETY**

The Contractor must develop and implement a site-specific Health and Safety Plan (HASP) designed to ensure compliance with all applicable worker protection regulatory requirements, including 29 CFR 1910.120, the Hazardous Waste Operations, and Emergency Response (“HAZWOPER”) rule promulgated by the federal Occupational Safety and Health Administration (OSHA). The HASP must be submitted to the EP for review and approval at least 30 days prior to initiation of Property construction activities. Comments on the HASP will be provided by the EP within 5 working days. The Contractor must resubmit the revised HASP for final review and approval.

During Property construction activities, the Contractor will bear full responsibility for the implementation of its site-specific HASP.

### **6.1 CONTRACTORS USE OF HAZARDOUS MATERIALS**

Contractor shall at all times properly handle, store, use, and dispose of any hazardous materials brought onto the work site in accordance with all applicable environmental laws as defined herein. In the event of a spill or release of any hazardous material brought onto the work site, the procedures as set forth in the contractors Health and Safety Plan (HASP) or other management plan concerning hazardous materials encountered during construction shall be followed.

### **7.0 PROJECT MANAGEMENT**

Oversight of Contractor construction activities at the Property that are subject to this CMMP will be conducted only by qualified field staff

### **8.0 CLOSURE DOCUMENTATION**

During redevelopment, the excavation and disposal/re-use of any soil classified as PCS will be documented in the field and with a Project Soil Management Report. Documentation requirements are described below.

### **8.1 FIELD DOCUMENTATION**

The Contractor (or the EP while on-Property) must record, at a minimum, data used in making soil management decisions; on-Property observations of excavation and soil management activities (including truck logs); and communications with involved parties and regulatory agencies.

**8.2 PROPERTY/PROJECT CLOSURE REPORT**

At the conclusion of subsurface construction activities, a Closure Report will be prepared that will include, but is not limited to:

- Description of excavation and soil management activities, including sampling activities and results, and the amount and types of soil excavated and disposed.
- Site maps indicating areas where contaminated soil was removed; where it remains (if any); and where it was re-used.
- Photographs of Property construction activities; and
- Copies of analytical laboratory reports, permits and approvals, and disposal manifests and receipts.

## 9.0 REFERENCES

DEQ, 2018. Risk-Based Decision Making for the Remediation of Contaminated Sites. Table of generic Risk-Based Concentrations. Updated May 2018.

DEQ, 2020. Electronic-Mail Interim Removal Work Plan Approval. May 4, 2020.

SECOR 2007. Phase I Environmental Site Assessment Report, Edgewood Shopping Center, 350-390 E 40th Avenue Eugene, Oregon, SECOR International Incorporated. October 29.

Stantec 2008. Limited Subsurface Investigation Report, Edgewood Shopping Center, 350-390 E 40th Avenue Eugene, Oregon. October 15.

Stantec, 2018. Additional Site Characterization Report Edgewood Shopping Center, 350-390 E 40th Avenue Eugene, Oregon. April 30, 2018.

Stantec, 2019a. Feasibility Study Report, Edgewood Shopping Center, 350-390 E 40th Avenue Eugene, Oregon. March 20, 2019.

Stantec, 2019b. Interim Removal Action Workplan, Edgewood Shopping Center, 350-390 E 40th Avenue Eugene, Oregon. April 29, 2019.

# TABLES

Table 1. Soil Sample Analytical Results  
Soil Borings and Well Installations  
Edgewood Shopping Center  
350-390 E 40th Avenue  
Eugene, Oregon

Sample Identification	Sample Date	Sample Depth (feet below ground surface)	PID Field Screening Result	VOCs - 8260B (mg/kg)														
				PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethene	Carbon Tetrachloride	Chlorobenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	n-Propylbenzene	
On-Site Soil Borings																		
B-1	10/16/2007	15'	--	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	<0.0066	
B-2	10/16/2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
B-3	10/16/2007	10'	--	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	<0.0064	
B-4	10/16/2007	5'	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
B-5	10/16/2007	10'	--	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
B-6	10/16/2007	1'	--	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
B-7	10/16/2007	0.5'	--	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	
B-8	10/16/2007	5'	--	0.0094	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	
B-9	10/16/2007	6'	--	<0.0011	<0.0011	0.0051	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	<0.0011	
B-10	10/16/2007	6'	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
B-11	8/20/2008	10'	--	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	
B-12	8/20/2008	10'	--	<0.067	0.78	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	
B-12	8/20/2008	15'	--	0.024	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	
B-13	8/20/2008	18'	--	0.51	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	
B-14	8/20/2008	10'	--	0.26	0.008	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	
Shallow Monitoring Wells <sup>1</sup>																		
MW-6	8/20/2008	10'	--	<0.0013	<0.0013	0.022	0.01	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013	0.002	0.0061
MW-7-1-3	1/29/2018	1' - 3'	0.4	<0.0401	<0.0401	<0.0401	<0.0401	<0.0802	<0.0401	<0.0802	<0.0401	<0.0401	<0.0401	<0.0401	<0.0401	<0.0401	<0.0802	<0.0401
Duplicate X	1/29/2018	1' - 3'	0.4	<0.0420	<0.0420	<0.0420	<0.0420	<0.0839	<0.0420	<0.0839	<0.0420	<0.0420	<0.0420	<0.0420	<0.0420	<0.0420	<0.0839	<0.0420
Deep Monitoring Well																		
DW-1-5	9/26/2017	5'	55.0	1.370	<0.0408	<0.0408	<0.0408	<0.0816	<0.0408	<0.0816	<0.0408	<0.0408	<0.0408	<0.0408	--	--	--	
DW-1-15	9/26/2017	15'	7.0	1.110	<0.0348	<0.0348	<0.0348	<0.0696	<0.0348	<0.0696	<0.0348	<0.0348	<0.0348	<0.0348	--	--	--	
Off-Site Soil Boring																		
SB-2-7-8	1/29/2018	7' - 8'	0.2	<0.0375	<0.0375	<0.0375	<0.0375	<0.0751	<0.0375	<0.0751	<0.0375	<0.0375	<0.0375	<0.0375	<0.0375	<0.0751	<0.0375	
Generic RBC <sub>20</sub> Occupational Volatilization to Outdoor Air				>Csat	96	>Max	89	NA	>Csat	62	>Csat	>Csat	36	>Csat	160	>Csat	NA	
Generic RBC <sub>20</sub> Urban Residential Volatilization to Outdoor Air				>Csat	33	>Max	6.5	NA	>Csat	35	>Csat	>Csat	19	>Csat	85	>Csat	NA	
Generic RBC <sub>30</sub> Occupational Vapor Intrusion into Buildings				36	2.3	>Max	2.2	NA	>Csat	1.6	>Max	>Csat	13	680	17	>Csat	NA	
Generic RBC <sub>30</sub> Urban Residential Vapor Intrusion into Buildings				6.6	0.26	>Max	0.053	NA	>Csat	0.28	77	>Csat	2.3	54	3.0	>Csat	NA	
Generic RBC <sub>35</sub> Urban Residential Soil Ingestion, Dermal Contact, Inhalation				540	17	310	0.8	NA	>Csat	21	>Csat	>Csat	62.0	>Csat	110	>Csat	NA	
Generic RBC <sub>35</sub> Occupational Soil Ingestion, Dermal Contact, Inhalation				1,000	51	>Csat	4.4	NA	>Csat	34	>Csat	>Csat	64.00	>Csat	150	>Csat	NA	
Generic RBC <sub>35</sub> Construction Worker Ingestion/Dermal Contact/Inhalation				1,800	470	710	34	NA	>Csat	320	>Csat	>Csat	>Csat	>Csat	>Csat	>Csat	NA	
Generic RBC <sub>35</sub> Excavation Worker Ingestion/Dermal Contact/Inhalation				50,000	13,000	>Csat	>Csat	NA	>Max	>Csat	>Csat	>Csat	>Csat	>Csat	>Csat	>Csat	NA	

NOTES:

PID = Photoionization Detector

PCE = Tetrachloroethene

TCE = Trichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

-- = Not Analyzed, Not Applicable or Not Available

mg/kg = Milligrams per kilogram

Grey Shaded = soil boring location removed during 2020 Interim Removal Action

Yellow Shaded = Detected value in excess of one or more RBCs

\* = Well DW-1 abandoned by overdrilling prior to 2020 Excavation

Oregon Department of Environmental Quality Risk-Based Concentrations (RBCs), May 2018 revision

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

>Max = The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.

NA = No RBC is listed for this analyte

<sup>1</sup> = Soil analytical data unavailable for shallow monitoring wells MW-1 through MW-5 (installed by BB&A Environmental in the 1990s)

Table 2. Groundwater Sample Analytical Results - Volatile Organic Compoundss  
Edgewood Shopping Center, 350-390 E 40th Avenue, Eugene, Oregon

Well Number (TOC Elevation)	Sample Date	Depth to Water (feet)	Groundwater Elevation (feet above mean sea level)	VOCs - 8260B (µg/L)															
				PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,2,2-tetrachlorethane	1,1,1-trichlorethane	Carbon Tetrachloride	Chlorobenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	n-propylbenzene		
MW-1 (546.145)	10/16/2007	7.01	539.14	2,600	32	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25		
	8/14/2008	5.58	540.57	2,800	32	6.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	<1.0	<1.0		
	11/17/2010	--	--	2,100	28	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0		
	7/20/2011	4.41	541.74	2,660	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	--	--	--		
	<b>NaMnO4 Injection Event (Phase I = 8/25/11 to 8/30/11) (Phase II = 10/3/11 to 10/4/11)</b>																		
	2/2/2012	5.05	541.10	3,130	33.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	--	--	--	
	11/6/2012	--	--	Not sampled due to car parked over well															
	3/20/2013	4.41	541.74	3,700	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--	
	10/6/2016	6.10	540.05	3,200	32	3.4	<1.0	<1.0	<3.0	<3.0	<2.0	<2.0	<4.0	<2.0	--	--	--		
	1/31/2018	4.47	541.68	4,190	35	<4.00	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	<5.00	<10.0	<5.00		
	2/16/2018	4.43	541.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	10/21/2020	6.30	539.85	5,550	45.1	4.24	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	2.05	--	--	--		
	2/22/2021	3.49	542.66	5,900	44.2	<20	<20	<25	<20	<50	<25	<25	<25	<20	--	--	--		
	8/24/2021	6.77	539.38	5,680	46.7	<20	<20	<25	<20	<50	<25	<25	<25	<20	--	--	--		
	3/8/2022	4.50	541.65	4,330	44.0	<40	<40	<50	<40	<100	<50.0	<50	<50	<40	--	--	--		
	9/19/2022	6.53	539.62	4,640	45.0	<40	<40	<50.0	<40.0	<100	<50.0	<50.0	<50.0	<40.0	--	--	--		
	MW-2 (545.495)	10/16/2007	4.82	540.68	800	7.4	7.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
8/14/2008		5.09	540.41	740	6.5	5.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
3/17/2010		--	--	640	6.1	5.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			
11/18/2010		--	--	640	5.0	5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			
7/20/2011		3.58	541.92	754	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--		
<b>NaMnO4 Injection Event (Phase I = 8/25/11 to 8/30/11) (Phase II = 10/3/11 to 10/4/11)</b>																			
2/2/2012		4.10	541.40	947	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	
11/6/2012		4.89	540.61	920	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	--	--		
3/20/2013		3.80	541.70	930	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	--	--	--		
10/6/2016		5.10	540.40	1,500	7.6	3.2	<1.0	<1.0	<3.0	<3.0	<2.0	<2.0	<4.0	<2.0	--	--	--		
1/31/2018		3.54	541.96	1,820	8.53	<4.00	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	<5.00	<10.0	<5.00		
2/16/2018		3.60	541.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
10/21/2020		5.61	539.89	2,160	11.7	3.06	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--		
2/22/2021		3.29	542.21	2,450	16.8	4.99	<0.800	<1.00	<0.800	<2.00	<1.00	<1.00	<1.00	<0.800	--	--	--		
8/24/2021		--	--	Not sampled, well inaccessible															
3/8/2022		3.66	541.84	1,860	27.0	<20	<20	<25	<20	<50	<25	<25	<25	<20	--	--	--		
9/19/2022		5.53	539.97	1,890	21.5	<20	<20	<25	<20	<50	<25	<25	<25	<20	--	--	--		

Table 2. Groundwater Sample Analytical Results - Volatile Organic Compoundss  
Edgewood Shopping Center, 350-390 E 40th Avenue, Eugene, Oregon

Well Number (TOC Elevation)	Sample Date	Depth to Water (feet)	Groundwater Elevation (feet above mean sea level)	VOCs - 8260B (µg/L)														
				PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,2,2-tetrachlorethane	1,1,1-Trichlorethane	Carbon Tetrachloride	Chlorobenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	n-propylbenzene	
MW-3 (542.588)	10/17/2007	4.18	538.41	840	7.5	7.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	8/14/2008	4.35	538.24	860	7.1	6.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/17/2010	--	--	660	6.6	5.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/16/2010	--	--	570	4.9	4.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	3.16	539.43	675	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--
<b>NaMnO4 Injection Event (Phase I = 8/25/11 to 8/30/11) (Phase II = 10/3/11 to 10/4/11)</b>																		
Dup 100616	2/2/2012	4.05	538.54	793	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--
	11/6/2012	4.25	538.34	790	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	--	--
	3/20/2013	3.61	538.98	700	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	--	--
	10/6/2016	4.72	537.87	930	5.1	2.6	<1.0	<1.0	<3.0	<3.0	<2.0	<2.0	<4.0	<2.0	--	--	--	--
	10/6/2016	4.72	537.87	950	5.5	2.8	<1.0	<1.0	<3.0	<3.0	<2.0	<2.0	<4.0	<2.0	--	--	--	--
	1/31/2018	3.15	539.44	1,120	5.86	<4.00	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	<5.00	<10.0	<5.00	<5.00
	2/16/2018	3.19	539.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/21/2020	4.84	537.75	1,090	6.50	1.48	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	--
	2/22/2021	3.07	539.52	1,660	9.31	<4.00	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	--	--	--	--
	8/24/2021	4.86	537.73	838	<8.00	<8.00	<8.00	<10.0	<8.00	<10.0	<10.0	<10.0	<10.0	<8.00	--	--	--	--
	3/8/2022	3.60	538.99	1,280	12.8	<8.00	<8.00	<10.0	<8.00	<20.0	<10.0	<10.0	<10.0	<8.00	--	--	--	--
9/19/2022	4.60	537.99	1,070	10	<8.00	<8.00	<10.0	<8.00	<20.0	<10.0	<10.0	<10.0	<8.00	--	--	--	--	
MW-4 (548.757)	10/17/2007	6.95	541.81	2,300	15	27	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	8/14/2008	7.22	541.54	1,700	11	18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	3/17/2010	--	--	1,800	4.9	4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	11/18/2010	--	--	2,100	19	15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	7/20/2011	5.93	542.83	2,790	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	--	--	--
<b>NaMnO4 Injection Event (Phase I = 8/25/11 to 8/30/11) (Phase II = 10/3/11 to 10/4/11)</b>																		
Dup Y	2/2/2012	5.90	542.86	3,120	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	--	--	--
	11/6/2012	7.06	541.70	2,300	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--
	3/20/2013	5.92	542.84	2,100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--
	8/18/2016	8.10	540.66	<3,000	32	<1,000	<1.0	<1.0	<3.0	<3.0	<2.0	<2.0	<4.0	<2.0	--	--	--	--
	10/6/2016	8.78	539.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/30/2018	5.30	543.46	5,040	38.4	3.75	<0.400	<0.500	1.5	<1.00	<0.500	0.535	<0.500	1.96	<0.500	<1.00	<0.500	
	1/30/2018	5.30	543.46	4,960	37.5	3.61	<0.400	<0.500	1.4	<1.00	<0.500	0.5	<0.500	1.99	<0.500	<1.00	<0.500	
2/16/2018	5.92	542.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
10/21/2020	8.42	540.34	4,920	40.7	4.54	<0.400	<0.500	1.07	<1.00	<0.500	<0.500	<0.500	1.24	--	--	--	--	
DUP-01	10/21/2020	--	--	5,020	40.5	4.49	<0.400	<0.500	0.941	<1.00	<0.500	<0.500	<0.500	1.26	--	--	--	--
	2/22/2021	4.90	543.86	6,160	49.1	<20	<20	<25	<20	<50	<25	<25	<25	<20	--	--	--	--
	8/24/2021	8.55	540.21	5,620	51.5	<20	<20	<25	<20	<50	<25	<25	<25	<20	--	--	--	--
	3/8/2022	6.09	542.67	4,200	46	<40	<40	<50	<40	<100	<50	<50	<50	<40	--	--	--	--
	9/19/2022	8.21	540.55	3,620	<40	<40	<40	<50	<40	<100	<50	<50	<50	<40	--	--	--	--

Table 2. Groundwater Sample Analytical Results - Volatile Organic Compoundss  
Edgewood Shopping Center, 350-390 E 40th Avenue, Eugene, Oregon

Well Number (TOC Elevation)	Sample Date	Depth to Water (feet)	Groundwater Elevation (feet above mean sea level)	VOCs - 8260B (µg/L)														
				PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,2,2-tetrachloroethane	1,1,1-Trichloroethane	Carbon Tetrachloride	Chlorobenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	n-propylbenzene	
MW-5 (549.151)	10/17/2007	6.25	542.90	120,000	1,000	<25.0	<25.0	66	150	<25	<25	<25	<25	<25	<25	<25	<25	
	8/14/2008	6.69	542.46	100,000	1,100	42	<1.0	260	110	19	15	6.5	1.5	9.4	1.3	2.1	1.0	
	3/17/2010	--	--	130,000	650	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	
	11/18/2010	--	--	140,000	1,000	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	
	7/20/2011	5.03	544.12	118,000	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	<2,500	--	--	--	
	<b>NaMnO4 Injection Event (Phase I = 8/25/11 to 8/30/11) (Phase II = 10/3/11 to 10/4/11)</b>																	
	2/2/2012	4.65	544.50	No sample collected due to unreacted NaMnO4 observed in well														
	11/6/2012	6.10	543.05	130,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	<5,000	--	--	--
	3/20/2013	5.03	544.12	99,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	--	--	--
	8/18/2016	7.78	541.37	150,000	<3,000	<1,000	<1.0	<1.0	19	<3.0	2.7	12	<4.0	2.7	--	--	--	
	10/6/2016	7.94	541.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	1/31/2018	4.41	544.74	100,000	143	7.63	<4.00	<5.00	10.9	<10.0	<5.00	9.47	<5.00	<4.00	<5.00	<10.0	<5.00	
	2/16/2018	5.11	544.04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	5/20/2020	7.27	541.88	43,800	<200	<200	<200	<250	<200	<500	<250	<250	<250	<200	<250	<500	<250	
	Well abandoned during August 2020 excavation																	
MW-5R (548.670) DUP 022221	10/21/2020	7.55	541.12	1,320	21.2	2.38	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	
	2/22/2021	3.07	545.60	857	24.6	8.64	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	--	--	--	
	2/22/2021	--	--	813	22.6	8.58	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	--	--	--	
	8/24/2021	7.76	540.91	360	16.3	9.96	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	--	--	--	
	8/24/2021	--	--	389	16.9	10.1	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	--	--	--	
	3/8/2022	4.40	544.27	248	<2.00	<2.0	<2.00	<2.50	<2.00	<5.00	<2.50	<2.50	<2.50	<2.00	--	--	--	
	3/8/2022	--	--	276	<2.00	<2.00	<2.00	<0.500	<0.400	<5.00	<2.50	<2.50	<2.50	<2.00	--	--	--	
DUP 030822	9/19/2022	7.35	541.32	112	1.29	0.670	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	
	9/19/2022	--	--	88.6	1.14	0.600	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	
	9/19/2022	--	--	88.6	1.14	0.600	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	
MW-6 (535.039)	8/14/2008	1.96	533.08	590	22	6.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	3/17/2010	--	--	680	30	7.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	11/16/2010	--	--	620	26	8.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
	7/20/2011	1.76	533.28	633	19.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--	
	<b>NaMnO4 Injection Event (Phase I = 8/25/11 to 8/30/11) (Phase II = 10/3/11 to 10/4/11)</b>																	
	2/2/2012	1.74	533.30	765	31.8	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	--	--	--
	11/6/2012	0.99	534.05	640	24	<10	<10	<10	<10	<10	<10	<10	<10	<10	--	--	--	
	3/20/2013	1.54	533.50	590	25	<20	<20	<20	<20	<20	<20	<20	<20	<20	--	--	--	
	10/6/2016	1.77	533.27	530	17	4.0	<1.0	<1.0	<3.0	<3.0	<2.0	<2.0	<4.0	<2.0	--	--	--	
	1/30/2018	1.33	533.71	610	26.0	4.65	<4.00	<5.00	<4.00	<10.0	<5.00	<5.00	<5.00	<4.00	<5.00	<10.0	<5.00	
	2/16/2018	1.69	533.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	10/21/2020	--	--	Not sampled, well inaccessible														
	2/22/2021	1.32	533.72	915	33.0	4.27	<4.00	<5.00	<4.00	<10	<5.00	<5.00	<5.00	<4.00	--	--	--	
	8/24/2021	1.74	533.30	841	23.9	<4.00	<4.00	<5.00	<4.00	<10	<5.00	<5.00	<5.00	<4.00	--	--	--	
	3/8/2022	1.40	533.64	724	29.2	4.40	<4.00	<5.00	<4.00	<10	<5.00	<5.00	<5.00	<4.00	--	--	--	
9/19/2022	1.46	533.58	698	19.7	<4.00	<4.00	<5.00	<4.00	<10	<5.00	<5.00	<5.00	<4.00	--	--	--		
MW-7 (546.562)	1/31/2018	7.48	539.08	28.8	0.947	<0.400	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	<0.500	<1.00	<0.500	
	2/16/2018	5.04	541.52	56.1	3.08	<0.400	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	<0.500	<1.00	<0.500	
	10/21/2020	5.74	540.82	184	8.47	<0.400	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	
	2/22/2021	4.18	542.36	174	4.44	<0.400	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	
	8/24/2021	5.68	540.88	134	4.08	<0.800	<0.800	<1.00	<0.800	<2.00	<1.00	<1.00	<1.00	<0.800	--	--	--	
	3/8/2022	5.16	541.40	177	5.23	<0.400	<0.400	<0.500	<0.400	<1.00	<0.500	<0.500	<0.500	<0.400	--	--	--	
	9/19/2022	6.60	539.96	117	3.28	<0.800	<0.800	<1.00	<0.800	<2.00	<1.00	<1.00	<1.00	<0.800	--	--	--	

Table 2. Groundwater Sample Analytical Results - Volatile Organic Compoundss  
Edgewood Shopping Center, 350-390 E 40th Avenue, Eugene, Oregon

Well Number (TOC Elevation)	Sample Date	Depth to Water (feet)	Groundwater Elevation (feet above mean sea level)	VOCs - 8260B (µg/L)													
				PCE	TCE	cis-1,2-DCE	Vinyl Chloride	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	Carbon Tetrachloride	Chlorobenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethene	Ethylbenzene	Isopropylbenzene	n-Propylbenzene
DW-1 (549.012)	1/31/2018	4.20	544.81	3,890	20.1	13.4	<4.00	<5.00	5.5	<10.0	<5.00	<5.00	<5.00	<4.00	<5.00	<10.00	<5.00
Well abandoned during August 2020 excavation																	
Soil Boring																	
SB-2	1/30/2018	11.35	--	40.5	9.64	2.64	<0.800	<1.00	<0.800	<2.00	<1.00	<1.00	<1.00	<0.800	<1.00	<2.00	<1.00
Generic RBC <sub>vi</sub> Occupational Vapor Intrusion				48,000	3,700	>S	880	NA	>S	1,200	>S	>S	7,100	360,000	8,200	>S	NA
Generic RBC <sub>vi</sub> Urban Residential Vapor Intrusion				8,700	430	>S	21	NA	>S	220	67,000	>S	1,300	29,000	1,500	>S	NA
Generic RBC <sub>vo</sub> Occupational Volatilization to Outdoor Air				>S	20,000	>S	5,900	NA	>S	7,700	>S	>S	21,000	2,400,000	43,000	>S	NA
Generic RBC <sub>vo</sub> Urban Residential Volatilization to Outdoor Air				150,000	6,900	>S	430	NA	>S	4,200	>S	>S	12,000	570,000	23,000	>S	NA
Generic RBC <sub>we</sub> Construction and Excavation Worker				5,600	3,000	18,000	960	NA	1,100,000	1,800	10,000	37,000	1,500	44,000	4,500	51,000	NA

NOTES:

PCE = Tetrachloroethene

TCE = Trichloroethene

cis-1,2-DCE = cis-1,2-Dichloroethene

Analytes presented include any detected compounds reported at least one time during these sampling events for these wells.

-- = Not Analyzed, Not Applicable, Not Available, or Not Surveyed

µg/L = Micrograms per Liter

(TOC Elevation) = Top of Casing Elevation in Feet

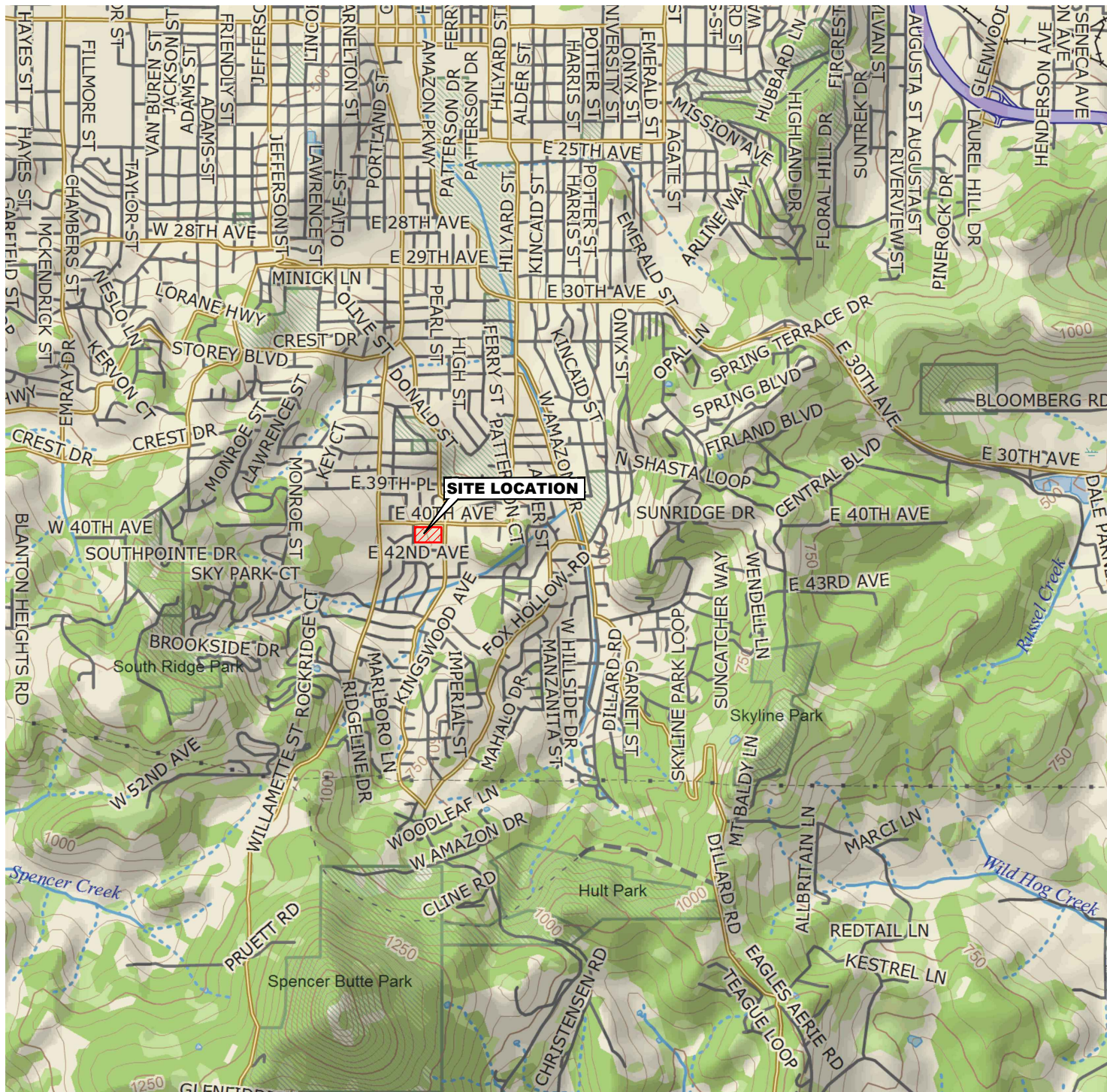
**Yellow Shaded** = Detected value in excess of one or more RBCs

Oregon Department of Environmental Quality Risk-Based Concentrations (RBCs), May 2018 revision

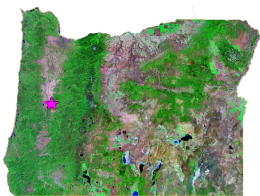
>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present

NA = No RBC is listed for this analyte

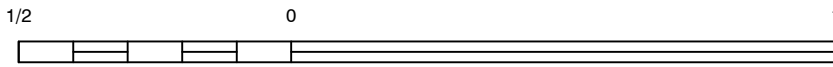
## FIGURES



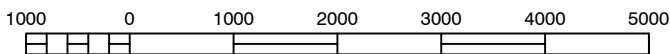
North



OREGON



SCALE (MILES)



SCALE (FEET)

REFERENCE: USGS 7.5 MINUTE QUADRANGLE, EUGENE EAST, OREGON



9400 SW BARNES ROAD, SUITE 200  
PORTLAND, OREGON  
PHONE (503) 297-1631/297-5429 (FAX)

FOR:  
ROBERT BREEDEN  
EDGEWOOD SHOPPING CENTER  
350-390 E 40th AVENUE  
EUGENE, OREGON

JOB NUMBER:  
185750631

DRAWN BY:  
MDR

CHECKED BY:  
RM

APPROVED BY:  
PF

FIGURE:

1

**SITE LOCATION MAP**

SUBSTATION (3990)

RESIDENTIAL (415) DUPLEX (425)

RESIDENTIAL (435) DUPLEX (445)

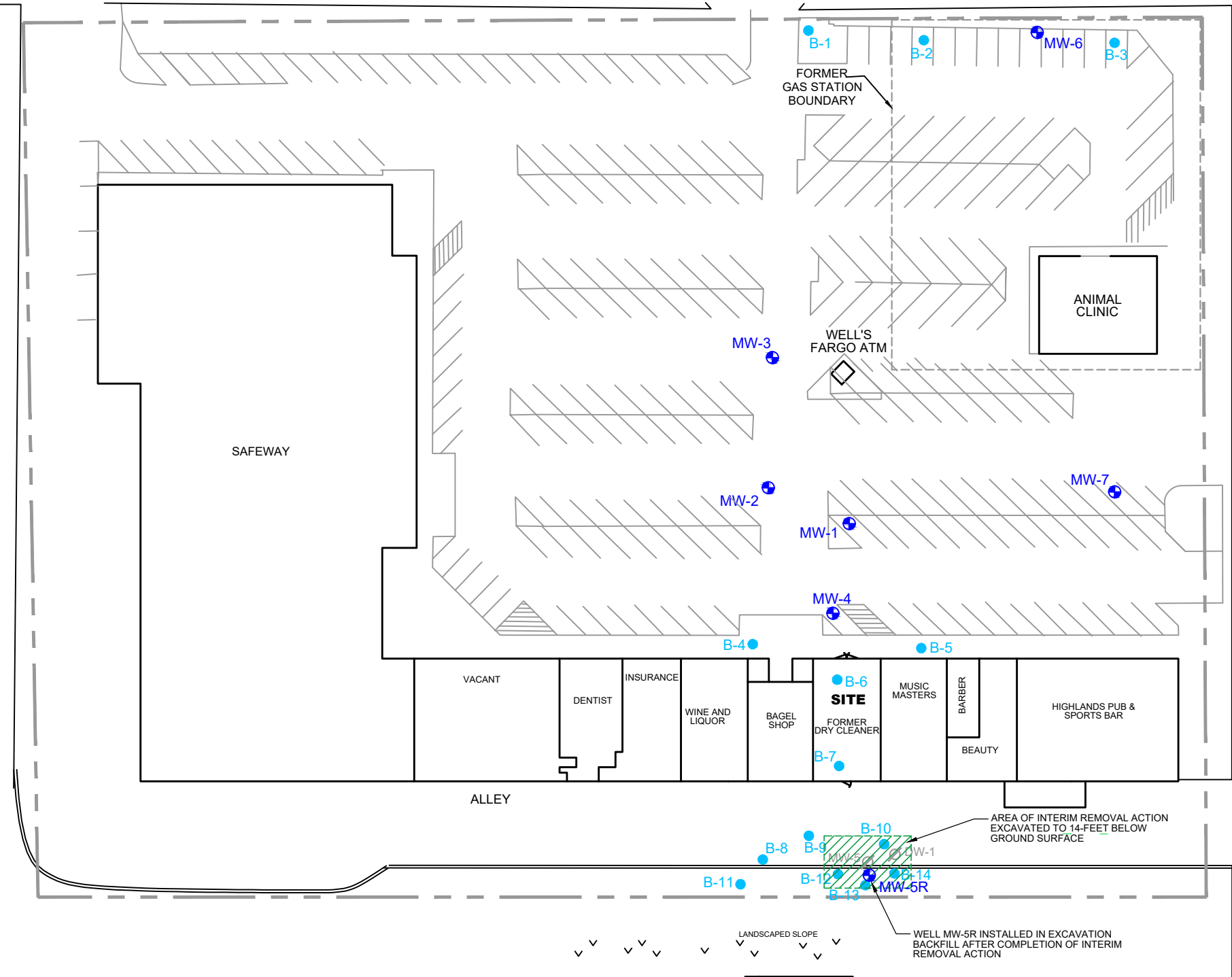
**LEGEND:**

- SITE BOUNDARY LINE
- MW-6 MONITORING WELL LOCATION
- MW-5 WELLS ABANDONED AUGUST 2020
- B-1 PREVIOUS SOIL BORINGS (2007 and 2008)
- B-1 PREVIOUS SOIL BORING (2018)

EAST 40th AVENUE

POWER LINES (UTILITY EASEMENT)

DONALD STREET



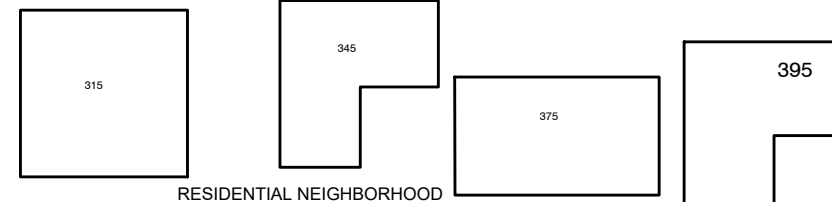
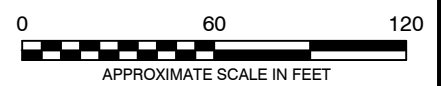
VACANT

EDGEWOOD VILLA CONDOMINIUM (4023)

OFFICE

EDGEWOOD VILLA CONDOMINIUM (4083)

STORAGE



601 SW SECOND AVENUE  
 PORTLAND, OREGON  
 PHONE (503) 297-1631/297-5429 (FAX)

FOR:  
 ROBERT BREEDEN  
 EDGEWOOD SHOPPING CENTER  
 350-390 E 40th AVENUE  
 EUGENE, OREGON

**SITE PLAN**

FIGURE:  
**2**

JOB NUMBER: 185750631	DRAWN BY: MDR	CHECKED BY: RM	APPROVED BY: P. VAUGHAN	DATE: OCT 2020
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