

REMEDIAL ACTION WORK PLAN

OREGON STATE UNIVERSITY-CASCADES



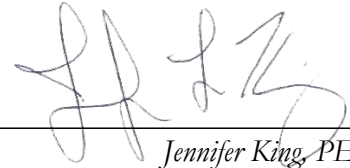
Prepared for
OREGON STATE UNIVERSITY
OREGON STATE UNIVERSITY—CASCADES
December 20, 2018
Project No. 1290.01.04

Prepared by
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OREGON STATE UNIVERSITY—CASCADES

*This plan was prepared
under the supervision and direction of the undersigned.*

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ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing material
ACS	asbestos containing soil
AHERA	Asbestos Hazard Emergency Response Act
CQA/QC	Construction quality assurance and quality control
DEQ	Department of Environmental Quality (Oregon)
ESCP	Erosion and Sediment Control Plan
EES	Easement and Equitable Servitudes
EPA	Environmental Protection Agency
GRI	Geotechnical Resources, Inc.
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response Standard
MFA	Maul Foster & Alongi, Inc.
OAR	Oregon Administrative Rule
OSU-C	Oregon State University – Cascades
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
the Property	former Deschutes County Demolition Landfill
the Site	former Deschutes County Demolition Landfill and adjacent pumice mine

1 INTRODUCTION

1.1 Site Description

The Property comprises portions of Tax Lots 110 and 111 on Deschutes County Tax Assessor's map 18-12-06, lying south of Simpson Avenue, together with Tax Lot 719 on Deschutes County Tax Assessor's Map 18-12-06A, excluding any portions lying north of the Simpson Avenue right-of-way, totaling approximately 72 acres in Bend, Oregon, as depicted in Consent Judgment Exhibit A and as more particularly described in Consent Judgment Exhibit B.

Approximately 49.8 acres of the Property contains an inactive demolition debris landfill. The landfill is currently subject to State of Oregon solid waste Permit #215 (the "Solid Waste Permit"), issued to the current owner and operator, Oregon State University, along with co-operator Deschutes County. The Solid Waste Permit identifies three distinct areas within the disposal site, Area 1, Area 2, and Area 3; those areas are referred to herein as Cell 1, Cell 2, and Cell 3, respectively.

For the purpose of this plan, the Site includes the Robinson & Sons Simpson Road Pit (the pumice mine).

1.2 Project Organization

The following section outlines the project organization, reporting relationships, and lines of communication related to the Remedial Action (RA) to be executed at the Property.

- **Oregon State University—Cascades:** OSU-C is the current owner of the Site. OSU-C is responsible for the implementation, operations, and maintenance of the remedy. OSU-C will contract directly with the contractor to execute the work. OSU-C has agreed to implement this RA with DEQ oversight under a Consent Decree. The OSU-C project manager is Steve Pitman, (541) 322-2048.
- **Oregon Department of Environmental Quality (DEQ):** DEQ will continue as the primary regulatory authority. DEQ will continue to review and approve work plans and monitoring plans associated with the remedy. The DEQ project manager is Bob Schwarz, (541) 298-7255 x230.
- **Maul Foster & Alongi, Inc.:** MFA has prepared this work plan for the RA at the Property. MFA is preparing the required plans related to development and assisting with reporting, as needed by OSU-C. The MFA project manager for remedial measures and property redevelopment is Stacy Frost, (360) 433-0250.
- **Geotechnical Resources, Inc.:** GRI will provide geotechnical engineering, testing, and support throughout the pilot study and the remedy. The GRI project manager for property redevelopment is Scott Schlechter, (503) 641-3478.

- **General Contractor:** General contractor(s) for the pilot study and redevelopment are to be determined.

2 REMEDIAL ACTION

2.1 Additional Data Needs

In order to better characterize the Property, additional data will be collected as described below.

2.1.1 Pilot Study

A materials management pilot study will be conducted to evaluate the engineering properties of the on-site materials (waste and soil), and methods for separating waste from re-usable materials and placement as structural backfill in the pumice mine and remediated landfill cells. In addition, a geologic reconnaissance of the pumice mine will be completed to help identify the location of the Tumalo fault, and additional test pit explorations will be completed to collect samples of the site soils and rock for testing. Two test plots will be excavated for the pilot study; one in Area 1 and a second in Area 2. The results of the study will be used to identify cost effective ways of recovering soil; remove organics; and inform engineering design, construction work practices, project schedule, and project costs. The Materials Management Pilot Study Work Plan¹ further explains the scope of the pilot study.

As discussed in the Pilot Study Work Plan, soil samples will be collected during the pilot study at a frequency of 1 per 500 cubic yards of excavated material, with 2,200 total cubic yards of waste anticipated to be handled during the pilot study. A complete list of data and analysis for the pilot study in Table 2 of the Materials Management Pilot Study Work Plan. Furthermore, sampling will be conducted by a Hazardous Waste Operations and Emergency Response (HAZWOPER) certified staff.

The analytical results conducted during the pilot study will inform the sampling during future phases of redevelopment. The fill quantities in future phases are upwards of 500,000 cubic yards each, so a tiered approach to sampling frequencies of the feedstock and Processed Engineered Fill will be used in the full-scale implementation. A risk-based approach will be used to minimize/eliminate potential exposure to receptors during construction and following completion of construction (e.g., depth of soil placement below ground surface, placement of soil may be located below future buildings). Incremental Sampling Methodology may be incorporated as appropriate. A sampling and analysis plan (SAP) will be prepared for redevelopment sampling activities conducted during the construction phase of the remedial action. The following guidance documents will be utilized to prepare the SAP: DEQ's Quality Assurance Policy 760; and as appropriate, "Data Quality Objectives for Remedial Response Activities," EPA/540/G-87/004 (Office of Solid Waste and Emergency Response [OSWER] Directive 9355.0-7B), March 1987; "Test Methods for Evaluating Solid Waste," SW-846; and "A Compendium of

¹ MFA. 2018. Materials Management Pilot Study Work Plan. October 16.

Superfund Field Operations Methods,” EPA/540/P-87/001 (OSWER Directive 9355.0-14), December 1987. Previously approved SAPs will be used as the basis for the remedial action SAP, and the project specific SAP will follow the format specified in the Consent Judgment, Attachment C. Testing is expected to include: asbestos, polychlorinated biphenyls, volatile organic compounds, semi-volatile organic compounds, and RCRA-8 metals.

Visual identification of asbestos-containing materials (ACM) in waste will be ongoing throughout the pilot study and all phases of remedial action. Employees who work in areas with potential ACM shall be trained to recognize suspected ACM so that they may cease activities which could disturb suspected asbestos. In the event suspected ACM or asbestos-containing soil (ACS) is discovered, the Contractor shall ensure the material is sampled and, if confirmed, a certified abatement contractor will manage the material. Each distinct material identified as potential ACM and ACS material will be sampled, and this data will be documented to inform health and safety protocol and data collection during future phases of construction. While there is no specific DEQ guidance on sampling ACM or ACS outside of a building or structure, reasonable discretion by the owner, project manager and contractor will be used throughout the course of construction to provide the most appropriate, efficient methods and means to segregate and sample bulk ACM in order to achieve the overall objective.

2.1.2 Environmental Data Collection

A meteorological station may be deployed prior to remedial action to provide wind direction as well as inform environmental controls and construction methods during full-scale construction. Data collection and maintenance of the station may be supported by OSU-C staff or students. Any data collected will be evaluated by MFA staff and incorporated into the design.

The design may also be informed by a drone aerial thermo scan in an effort to further define the extent of the area(s) undergoing pyrolysis.

2.2 General Construction Methods and Equipment

The Underground Utility Notification Center will be contacted to locate the utility lines that enter the site. A private utility-locating service will be subcontracted to locate other potential on-site buried utility lines on the Property.

Construction methods will be further detailed in the plans and specifications, as appropriate. Standard construction methods will be used during the remedial action and redevelopment and will include soil excavation, blending engineered fill, benching, shoring in excavation areas with steep slopes, compaction of backfill, and field density testing for quality assurance and quality control, and materials that serve as an engineered cap (e.g., buildings, roads, sidewalks, landscaped areas).

Equipment may include, but is not limited to: excavators, loaders, trucks, and screening equipment. The general contractor will be responsible for the means and methods of remedial action implementation in conformance with the plans, specifications, and associated documents. This includes choosing the appropriate equipment. As such, the design documents will not identify or dictate equipment to be used. Exceptions include sampling and testing that is the responsibility of the Owner’s Representative or designee.

Excavated waste materials (as well as interim cover soils if needed) will be processed using screening equipment or other methods that the Contractor may identify, to maximize the separation of soil from organic and deleterious materials. Excavated and processed materials shall be handled and stored per guidelines listed in the Material Management Pilot Study Work Plan Section 3.4. Beginning with Phase I construction (to occur in 2019), soils extracted from the landfill excavation are planned to be mixed with other site soils and placed as Processed Engineered Fill in the mine area.

Material not suitable for Processed Engineered Fill will be segregated from the material processing effort and either placed back in the excavation area at the end of excavation or consolidated and re-landfilled in Cell 3. A minimum 3 feet of cover soil, or equivalent exposure barrier, will be placed over waste to cap the material, minimize environmental impact, and prevent contact. If potentially hazardous materials warranting off-site disposal (e.g. drums, transformers) are excavated, they will be temporarily placed in a secured area (e.g. conex box). Contents will be characterized and properly disposed of.

2.3 Phasing

The Property's redevelopment (and resulting capping or changes to capping of waste located at the Property) shall occur over multiple years. The control of the Property's environmental condition is not contingent on completion of the Property's redevelopment.

The phased-development approach (see figure) would serve to expand the current campus and related facilities based on funding availability and in conformance with plans for the OSU-Cascades Campus. In any scenario, site grading is expected to include waste excavation, processing, blending, and production of engineered fill (the "Processed Engineered Fill") for placement and use on the Site. Redevelopment may include buildings, roads, sidewalks, landscaped areas, active open space, and other amenities common to higher education facilities and activities. These features would serve as caps, isolating and containing the engineered fill or unprocessed waste that may remain at the Property. During site redevelopment, it is OSU-C's intention and DEQ's understanding that:

1. Some portion of the excavated waste will be moved, placed elsewhere at the Property, and capped without processing and reuse
2. Some waste will not be relocated but, instead, will remain in its current location on the Property.

2.4 Applicable Regulations and Permitting

Regulations associated with environmental and natural resources protection will be followed through conformance with the permits and planning documents listed below:

- Solid Waste Permit #215: The landfill is currently subject to State of Oregon solid waste Permit #215 (the "Solid Waste Permit"), issued to the current owner and operator, Oregon State University; along with co-operator Deschutes County.

- Consent Judgment and Easement and Equitable Servitudes (EES): The EES covering the Property, between the Board of Trustees of Oregon State University and the DEQ, was recorded on April 9, 2018. As stated in the EES, all site work in all portions of the Site where waste may be present shall be in accordance with the Solid Waste Permit. Additionally, remedial actions will be conducted under the Consent Judgment filed with the Circuit Court of the State of Oregon on June 6, 2018. This plan conforms to the requirements of Solid Waste Permit and the Consent Judgment.
- National Pollutant Discharge Elimination System Construction Stormwater Discharge Permit 1200-C (1200-C Permit) and Erosion and sediment control plan (ESCP): The permit regulates stormwater runoff to surface waters from construction activities that disturb one or more acres in Oregon. The 1200-C Permit is a “general” permit, meaning that it outlines requirements for site construction and is not specific to this site. The ESCP will be attached to the 1200-C Permit and is site-specific.
- City of Bend Grading Permit: All grading and clearing shall be subject to the provisions of the most recently adopted City of Bend Grading and Clearing Ordinance. A complete plan for erosion control and grading must be submitted to the City for approval.
- DOGAMI Surface Mining Operating Permit: The Property is not subject to the DOGAMI, however, placement of Engineered Fill in the pumice mine will serve as closure and reclamation of that portion of the Site.
- Health and safety plan (HASP): The HASP will be developed in conformance with the specific requirements outlined in this work plan. Compliance with regulations applicable to environmental worker health and safety will be achieved through conformance with the HASP.

3 INSTITUTIONAL CONTROLS

OSU-C will ensure the following institutional controls are in effect:

1. Control access to the Property where wastes are present to avoid excess exposure and safety hazards.
2. Manage portions of the Property where waste may be present in accordance with the Solid Waste Permit, as applicable.
3. Continue implementing Pre-Development Access and Exposure Control Plan.

OSU-C will ensure the following institutional controls are in effect upon proceeding forward with redevelopment:

1. Manage all portions of the Site areas that will contain Processed Engineered Fill in accordance with a DEQ-approved Processed Subsurface Soil Management Plan and Monitoring and Maintenance Plan.

2. Manage portions of the Property where waste may be present in accordance with the Solid Waste Permit, as applicable.
3. Deed and usage restrictions may be incorporated to prevent activities that could result in increased human health risks.

4 DOCUMENTATION PROCEDURES

OSU and contractor summary reports, inspections, data sheets, problem identification and corrective measure reports, and final documentation will be submitted to MFA. MFA will review submittals from OSU and the contractor for compliance with specifications. Documentation of inspections and sampling events will be reported to DEQ. Progress meetings will be held regularly to provide status updates, summarize progress and effort for the previous week, and planned schedule for the current week. Each entity will be invited to regular meetings as needed depending on planned or completed work. In addition, MFA will generate field notes and progress reports quarterly during design and monthly during remedial action, as well as a final report. The Final Construction Completion Report will contain “as built” diagrams/figures as needed.

5 SCHEDULE AND DELIVERABLES

The table below shows a schedule for remedial activities and general outline for property redevelopment. The time frames for the work to be performed are preliminary, subject to DEQ’s approval, and may change based on changes to the scope of work, site access, permitting requirements, and subcontractor availability.

Table: Schedule

Task	Time Frame
Pre-development access and exposure control plan (PAECP) ²	Complete
Begin implementation of PAECP	Implementation has begun
Submit draft RA work plan	November 9, 2018
Submit final RA work plan incorporating agency comments	30 days after receipt of DEQ comments
Pilot Study	January 2019

² MFA. 2018. Predevelopment Access and Exposure Control Plan. Maul Foster & Alongi, Inc., Vancouver, Washington. September 7.

Task	Time Frame
Phase I	
Initial Design (30%)	Winter 2019
Pre-Final Design (90%)	Spring 2019
Final Design (100%)	Spring-Summer 2019
CQA Plan	Spring 2019
Monitoring and Maintenance Plan	Spring 2019
Processed Subsurface Soil Management Plan	Spring 2019
Construction	Summer-Fall 2019
Project Completion Report	December 2019
Phase II	TBD
Phase III	TBD

NOTE:
TBD = to be determined

A more detailed description of the schedule is as follows:

- Initial Design (30 percent complete): The Initial Design Report will include a summary of work completed to that point, including pilot study results. This deliverable will include calculations and initial redevelopment plans. After submittal of the report, DEQ and OSU-C will discuss subsequent steps.
- Pre-final Design (90 percent complete): The Pre-final Design Report will contain a compilation of major design items reflecting an approximate 90 percent completion. This report will serve as the draft design report and may include construction-ready drawings for a design/build process. The report will contain the following, as applicable:
 - a. Design criteria/standards.
 - b. Final design/analyses calculations.
 - c. Drawing index and final drawings.
 - d. Final specifications.
 - e. Final overall construction schedule (a detailed construction schedule and task sequence will be required of the remedial action contractor).
 - f. Detailed description of remedial action activities to be performed, including methods and equipment for:
 - i. Mobilization
 - ii. Site preparation
 - iii. Excavation
 - iv. Site restoration, including backfilling and grading

- g. Estimates of soil volumes to be excavated, or volume of media to be blended.
 - h. Detailed site layout drawings, delineating the areas to be excavated or treated.
 - i. Excavation methods, including area delineation, slope stabilization, characterization and management of excavated materials, and dewatering and water management.
 - j. Description of permitting requirements, if any, to include:
 - i. Construction/operating permits required
 - ii. Permitting authorities and specific permit requirements
 - iii. Permit application processing procedures, schedule, and fees
 - iv. Monitoring and compliance testing requirements
 - k. Identification and description of construction quality assurance and quality control (CQA/QC) program requirements and procedures (see below).
 - l. Description of proposed control measures to minimize releases of hazardous substances to all environmental media during construction or installation activities.
 - m. Description of proposed surface water runoff control measures during construction.
 - n. Identification and description of dust control and noise abatement measures to minimize and monitor environmental impacts of construction or installation activities.
 - o. Identification and description of any site security measures necessary to minimize exposure to hazardous situations during remedial action.
 - p. If necessary, identification and description of transportation requirements, including haul route selection, load limits, truck haul schedule, restricted routes, traffic-control needs, accident prevention and response, and decontamination.
 - q. If necessary, land disposal requirements to include:
 - i. Identification and description of off-site land disposal facilities
 - ii. Specific treatment/disposal requirements
- Final Design (100 percent complete): The Final Design Report will incorporate required revisions resulting from the DEQ's review and comments on the Pre-final Design Report. The Final Design Report will provide the basis for the remedial action and redevelopment activities to be undertaken at the Property. It will include the elements described above, plus draft bid packages for construction contractors, as necessary.
 - Construction Quality Assurance and Quality Control Plan: The CQA/QC Plan will describe the site-specific components of the construction quality assurance program. The purpose of the CQA/QC Plan is to ensure, with a reasonable degree of certainty, that a completed project meets or exceeds all design criteria, plans, and specifications. The plan will be reviewed and approved by the person with the overall responsibility for the design and will be submitted with the Pre-final (90 percent) Design Report. The plan will address the following:

- a) Construction quality assurance objectives, specific quality control requirements, and performance standards to be enforced during implementation of remedial actions
- b) Identification of responsibilities and authorities of all organizations and key personnel involved in the design and construction of the site remediation
- c) Description of the qualifications of the construction quality assurance personnel
- d) Description of inspection activities, observation and tests to be conducted, schedules, and scope
- e) Procedures for scheduling and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents
- f) Sampling strategies, including sampling types, locations, size, frequency of testing, acceptance and rejection criteria for feedstock material based on preliminary waste management and handling procedures outlined in the Attachment and geotechnical considerations, and plans for implementing corrective measures, as necessary
- g) Documentation of inspections and sampling events
- h) Proposed schedule for submittal of inspection and sampling reports to the DEQ

A preliminary list of remedial action elements to be addressed in the CQA/QC Plan is provided below. This list may be revised or expanded during draft CQA/QC Plan development.

- a) HAZWOPER and Asbestos Hazard Emergency Response Act (AHERA) certification for remedial action contractor's and engineer's personnel
 - b) Site access control
 - c) Excavated soil volume progress tracking and confirmation
 - d) Stormwater runoff management compliance
 - e) Erosion control compliance
 - f) Cap and waste material volume and placement confirmation
 - g) Processed Engineered Fill volume and placement confirmation, including geotechnical testing, procedures and results
 - h) Engineer's progress reporting
 - i) Contractor's progress reporting
- **Monitoring and Maintenance Plan:** The Monitoring and Maintenance Plan will describe the routine performance monitoring for the engineered cap. The plan will include schedule and reporting requirements and a contingency plan if the cap fails to meet the performance criteria.
 - **Processed Subsurface Soil Management Plan:** This plan will describe the institutional controls to be implemented for subsurface construction or maintenance activities. The plan will:

- a) Outline specific requirements for managing soil onsite as part of future redevelopment or maintenance
 - b) List sampling and analysis requirements
 - c) Documentation requirements
- Progress Reports: quarterly during active pre-design/design periods and monthly when construction remedial action is in progress.
 - Project Completion Report: The Project Completion Report describes all activities conducted during that phase of work. A portion of the report will include the landfill closure documentation required under the permit. At the completion of the remedial action construction phases, OSU-C will conduct final inspections and prepare draft Project Completion (Construction Completion) Reports. The report for each phase will summarize and document all major tasks completed. Additionally, the report will satisfy the requirement for a Closure Certification Report for the remediated area pursuant to the Solid Waste Permit (see Solid Waste Permit Condition 7.9). The Construction Completion Report will include:
 - a) Results of the final inspection, including a brief description of any problems discovered during the final inspection and the resolution of those problems, as necessary.
 - b) A detailed description of all work conducted in accordance with the approved final design plans and specifications, and certification by an Oregon-registered professional engineer and OSU-C's project manager that the work was performed in accordance with all approved plans and specifications.
 - c) Explanation of any modifications to the approved plans and specifications and why these modifications were necessary. This will include bid addenda, contract change orders, and field directives.
 - d) Final, as-built drawings.
 - e) Final construction quantities and costs.
 - f) Copy of final permits, as applicable.
 - g) Results of verification sampling, including data validation, and certification that the Processed Engineered Fill met DEQ's acceptable fill requirements.
 - h) Explanation of any additional inspections, operation, and maintenance activities (including monitoring) to be undertaken at the site.

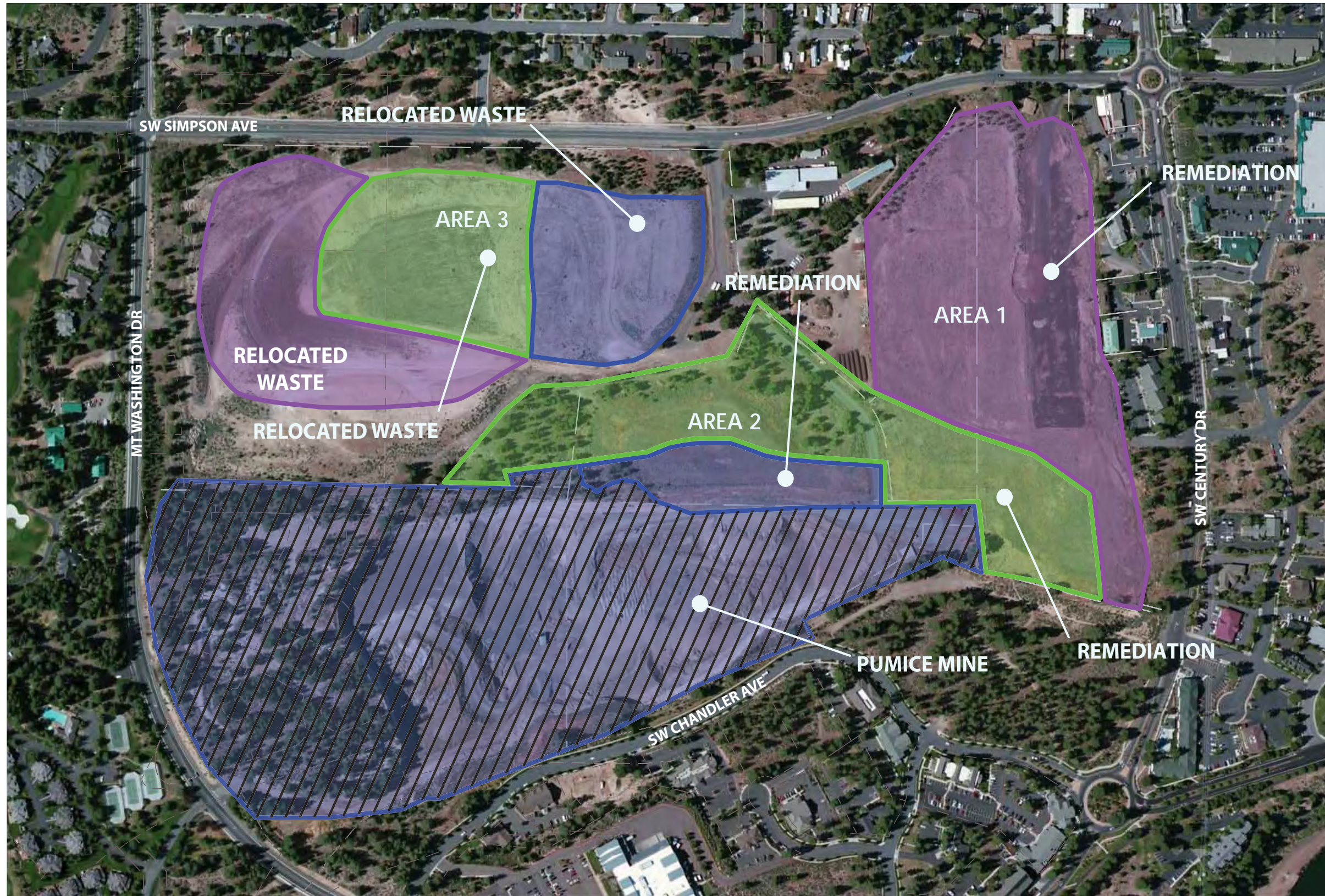
LIMITATIONS

The services undertaken in completing this 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 plan is solely for the use and information of our client unless otherwise noted. Any reliance on this plan by a third party is at such party's sole risk.

This plan applies 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 plan.

FIGURE





**Figure
Remediation &
Reclamation Phasing**
Oregon State University
Cascades, Bend, Oregon

- Legend**
- Phase I
 - Phase II
 - Phase III

Conceptual phasing, subject to change

ATTACHMENT

WASTE MANAGEMENT



ATTACHMENT

WASTE MANAGEMENT

DEFINITIONS

Permitted Waste: Permitted waste includes materials that were specifically allowed for disposal at the Deschutes County Landfill pursuant to the current or any previous version of the Landfill's Solid Waste Permit. For purposes of this RAWP, permitted waste includes demolition and construction wastes, tires, brush/land-clearing debris, industrial wood wastes, appliances, rock, soil, concrete rubble, and similar non-putrescible materials.

Unpermitted Waste: For purposes of this RAWP, unpermitted wastes include all wastes not specifically permitted by Oregon Department of Environmental Quality (DEQ) to be disposed at the Landfill, including but not limited to:

- Municipal solid waste,
- Hazardous waste under ORS 466.005,
- Polychlorinated biphenyl- (PCB-) containing materials regulated under the Toxic Substances Control Act (TSCA), Title 40 CFR Part 761
- Food waste,
- Dead animals,
- Sewage sludges,
- Septic tank pumpings,
- Oils,
- Chemicals,
- Liquids,
- Hospital wastes, including untreated infectious waste,
- Explosives,
- Soils contaminated by hazardous materials,
- Friable asbestos,
- Pesticide containers,
- Discarded or abandoned vehicles,
- Discarded large home or industrial appliances,
- Used oil, and
- Lead-acid batteries.

ATTACHMENT

Unauthorized Waste

- As noted above, only certain types of waste were permitted by Oregon DEQ to be disposed at the Landfill. Material other than Permitted Waste or material that must be removed from the Landfill to prevent an unacceptable risk to human health or the environment is, collectively, Unauthorized Waste (“UAW”).

Nuisance Material (e.g., cable/tires):

- These materials (in substantial volume) are unsuitable for backfill, but are not hazardous to human health or the environment whether maintained onsite or offsite. These materials, to the extent encountered, visible and separated during Property redevelopment work, will be temporarily contained on-site and then either hauled offsite for salvage¹ or disposal, or placed in Cell 3. If tires are placed in Cell 3, tires will be processed per OAR 340-064-0052 prior to placement. This processed tire material may also be considered for beneficial reuse onsite, with approval from DEQ.

WASTE HANDLING AND MANAGEMENT

During Redevelopment

During site redevelopment, identification and separation/management of UAW will not be a primary component or focus of the Remedial Action. Instead, identification and separation/management of UAW will be completed only to the extent that non de minimis volumes² of UAW are encountered and actually observed (visually or by odor) during the normal course of waste excavation, relocation, screening and blending activities completed as part of the redevelopment work. OSU-C will ensure that the bulk waste excavation and relocation activities are performed, as appropriate, by workers trained to identify (by sight and smell) potential UAW. Potential UAW that is observed will be separated and managed as described below. Except as provided above, OSU-C shall not have any obligation to specifically search for potential UAW that may be located on the Property.

Potential UAW identified as described above will be segregated, stockpiled, secured, tested (as needed), and, if confirmed, later removed for offsite disposal. Non-de minimis visually impacted or odorous soil/wood waste material directly surrounding potential UAW will be managed similarly. Specific UAW management and removal procedures will be specified in the Design Reports. Alternatively, if OSU-C, working with the DEQ, finds it preferable to manage the material onsite following procedures that are determined by DEQ to be protective of human health and the environment, the material may remain.

- *Processed Engineered Fill:* Excavated waste suitable for use as an engineered fill feedstock (subset of the woodwaste) will be screened and blended with on-site soil to produce Processed Engineered Fill.

¹ Note, the solid waste permit states: “Salvaging and recycling related to landfill reclamation is authorized if conducted in a safe, controlled, and orderly manner approved by DEQ.”

² De minimis is defined as 10 or less cubic yards of consolidated and discretely identifiable UAW material or any single 55 gallon drum or larger container of UAW that is observed intact and closed.

ATTACHMENT

- *Monitoring:* Worker and ambient air monitoring will be conducted during all major waste excavation, relocation, screening and blending activities to ensure worker and public safety.
- *Waste Designation:* UAW that is identified in the normal course of the redevelopment activities is not “generated” for disposal and management purposes until it is characterized and the decision is made for the waste to be disposed offsite.
- *Asbestos:* Potential bulk asbestos-containing material (ACM) and asbestos-containing soil (ACS) that are suspected to contain greater than 1% asbestos (e.g. friable insulation, floor tiles) encountered during the normal course of the redevelopment activities will be segregated, stockpiled, and secured pending testing. Contractors will be trained to visually identify such materials.

A certified asbestos abatement supervisor will establish an appropriate buffer between suspected ACM/ACS soil-handling activities and the edge of the regulated area (e.g. a 100-foot boundary from the soil-handling operations may be appropriate, depending on activities being performed and weather conditions).

Samples will be collected of the suspected ACM/ACS to confirm and establish disposal options.

Upon confirmation, bulk ACM removed from disturbed soil will be placed in DEQ-approved containers pending on-site or off-site disposal. If large volumes of ACM are identified in amounts that make the removal and management plans as described in the SAP infeasible, OSU-C and DEQ will establish plans for the waste to remain onsite in its current location, capped and secured, in a manner that is protective of human health and the environment.

If bulk ACM is confirmed to be present, the soil directly surrounding the area in which the ACM was found will be segregated and sampled to determine whether it must be handled as ACS.

As noted above, worker and ambient air monitoring will be conducted during all major waste removal, handling, and processing activities to ensure worker and public safety. Upon suspicion of uncontrolled ACM/ACS, engineering control methods including dust suppression will be utilized by the certified asbestos abatement supervisors.

Upon control of the ACM and confirmation that soil is not ACS or has been controlled, engineering controls may cease.