HazMat Program Manual

Oregon Department of Transportation

Geological Engineering and Engineering Geology Section | Delivery & Operations Division

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Acknowledgements:

The Statewide Senior HazMat Geologist/Program Coordinator, is responsible for the content of this manual, its periodic review and updates or revisions.

The manual has been a collaboration between the Statewide Senior HazMat Geologist (Shawn Rapp, RG), and HazMat Coordinators, Geologists and Staff in Region 1 (Charlie Schwarz, RG; Teresa Nowicki, RG), Region 2 (Kyle Roslund, RG; Bart Bretherton, RG; Sarah Hunt, RG), Region 3 (Brian McMullen, RG; Kenney Camp, Nick Harris), Region 4 (Scott Billings, CEG; Ryan Franklin, CEG), Region 5 (Michelle Peterson, RG), with input from several other disciplines within ODOT.

This program manual and the policies and procedures presented within, have been reviewed and approved by the ODOT State Geotechnical Engineer, Susan Ortiz, PE.

Prepared by:

Statewide Sr. HazMat Geologist/Program Leader Date

Reviewed by:

State Geotechnical Engineer Date

Revision history:

Date	Who	What
November 11, 2004	Jennie Armstrong	Draft initial manual
March 2010	Jennie Armstrong	Revision
August 2017	Beth Sandver	Update to links and creation of revision table
April 2020	Shawn Rapp	Updated all sections, added Section 6, added QC Procedures Appendix.
May 2024	Shawn Rapp	Updated sections: 1.0,4.0,9.1,5.7.2,5.8 Added Section : 10.7
July 2025	Shawn Rapp	Clarify Roles and Responsibilities of HazMat Staff

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1 Program Components

The functions of the Hazardous Materials (HazMat) Program in ODOT are generally managed and performed within the five Region offices. A Region HazMat Coordinator (RHC) is assigned to each of the five Region offices. The RHC is a registered geologist experienced in the professional practice of environmental geology and is based in the Region Tech Center Office. The RHC serves as the HazMat subject matter expert to support the Region Tech Center, maintenance stations and construction offices. Each region may have additional professional HazMat staff to support the regional and statewide HazMat effort at ODOT. The ODOT Technical Services Statewide HazMat Program sets standards, procedures and policy and supports the RHCs throughout the state to ensure quality standards and coordination of HazMat services.

Region HazMat services include:

- Site assessment and waste characterization for STIP projects including Level 1 and Level 2 investigations, and Phase I Environmental Site Assessments (Phase I ESAs) in accordance with the most recent American Society for Testing and Materials (ASTM) standard 1527.
- Oversight of consultants and contractors
- Special provisions professional of record (POR) and preparation of cost estimates for management of contamination, hazardous material and waste and related worker and public health and safety during construction.
- Underground storage tank (UST) decommissioning, contaminated soil removal and unexpected contamination handling, before or during construction.
- Support for hazardous materials removal, response, remediation and risk assessments for at Maintenance yards, including spills.
- Site assessment and cleanup for surplus properties, prior to sale, property donation (to or by ODOT) or other transfer method.

- Technical assistance regarding hazardous materials, waste management, and Construction during design review.
- Spill assistance including technical expertise and coordination with regulatory agencies and other partners on ODOT right of way (ROW) and other ODOT properties.
- District permit review when cleanup sites or spills are involved (e.g. Misc. Use Permit).

Technical Services Statewide HazMat Program services include:

- Negotiating with regulatory agencies, e.g. Oregon Department of Environmental Quality (DEQ) and U.S. Environmental Protection Agency (EPA).
- Liability determination for contamination located on ODOT property.
- Establish Quality Control measures for Regional HazMat Staff on STIP Projects (see Appendix A).
- Quality Assurance (QA) for the HazMat portion of select STIP projects.
- Quality Assurance (QA) for the HazMat portion of consultant provided work of select STIP and local agency projects.
- QA for HazMat Special Provisions for STIP, local agency and maintenance projects.
- Training HazMat staff, other ODOT groups, local agencies, and contractors.
- Technical assistance to Region HazMat staff on complex projects.
- Policy and guidance preparation for HazMat work, including project schedules, report templates and safety protocols.
- Maintenance yard cleanup budget management and prioritization.
- Research that benefits ODOT and the HazMat Program.
- Manage statewide projects or initiatives.

Two ODOT Highway Directives direct how hazardous materials issues should be handled in ODOT:

- ENV 16-01 Hazardous Materials and Wastes, revised 5/18/2020, sets forth ODOT's policy for the use and control of hazardous materials and wastes

in compliance with federal and state laws, rules and regulations in an efficient and cost effective manner.

- ENV 16-02 Contaminated Site Management, revised 6/18/2019, sets forth ODOT's Policy for "investigation and cleanup of properties and structures that may be contaminated with hazardous materials…" This policy includes property acquisition, investigation of hazardous materials and contamination, management of contaminated sites, consideration of liability and funding sources and dealing with third parties who have impacted ODOT right of way.

2 Document Templates

All standard HazMat reports and the health and safety plans referred to in this guidebook are available electronically on the ODOT Geo-Environmental Section's Hazardous Materials web page, unless otherwise noted in the text. The Statewide HazMat Program Leader is responsible for maintaining these templates and notifying region staff of any changes. Region HazMat staff are responsible for using the latest template available and requesting template changes, as necessary.

3 Safety

Work performed by HazMat staff is informed by ODOT Safety Guidance and Policies, and governed by state and federal Occupational Health and Safety Administration (OSHA) laws and regulations. If you have questions regarding worker Health and Safety, or any of the policies or trainings discussed below, contact ODOT Safety Division or your Regional Transportation Safety Specialists.

3.1 Site Work

For all site assessment and remediation activities that may disturb contamination, follow the ODOT Hazardous Waste Cleanup Operations Safety Standard:

STD20021 –Hazardous Waste Site Operations

and

STD20021 –Hazardous Waste Site Operations Attachments

A complete Health and Safety Plan that has been reviewed (see Table 1.1 in QC Manual, Appendix A) and accepted (including a site specific HASP, generic HASP, Work Plan, and/or JHAs where appropriate) must be available on site during all such operations.

3.2 Spill Response

For emergency spill response, follow the ODOT First Responders Guide to Highway Emergency Response (March 2016).

For continued remediation, after the initial emergency spill cleanup, follow the ODOT Hazardous Waste Cleanup Operations Standard. For larger incidents that warrant response from state and federal regulatory agencies, the RHC acts as the representative for ODOT within the Incident Command System. The RHC also is the liaison between the regulatory and cleanup effort, the spill contractors, and ODOT District offices and region technical resources when the road prism requires remediation.

3.3 Abandoned Waste

ODOT HazMat personnel may not touch or disturb the following wastes:

- Suspect drug lab materials (these materials can be exceedingly hazardous and can explode or release corrosive vapors without warning).
- Containers with contents that cannot be visually identified.
- Suspect explosive materials.

See ODOT's Hazardous Litter Debris Advisory:

Use a trained and experienced contractor to test, remove and dispose of these wastes. For drug lab wastes, contact the Oregon State Police first.

3.4 Safety Qualifications

The table below indicates the safety qualifications required for ODOT HazMat staff. Some of these trainings are offered annually to ODOT staff as part of annual Core Training provided by ODOT Safety.

Table 3-1 Safety Qualifications

Qualification	Frequency*	Site Work	Spill Response	iLearn
HazWoper 40-hour Training	Initial only	Yes	Yes	No
HazWoper 8-hour Training	Yearly	Yes	Yes	Yes
HazWoper Supervisor Training	Initial only	Yes[1]	Yes[1]	No
ODOT Plug & Patch Training	Initial only	No	Yes	No
Hazardous Materials Transport	3 year[2]	Potential[2]	Potential[2]	No
HazMat Medical Evaluation	1-2 year[3]	Yes	Yes	No
Respiratory Protection Training	Yearly	Yes	Yes	No
Respirator Medical Clearance/Fit Test	Yearly	Yes	Yes	No
CPR/AED/1st Aid/BBP	2 year	Yes[4]	Yes[4]	No
Confined Space Entry	Initial only[8]	Potential[5]	No	No
Excavation Safety	3 year	Potential[6]	Potential[6]	No
Asbestos Inspector Certification	Yearly	No[7]	No[7]	No
Ladder Safety	Initial only	Potential	No	Yes
Advanced Fall Protection	Initial only	Potential	Potential	No

Qualification	Frequency*	Site Work	Spill Response	iLearn
Lead Awareness	Yearly	Potential	Potential	No
Work Zone Traffic Control (WZTC)	3 year	Potential	Potential	No
Crystalline Silica Awareness	Initial only	Potential	Potential	Yes
Defensive Driving	5 year	Yes	Yes	Yes
Back Safety	Initial only	Yes	Yes	Yes
Fuel & Voyager Card	Initial only	No	No	Yes
Fire Extinguisher Training	Initial only	No	No	Yes

*"**Initial only**" may be required more frequently at request of management or in change of work conditions.

1. Supervisor training required for site supervisors. Not required if employee will be working under another qualified supervisor.
2. Only required for staff that will sign hazardous waste manifests and bills of lading for transportation of hazardous substances or will transport such substances themselves.
3. HazMat Medical must be conducted upon hire and every 1-2 years per doctor's discretion. An exit medical is also required within six months of employee leaving employment with ODOT HazMat.
4. Required for work in remote regions, highly recommended for all HazMat workers.
5. Only required for those responsible for assessing confined spaces in addition to other HazMat duties.
6. Required for those responsible for excavation safety. No ODOT HazMat employee should enter an excavation greater than 3 feet deep, regardless of training.
7. Required only for those conducting asbestos surveys.
8. If working in permit-required spaces, training required every three years.

4 Liability Determination

ODOT cannot spend the monies from the State Highway Fund on HazMat activities that the agency is not legally responsible for, unless there is some benefit to the highway system, per Oregon Department of Justice interpretation of ORS 366.505 et seq. For example, if completing cleanup allows the sale of valuable property, then that work would be appropriate. ODOT should also consider whether pursuing cost recovery from other responsible parties is viable

and practical. The table below helps determine ODOT's responsibility for contaminated sites.

Table 4-1 Liability

Question	Yes (or maybe)	No
1. Did ODOT, an ODOT employee, an ODOT contractor or an ODOT tenant cause the release?	Go to **A**	Go to 2
2. Is a UST or other known source located on ODOT ROW? (All ODOT ROW is obtained under eminent domain authority.)	Go to 3	Go to 4
3. Did ODOT install or operate the UST/source, permit someone else to install or operate the UST/source or do anything to make the contamination worse?	Go to **A**	Go to 4
4. Is there a possible adjacent source?	Go to 5	Go to **C**
5. Does ODOT have any relationship with the adjacent source (lease agreement, easement, etc.)?	Go to **A**	Go to 6
6. Are there any past ODOT practices (such as using oil for dust suppression) that could have caused the contamination?	Go to **A**	Go to 7
7. Has ODOT denied access to investigate/cleanup contamination?	Go to **A**	Go to **B**
LIABILITY OUTCOME		
A. ODOT may be a responsible party (reassess if additional facts become available).		
B. ODOT is not a responsible party.		
C. Responsibility cannot be determined, additional assessment may be required.		

If ODOT's legal responsibility is not clear, the determination should be referred to the Statewide HazMat Program Leader who will consult with DOJ, ODOT

Risk Management, DEQ and/or EPA as necessary. If ODOT is a potentially responsible party, other entities may also be responsible and ODOT should establish cost sharing agreements prior to initiating cleanup.

5 STIP and Other Projects

HazMat work for projects completed for STIP, local agency and legislatively funded projects like HB2017 should follow the schedule in the table below wherever possible. The RHC, or other HazMat POR, is responsible for each effort and deliverable below, and discussed further in this Section. This schedule outlined in the table on the following page reflects the Microsoft Project Management schedule currently being adopted by ODOT.

"Class 2" is a U.S. DOT term for projects classified as Categorical Exclusions (CEs) under NEPA. CEs are the least impactful NEPA class of action and make up about 95% of ODOT's FHWA-funded projects. "Class 1" projects require preparation of an Environmental Impact Statement (EIS), while "Class 3" projects require preparation of an Environmental Assessment (EA).

Table 5-1 Schedule for STIP Work

Project Phase	Class 2 Projects	Class 1 & 3 Projects
Project Charter	Complete Environmental Prospectus	Complete Environmental Prospectus or Environmental Baseline Study
Scoping	Provide PE & Construction cost estimates	Provide PE & Construction cost estimates
Start Project	Project Team kick-off meeting	Project Team kick-off meeting
Phase 1: Project Initiation	↓	HazMat Corridor Study ↓
Phase 2: Design Acceptance	HazMat Corridor Study Level 2 Scope of Work Clean Fill Determination	Level 2 Scope of Work ↓ Level 2 PSI
Phase 3: Permits and Clearances	Level 2 PSI ↓	↓
Phase 4: Right of Way Engineering and Acquisition	Construction Materials Survey ↓	Construction Materials Survey Level 2 PSI Addendum ↓
Phase 5: Preliminary Plans, Specs, Estimates	Special Provisions, Plans, Estimates ↓	Special Provisions, Plans, Estimates ↓
Phase 6: Advance Plans		
Phase 7: Final Plans	Final Spec, Plans, Estimates Review	Final Spec, Plans, Estimates Review
Phase 8: PSE Review & Bid		

Bid Let	Pre-Bid meeting	Pre-Bid meeting
Construction	Pre-Con meeting Contamination and waste management oversight	Pre-Con meeting Contamination and waste management oversight

5.1 Project Charter, Business Case & Prospectus

RHCs should ensure that the Project Charter, Business Case and Prospectus are completed correctly by completing the HazMat section or reviewing that section after the Region Environmental Coordinator has completed it. The HazMat Worksheet should include the following information/topics, and are generally covered by questions 31 through 38:

- Does the project involve any ROW acquisition or subsurface disturbance (e.g. excavation or drilling)?
- Does a search of DEQ's databases indicate the presence of any potentially contaminated sites within or adjacent to the API? At a minimum, include, DEQ's Facility Profiler. Alternatively, this search can be made with a commercially available reporting service (e.g. EDR or similar).
- For projects involving ROW acquisition or subsurface work, also include the following:
    - DEQ LUST Cleanup Site
    - DEQ ECSI Database
    - DEQ UST Facility list
- Does a search of the Oregon Fire Marshal's Hazardous Materials Incident database, indicate any HazMat releases within or adjacent to the API? If the database search is not up to date, OSFM may need to be contacted for a supplemental update for the area of interest or for a specific incident report.
- Are there any known current or historical land uses that could potentially have involved the use or storage of HazMat within or adjacent to the API? Include heating oil tanks, industrial properties, HazMat storage or retail facilities, services stations, laundry and dry cleaning, and agricultural land where pesticides may have been used, etc. Include information from site observations and Sanborn Fire Insurance Maps (where available – State Library Login required).
- Does the project include any structure demolition or repair? (This includes demolition or repair of buildings and bridges.) Note that any such repair or demolition work will require an asbestos survey, and may also require other HazMat surveys.

- Will the project disturb or remove items containing potentially hazardous materials, for example, lighting, electrical equipment, hydraulics, bridge mechanics, striping paint (separated from the asphalt), bridge or barrier paint, treated timbers, etc.?
- (ODOT only) Are there any known responsible parties within the API, with whom ODOT has established cost recovery agreements or whom ODOT could easily pursue for cost recovery? This step may require coordination or inquiry with RECs, ROW, etc.

Information developed during scoping can be used to supplement and update Part 3.

5.2 Scoping

The RHC or their representative should participate in scoping trips to:

- Identify known, suspected, or potential contaminant sources
- Identify hazardous materials/waste issues.
- Refine Project Charter, Business Case and Prospectus, and
- Develop cost estimates for design and construction.

The RHC should explain this information to the Construction Project Manager, at team meetings during the Scoping Process.

Scoping is completed in order to identify which projects will be programmed into a future STIP. At scoping, subject matter experts (including HazMat Geologists) review the Business Case (purpose & need) for a proposed project, as provided by the Project Manager, and identify the project elements to meet purpose & need, and draft scoping level estimates. This review is frequently completed with research on current and historic uses and sometimes a site visit. Scoping teams draft scoping notes outlining project elements by discipline and risks. Scoping teams also provide cost estimates to establish the budget required to deliver the complete project. These estimates have a large contingency and are typically based on average historic bid item prices. ODOT's webpage showing awarded and weighted average prices for previous years is available.

Geo-professionals and HazMat Geologists, should participate in all scoping efforts. If a project is determined to have no HazMat elements based on the

existing business case, then the geo-professional should document this in the scoping notes (and the scoping notes will be short). It should be the responsibility of the geo-professional to assess the project and determine whether there are HazMat elements, rather than the Project Manager or Project Leader.

The geo-professional assigned by the Region to assist in scoping will produce Scoping Notes and a Scoping Estimate. The notes need to clearly outline known HazMat elements (potential lead based paints, asbestos, PCBs, soil or groundwater contamination, etc.) and risks associated with unknowns (contamination magnitude and extent, etc.), as well as proposed methods for reducing risk during project. The Scoping Estimate includes a cost estimate for design and a summary of resource needs.

5.3 Advanced Investigations

HazMat Advanced Investigations may be required on large or complex projects that need specific or specialized investigation pre-Scoping stage. This may include but not be limited to Hazardous Materials Surveys, Phase I or Phase II Site Assessments or PSIs, advanced soil or groundwater investigations, waste management evaluations or permitting, etc. This work may require longer than usual time to complete and must be identified as early as possible, possibly during the STIP cycle preceding the anticipated work. This work may require hiring qualified contractors and moderate to extensive regulatory coordination. The work products required to complete the Advanced Investigations are difficult to anticipate and will be determined on a project-by-project basis. The work products and QA/QC procedures for Advanced Investigations will generally conform to this manual and the HazMat Program QC Manual, respectively.

5.4 Start Project

The RHC or their representative should attend the project team kick-off meeting for all projects. The attendee should inform the team of expected HazMat assessments and schedules, and inform the team that scope changes could trigger the need for additional HazMat involvement.

5.5 Hazardous Materials Corridor Study

- Due at "Phase 2 – Design Acceptance" ("Phase I – Project Initiation" for Class 1 & 3 Projects, see table, Section 5.0.)
- Included in, or issued concurrently with, the Environmental Baseline Report.
- Requires peer (technical) and manager (corporate) review (refer to Table 1.1 in the QC Manual, Appendix A).
- Requires a registered geologist or professional engineer stamp if the report includes the practice of geology or engineering.
- Provide copies to the Construction Project Manager, the Senior/Right of Way Agent, the Roadway Engineer/Designer, and any other affected team members.

A Hazardous Materials Corridor Study (HMCS) is necessary to evaluate the potential hazardous materials issues associated with land acquisitions and projects where ground disturbance is planned. Land acquisitions typically take place through one of the following instruments:

1. Temporary easement – Typically acquired to provide surface access for equipment or foot traffic, parking, equipment and materials staging. Less commonly these are acquired for fill placement on private property.
2. Permanent easement – Typically acquired to provide permanent access to maintain highway infrastructure both above and below ground surface, when a land purchase is not deemed necessary to support construction and long-term maintenance.
3. Purchase through fee take – Typically acquired to add to existing ROW for roadway or other expansions, or to eliminate ongoing owner coordination for long-term routine maintenance activities.
4. Voluntary sale – Although uncommon for STIP, local agency, and legislatively funded projects (such as HB 2017), it may occur when acquiring new land for Maintenance facilities, material sources, or other non-project related agency facilities.

In most cases an HMCS is required, but certain circumstances can limit this work as set out in the flow chart below.

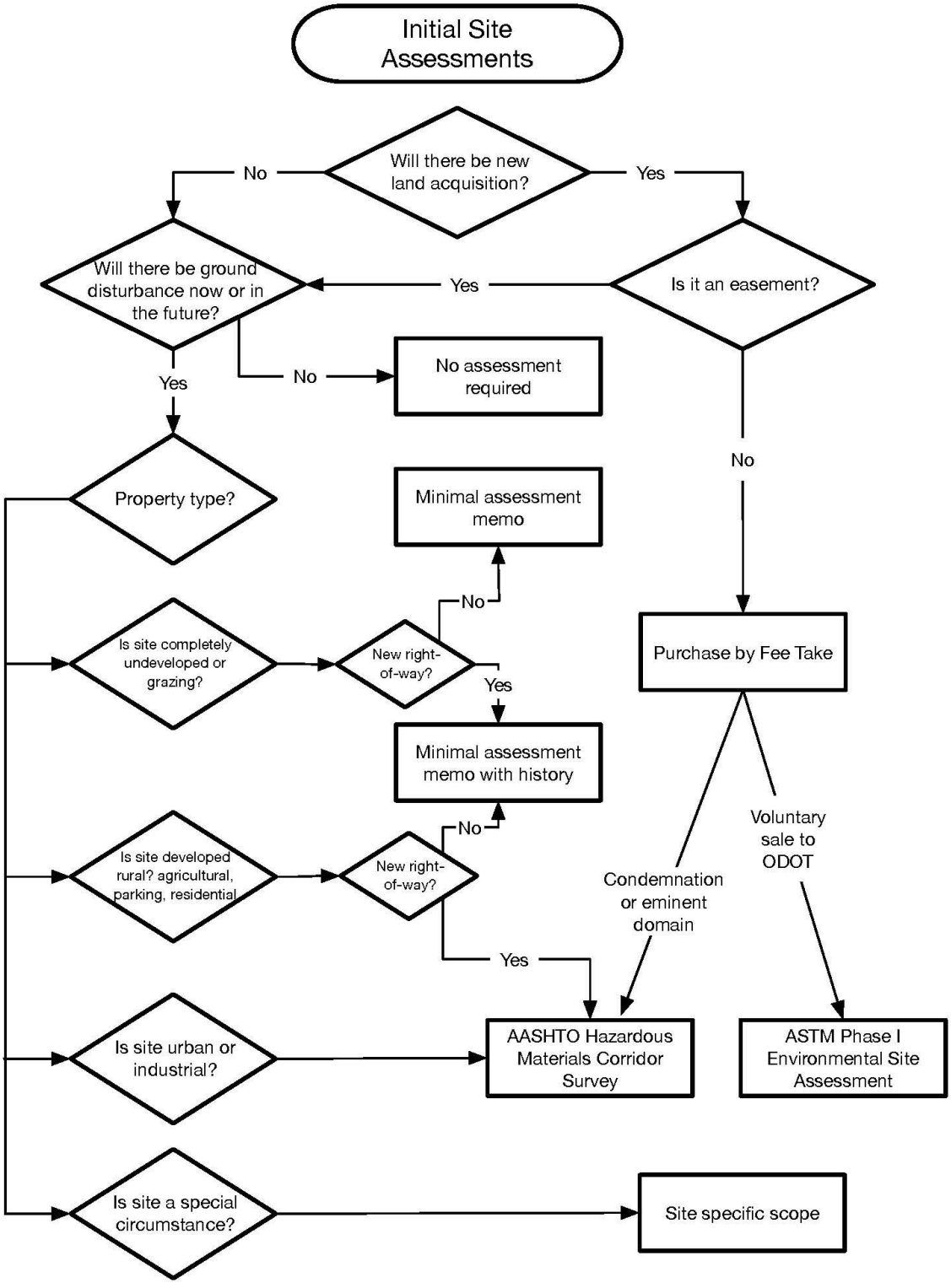

Figure 5–1 HMCS Flow Chart

In all cases, Region HazMat must also determine whether there are other waste management issues associated with the project (e.g. asbestos, lead-based paint, PCBs, etc.) and ensure that the appropriate special provisions are included in the final plans.

The HMCS includes:

- A description of the corridor (proposed project components, physical setting, and adjacent land use involving hazardous materials).
- An in-person site reconnaissance to observe site and surrounding property conditions.
- A review of historic records, going back 50 years (or when first developed), if possible, aerial photos and at least one of the following: Sanborn Maps, reverse directories, ODOT's FileNet, commercial environmental database search reports (e.g. EDR, etc.) and local government records.
- An environmental records review using DEQ's facility profiler and OSFM's spills database (or a commercial database provider).
- A review of DEQ cleanup files through their webdocs and/or public information requests for file review.
- A conclusion regarding potential sources of contamination and recommendations.
- In agricultural areas where no other contamination is expected, surface soil sampling may be recommended for herbicides and/or pesticides that are identified as Contaminants of Potential Concern (COPCs).

The Minimal Assessment Memo (MAM) (with history) **when new ROW is being acquired** includes:

- A description of the corridor (proposed project components and current land use).
- An evaluation of property condition through remote tools or through an in-person site reconnaissance.
- A review of historic aerial photos to ensure that the area has remained undeveloped and the road has always been paved.
- A review of the OSFM spill database.

- A review of DEQ's Facility Profiler database.

The MAM when **no new ROW is being acquired** includes:

- A description of the corridor (proposed project components and current land use).
- An evaluation of property condition through remote tools or through an in-person site reconnaissance.
- A review of the OSFM spill database.
- A review of DEQ's Facility Profiler database.

Note: if a major spill has occurred or the road was historically unpaved and could have been oiled for dust suppression, this memo should recommend sampling.

A version of the MAM may be able to be used in ADA Projects, under the following conditions:

- The project is an ADA Program-led project and no other substantive work aside from ramp construction will occur.
- The waste generated during construction will primarily consist of concrete, asphalt, and soil or rock.
- No site characterization or individual intersection sampling of soil will be required, under the assumption that all waste materials generated will be disposed or reused as fill on the project within ODOT ROW.
- Sampling can be limited to the minimum, as only required for landfill disposal.
- A review of the OSFM spill database and the DEQ's Facility Profiler database to confirm whether any specific sample analysis may be required for disposal.
- When appropriate, separated concrete and asphalt may be managed in accordance with Solid Waste General Provisions (OAR 340-093-0005 through 340-093-0290) and ODOT Standard Construction Specifications.
- Painted concrete must be managed in general accordance with Section 5.8, and ODOT Special Provision 00296.

The research for the HMCS or MAM should be initiated as soon as the designer can provide an outline of the maximum project limits on a map (this is just a box drawn on a map that encompasses all likely design options).

In all cases, Region HazMat must also determine whether there are other waste management issues associated with the project (e.g. asbestos, lead-based paint, PCBs, etc.) and ensure that the appropriate special provisions are included in the final plans. The other hazardous materials issues may be incorporated into the HMCS or MAM, or may be addressed in a separate report, as appropriate for the project and at the discretion of the RHC.

5.6 Additional Research

- May be completed after the Corridor Survey if project scope has expanded or changed.
- Complete prior to Level 2 PSI field work.
- May be included with Corridor Study or Level 2 PSI Report.
- Requires peer (technical) review (refer to Table 1.1 in the QC Manual, Appendix A).
- Requires a registered geologist or professional engineer stamp.
- Provide copies to all Corridor Study recipients.

Additional research, if necessary, should be used to narrow the Level 2 Scope of Work and may include a detailed review of DEQ files, review of additional historical resources, site specific ownership records, etc. The additional research should also be used to define the upper limits of the project Phase 2 DAP cost estimate.

5.7 Level 2 Assessments

- Due at "Phase 3: Permits & Clearances" ("Phase 2: Design Acceptance" for Class 1 & 3 Projects, see table, Section 5.0.)
- Requires peer (technical) review and manager (corporate) review depending on the document. (See below and refer to Table 1.1 in the QC Manual, Appendix A).
- Provide copies to the Construction Project Manager, Senior/Right of Way Agent and Roadway Engineer/Designer.

- Level 2 Assessments may include shoulder soil investigations and Clean Fill Determinations. Shoulder soil investigations and Clean Fill Determinations are described in more detail in Section 6.0.

5.7.1 Level 2 Scope of Work

The Level 2 Scope of Work (SOW) should describe sampling activities proposed to address the project specific goals. Level 2 goals depend on the reason for conducting the Level 2, as follows:

- Construction disturbance: Design the Level 2 scope of work to evaluate all potentially contaminated areas likely to be disturbed by excavation, trenching, drilling, trenchless technologies, pile driving, etc. The level 2 scope of work should consider the likely contaminants and the proposed extent and depth of construction activities. Complete sufficient characterization to achieve the following:
    - Prepare construction worker health and safety special provisions.
    - Ensure construction does not exacerbate existing contamination.
    - Characterize waste sufficient to determine reuse, recycling and disposal options.
    - Prepare waste management special provisions.
    - Estimate bid item quantities and costs.

- Whole property acquisition: Design the Level 2 scope of work to evaluate all potentially contaminated areas of the property. Consider site history, likely sources, contaminants and migration pathways. Complete sufficient characterization to achieve the following:
    - Identify all source locations.
    - Delineate the extent of contamination.
    - Perform a risk screening for current and likely future human and ecological receptors.
    - Develop a gross estimate of cleanup/site closure costs.

Sampling should be conducted near the potential contaminant sources on property being acquired and/or in areas where the project will require excavation (or as close as is feasible with existing rights-of-entry and subsurface hazards). The SOW should include:

- Goals for the proposed sampling.
- Pre sampling activities (e.g. geophysical surveys, utility clearance, etc.).
- Sampling locations (attach a sketch map).
- Sampling methods.
- Field screening methods and sample selection for laboratory analysis.
- Laboratory analytical methods.
- Estimated costs.

The Level 2 SOW should be discussed with the recipients to ensure that the proposed investigation meets their expectations and needs.

5.7.2 Level 2 Preliminary Site Investigation (PSI)

- Due at "Phase 3: Permits & Clearances" ("Phase 2: Design Acceptance" for Class 1 & 3 Projects. See table, Section 5.0.)
- Requires peer (technical) and manager (corporate) review (refer to Table 1.1 in the QC Manual, Appendix A).
- Requires a registered geologist or professional engineer stamp.
- Provide copies to the Construction Project Manager, the Senior/Right of Way Agent, the Roadway Engineer/Designer, and any other affected team members.

The Level 2 Preliminary Site Investigation (PSI) documents the findings of environmental sampling conducted to determine the presence and/or extent of contamination related to potential sources identified in the HazMat Corridor Study. The report should include:

- Site description and summary of previous assessments.
- Description of field activities, including sampling methods, locations and laboratory analytical methods.
- Geological descriptions (soil type, groundwater depth and flow direction, etc.).
- Geophysical survey results (if applicable).
- Analytical results (including a review of lab QA/QC results).
- Management of investigation derived waste.
- Conclusions that include:

  - A preliminary risk evaluation comparing concentrations detected to DEQ and EPA generic cleanup values to determine waste management options and/or estimate cleanup costs, as appropriate.
  - Options for managing sources and contaminated media prior to or during construction.
  - Estimated volume of contaminated media to be disturbed during construction and estimated costs for each feasible management option.
  - Special provisions required to address identified HazMat issues required for construction.
  - Contaminated Media Management Plans associated with contaminated properties adjacent to construction projects should be cited for reference.
  - A preliminary estimate of extent of contamination and cleanup costs for whole property acquisitions.
- On Drill logs
  - Include Soil name, USCS classification, Color, Plasticity, Moisture, Blow counts (only if using a SPT), Texture, Hydrocarbon staining, Odor. Others to be decided by the peer group are Drill rate, % Recovery, Cementation, Structure, Origin.
  - Identify top and bottom of encountered contaminated zone(s)
  - Record photoionization detector (PID) readings, staining, sheen, odors
  - On final logs, Summarize lab data

Results of the Level 2 PSI should be discussed with the recipients, to ensure that they understand the impacts and the required mitigation measures.

5.7.3 Level 2 PSI Addendum

- For Class 1 & 3 Projects only – due at "Phase 4: ROW Engineering & Acquisitions" (see table, Section 5.0).
- Requires peer (technical) and manager (corporate) review (refer to Table 1.1 in the QC Manual, attached).
- Requires a registered geologist or professional engineer stamp if the addendum includes the practice of geology or engineering.

- Provide copies to all Level 2 PSI recipients.

This report documents additional sampling conducted later than the Level 2 PSI because ODOT could not access a property or because there have been major design changes in the project. The report should use the format for a Level 2 PSI report.

5.8 Structure and/or Construction Materials Surveys

- Due prior to "Phase 4: ROW Engineering & Acquisitions" (see table, Section 5.0).
- Requires peer (technical) review (refer to Table 1.1 in the QC Manual, attached).
- Asbestos survey requires signature of a licensed asbestos inspector.
- Provide reports to the Construction Project Manager, the Senior/Right of Way Agent and the Roadway Engineer/Designer, and any other affected team members.

Structure survey results should be used to prepare appropriate special provisions and must be discussed with the recipients to ensure that they understand the abatement, demolition and disposal requirements and estimated costs.

Asbestos

An asbestos survey is required for all buildings and structures (including bridges, towers, culverts, and sheds) that will be demolished or renovated (includes all work that disturbs building materials). An Asbestos Hazard Emergency Response Act (AHERA) certified asbestos inspector must conduct all asbestos surveys. Building material samples must be analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) certified laboratory. For bridges, DEQ has approved a phased survey approach that may be used. See the OTIA III Bridge Delivery Program Materials and Contamination Performance Standards Manual for details of the process (summarized below).

- Determine whether construction work is limited to the following four exempt repair activities: Filling cracks, replacing barrier/railing, replacing

deck joints or Stage 1 seismic retrofit. (This step involves scope of work development, and does not require AHERA certification.)

- Review proposed construction work to determine whether it may disturb potential asbestos containing materials (ACM) such as abutment forms, bolt sealant, electrical insulation, waterproof membranes between the deck and the paving, geo-textiles, cement pipes, and textured surfaces.
- For those bridges where the proposed work may disturb potential ACM, review as-built plans and construction specifications to determine whether potential ACM are actually present on the structure and likely to be disturbed by the proposed construction activities.
- If ACM are likely to be present on portions of the bridge that will be disturbed, sample all suspect ACM.

An Asbestos Abatement Plan is also required prior to asbestos removal and must be prepared by a licensed abatement contractor. If the plan is prepared by the asbestos surveyor prior to construction, the special provisions must refer to it. If the plan is produced by the abatement contractor during construction, the special provisions must require an abatement plan prior to start of any abatement work.

Lead-Based Paint

A lead-based paint survey is required for all buildings that will be leased as residences and for all structures that will be burned or demolished. A licensed lead paint inspector is only required for occupied residential or educational buildings.

All paint samples should be analyzed for total lead, cadmium and chromium as indicated in the Painted Concrete subsection below.

- **Waste Paint Testing:**
  Paint historically used on ODOT highways and structures may contain lead, cadmium and chromium. Conduct paint or coating sampling and laboratory analysis if sufficient information is not available to properly characterize the wastes, as indicated in the table below. **All testing must be conducted by an Oregon Environmental Laboratory Accreditation Program (ORELAP) accredited laboratory**. Collect paint samples to include representative locations, sufficient quantities, and all paint layers, and

submit them to an ORELAP laboratory using proper chain-of-custody procedures. A list of ORELAP-accredited labs is available.

Table 5-2 Waste Paint Testing

Paint/Coating Application	**Total Pb, Cd & Cr Test on Paint EPA Method 6010**	**TCLP Pb, Cd & Cr Test on Paint EPA Method 1311/6010**	**TCLP Pb, Cd & Cr Test on Substrate plus Paint EPA Method 1311/6010**	**PCB Test on Bridge Paint EPA Method 8082**
Paint, coatings and markings – removed from any surface	NA	Required	NA	Required
Coated/painted concrete	Required	NA	Recommended for paint with high total Pb, Cd or Cr results	Required
Coated/painted metal	Required	NA	NA	Required
Coated/painted wood	Required	NA	If required by landfill	Required
Paving markings to be removed as part of paving	No testing required			

Notes:
TCLP = Hazardous Waste Toxicity Characteristic Leaching Procedure, which is used to determine whether the material is a hazardous waste due to toxicity.
Pb = Lead;
Cd = Cadmium;
Cr = Chromium

NA = Not applicable

If the TCLP laboratory results of samples for lead, cadmium, or chromium are less than the EPA's Allowable Limits (5.0 mg/L, 1.0 mg/L, and 5.0 mg/L, respectively), separated paint may be handled and disposed as a solid waste at a Subtitle D landfill. If one or more of the results is greater than EPA's Allowable limits, it must be handled and disposed as a hazardous waste. While painted wood is generally handled as a solid waste (contact landfill for specific disposal testing requirements), painted concrete and metal can often be reused or recycled. Those coated materials are discussed in more detail below.

- **Painted Concrete:**

  Testing Requirements.

Table 5-3 Painted Concrete Testing Requirements

Paint/Coating Application	Total Pb, Cd & Cr Test on Paint EPA Method 6010	TCLP Pb, Cd & Cr Test on Paint EPA Method 1311/6010	TCLP Pb, Cd & Cr Test on Concrete plus Paint EPA Method 1311/6010	PCB Test on Bridge Paint EPA Method 8082
Paint and coatings – to be removed from concrete	NA	Required	NA	Required
Concrete coatings – to be demolished with concrete	Required	NA	Recommended for paint with high total Pb, Cd or Cr results	Required
Concrete coatings - to	Required	NA	Recommended for paint with	Required

be demolished			high total Pb, Cd	

Notes:
TCLP = Hazardous Waste Toxicity Characteristic Leaching Procedure, which is used to determine whether the material is a hazardous waste due to toxicity.
Pb = Lead
Cd = Cadmium
Cr = Chromium
NA = Not applicable

If the concentration of lead, cadmium or chromium in paint exceeds 1,000 mg/kg, determine whether the bulk waste is a hazardous waste by testing a bulk sample of the coated concrete (e.g. concrete plus a representative amount of paint) for TCLP lead, cadmium and chromium (as applicable) or use one of the following calculations to estimate the TCLP values for the bulk waste:

(1) As a conservative estimate, assume the ratio of paint to concrete is 0.0003

and use the following calculation:

Total lead or cadmium or chromium concentration of paint (mg/kg)

x

0.0003/20 = Estimated TCLP concentration for bulk concrete debris (mg/L).

OR

(2) Estimate the ratio of paint to concrete for the specific bridge and use the

following calculation:

Total lead or cadmium or chromium concentration in paint (mg/kg)

x

[volume of paint / volume of concrete] / 20 = Estimated TCLP concentration for bulk concrete debris (mg/L).

- **Painted Metal**

The presence or absence of lead-containing paint determines how scrap metal should be managed. The following conditions apply to scrap metal generated during ODOT construction and demolition projects.

- Unless otherwise tested, assume all paint surfaces on scrap metal contain lead, cadmium, and chromium.
    - Conduct additional paint sample analysis if ODOT has not tested a specific painted surface or if sufficient information is not available to properly characterize the scrap metal for disposal or paint removal. If the metal will be reused or recycled without paint removal, testing is not required.
    - If necessary, collect paint samples such that representative locations, sufficient quantities, and all paint layers are included. Use appropriate quality assurance/quality control procedures. Submit the sample(s) for analysis as described in the *Waste Paint Testing,* above.

Metal that cannot be recycled as scrap metal because of severe corrosion or that is otherwise deemed unsuitable for reuse or recycling, may be disposed of at a permitted facility. Requirements that apply to metal disposal include the following:

- Determine whether the waste is classified as a hazardous waste as defined in 40 CFR 262.11 and OAR 340-102-0011 and provisions in the ODOT *Standard Specifications for Construction* (Section 290.20). Include any additional information requested by the disposal facility receiving the waste. The hazardous waste determination may be calculated on a total volume basis of the bulk waste as follows:

    Total concentration of lead/cadmium/chromium in paint {in milligrams per kilogram} x (paint thickness {in meters} or volume {in cubic meters} / metal thickness {in meters} or volume {in cubic meters}) x 1/20 = maximum leachable lead/cadmium/chromium (TCLP)

Or alternatively:

TCLP lead/cadmium/chromium result of paint {in milligrams per liter} x paint thickness {in meters} or volume {in cubic meters} / metal thickness {in meters} or volume {in cubic meters} = maximum TCLP lead/cadmium/chromium.

Maximum TCLP lead or chromium result greater than 5 mg/L, or cadmium greater than 1 mg/L is classified as a hazardous waste.

Or alternatively:

Manage the material as a hazardous waste, without testing.

- Dispose of metal waste at an appropriate facility based on the hazardous waste determination.
- Dispose of scrap metal classified as a hazardous waste at a landfill permitted to accept hazardous waste (RCRA Subtitle C).
- Dispose of scrap metal not classified as a hazardous waste at a landfill permitted to accept non-hazardous waste (RCRA Subtitle D).

Polychlorinated Biphenyls (PCBs)

All electrical equipment in buildings that will be demolished should be inspected for labels identifying their PCB content. The number of light ballasts and their PCB content should be documented and a description of any other electrical or hydraulic equipment that could contain PCB oil. Putty (caulk, adhesive, sealant, etc.) used for window, tilt up wall construction, or other construction uses should be tested for PCBs per EPA guidance. Paint chips from painted bridge surveys should also be analyzed for PCBs.

Mercury

The number and length of fluorescent light tubes should be documented, along with any other potential mercury containing equipment such as thermometers, switches, high intensity lamps, etc.

Treated Wood

Treated wood that is in good condition can be managed in accordance with Section 290.20(3)(c) of *Oregon Standard Specifications for Construction*, or sold through ODOT Surplus. Treated timber that is no longer useful must be disposed of as solid waste. Only test the wood if the accepting landfill requires such testing.

5.9 Special Provisions

- Due at "Phase 5: Preliminary Plans, Specs, and Estimates". If possible, include with the Level 2 PSI or Addendum. (See table, Section 5.0.)
- Requires manager (Corporate) and Technical Resource review.
- Provide copies to the Construction Project Manager and the Region Spec Writer.

Stand-alone special provisions are required for all identified HazMat issues that will impact project construction. Templates to be used for the standalone special provisions are available on the ODOT website.

The requirement of Special Provisions for a project may be triggered by (but is not limited to) the following types of work or project requirements:

- Hazardous Substance Health and Safety Plan.
- Underground Storage Tank (UST) decommissioning (includes HOTs).
- Excavation, transport and disposal of contaminated soil (includes all soil contamination – surface soils, LUST soils etc.).
- Pumping, treatment and disposal of contaminated groundwater.
- Trench seals (prevention of contaminant migration).
- PCB equipment removal and disposal.
- Asbestos abatement.
- Fluorescent light removal and disposal (universal waste).
- Lead-based paint removal and disposal.
- Septic system abandonment.
- Underground injection control (UIC) system decommissioning.

Bid items and cost estimates are required for each special provision used. Per Technical Services Bulletin 12-01(B) (2013), all changes to the boilerplate special

provisions and all standalone special provisions must be sent to ODOT's technical resource for concurrence. The technical resource for HazMat special provisions is ODOT's Statewide HazMat Program Leader.

5.10 Advanced Plans

Region HazMat must review the Plans and Specs and Estimates to ensure that all required HazMat items were included and to ensure that there are no last minute design changes that could be impacted by HazMat issues. Special Provisions for the project should be completed and concurrence from the specifications engineer received.

5.11 Bid Let

Region HazMat should attend the Pre-Bid meeting, if significant HazMat issues are involved.

5.12 Construction

A Region HazMat representative should attend the Pre-Con meeting, if significant HazMat issues are involved. If the project requires a RCRA ID number for hazardous waste disposal, contractor should obtain the ID number from DEQ at this time. If a contractor obtains a RCRA ID number at the start of a project, they must notify DEQ at project completion so that a final report can be prepared, if required.

Region HazMat should review all required HazMat documents submitted by the contractor, including pollution control plans, SPCC plans (for fuel storage near water), RCRA contingency plans, hazardous substance health and safety plans (or ODOT Safety may review this), asbestos abatement plans, PCB management plans, waste disposal permits, etc.

Region HazMat or a qualified contractor should conduct site visits, coordinated with the Resident Engineer, for projects that include:

- Contaminant excavation.
- Tank decommissioning.
- Fuel or significant hazardous materials storage.
- Hazardous waste generation.

- Other HazMat related activities.

Identified problems must be reported to the Resident Engineer immediately. Region HazMat should help the Resident Engineer remedy HazMat problems and coordinate with regulatory agencies and the Statewide HazMat Program Leader, as necessary. All HazMat violations (e.g. spills or waste management issues) must be reported to the ODOT Statewide HazMat Leader.

5.13 Project QA

Project QA is conducted upon request and should be conducted as the project is being developed to facilitate discussion and exchange of knowledge. See the HazMat Program QC Manual (Appendix A).

5.14 Outsourced STIP and Other Projects

Region HazMat assists Resident Engineers – Consultant Projects (RECPs) with the HazMat elements of outsourced projects, including but not limited to the following:

- Identification of HazMat needs and preparation of HazMat Tasks and Contingency Task descriptions in the project Statement of Work (SOW).
- Review of Consultant Breakdown of Costs (BOC) for HazMat tasks and contingency tasks to assess whether the effort and direct costs are reasonable.
- Review of Consultant-prepared project deliverables including but not limited to:
    - Level 1 Hazardous Materials Corridor Study
    - Level 2 PSI Sampling Plan
    - Level 2 PSI Report
    - Structure Survey Sampling Plan
    - Structure Survey Report
    - Shoulder Soil Sampling Plan
    - Shoulder Soil Clean Fill Evaluation Report
    - Plans and Special Provisions
- Technical assistance to RECPs and Consultant for project issues.

6 Clean Fill and Shoulder Soil

Construction projects commonly produce an excess of soil that cannot be used on the project. Much of that material is generated through the excavation of shoulder soil during widening or improvement projects. For the purpose of this Section, shoulder soil is defined as materials between the edge of pavement to the edge of the ROW, to a depth of 18 inches. ODOT's 2018 Standard Specifications Section 00290.20(c)(2) specifies the disposition of Clean Fill for construction projects:

> *"Clean fill, as defined by OAR 340-093-0030, becomes property of the contractor at the place of origin."*

Oregon Administrative Rule 340-093-0030(18) defines Clean Fill as:

> *"… material consisting of soil, rock, concrete, brick, building block, tile, or asphalt paving which do not contain contaminants which would adversely impact the waters of the State or public health. This term does not include putrescible wastes, construction and demolition wastes and industrial solid wastes."*

Since 2014, changes in DEQ guidance and ODOT policies have made the management of excess material more complex because a Clean Fill Determination (CFD) must be made in order to allow the excess material to become property of the contractor. This Section describes how ODOT HazMat Coordinators approach making CFDs that are consistent with DEQ's Internal Management Directive titled *Clean Fill Determinations (July 7, 2014; updated February 2019)* when managing excess soils on construction projects. This Section also describes how to apply the Beneficial Use Determination (BUD-20181204) for Highway Shoulder Soil throughout Oregon when CFDs demonstrate that excess material does not meet clean fill standards. Additional background information discussing the statewide study of shoulder soils is provided in Appendix B.

6.1 Clean Fill Evaluations

The general approach ODOT uses for evaluating excess materials for the purpose of making CFDs is outlined in Section 7.3 of DEQ's Internal Management

Directive (IMD) titled *Clean Fill Determinations* (February 2019). Section 7.3 describes the three elements that comprise a clean fill evaluation (Figure 2 of the IMD provides a flow chart):

1. Material type (Section 7.3.a) – This is a visual assessment of material to document that is does not contain materials that are not eligible to be considered Clean Fill.
2. Contaminant evaluation (Section 7.3.b) – This combines a visual assessment for evidence of staining and odors with sample collection and laboratory testing to characterize the type and concentration of contaminants. Sampling and testing should be tailored to the suspected contaminants based on current or historical land use. Note that if contaminants are found at concentrations characteristic of a hazardous waste, or if the contaminant can be considered a listed hazardous waste based on knowledge of waste generation, then the material cannot be considered clean fill even if concentrations are less the CFSLs.
3. Comparison to DEQ Clean Fill Screening Levels (CFSLs) – This compares the concentrations found in each sample to CFSLs. If all results are less than CFSLs, or if the average concentration is less than CFSLs, then the material can be considered Clean Fill.

ODOT can and will vary the sampling, laboratory testing, and data evaluation based on project location, site history, and the existing shoulder soil sample dataset evaluated in the 2016 Shoulder Soil Study Report (see Appendix B for more details on shoulder soil studies). The IMD is intended for use by DEQ staff, and Section 7.1.a states:

> *"A generator always has the option to do their own statistical analysis and make site-specific clean fill decisions based on the material generated."*

While ODOT is not typically the generator of fill material on construction projects, we "own" the material and ultimately are responsible for its characterization and management. In order to make these evaluations as to whether excess materials meet the criteria to be considered clean fill, ODOT HazMat Staff can use a number of tools:

1. **Local knowledge:** Staff may have knowledge of an area within a Region as to whether it likely does or does not meet clean fill standards. For example, urban or commercial areas may not often meet the definition of clean fill. Conversely, rural areas with no known sources of contamination may well meet the clean fill standards. Local knowledge may also come in the form of land use and environmental records review conducted for projects where no suspicious land uses or cleanup/spill sites are identified for the project.

2. **2016 Statewide Shoulder Soil Study**: The data and statistical analyses detailed in this study indicate that several physiographic provinces (Figure 1, attached) (not the same as ODOT regions) in the state meet the CFSLs for shoulder soil. Data analysis in the Portland Basin or in parts of South Willamette provinces indicate that shoulder soils in these areas do not likely meet the CFSLs. Other provinces still have data gaps, making conclusions difficult. If a project location is within an area shown to statistically meet CFSLs, satisfies the definition of Clean Fill in OAR 340-093-0030(18), ***and*** all other criteria are met (no evidence of potential contamination sources, no odor, staining, solid waste, etc.), then the material may be considered clean fill without conducting sampling and laboratory testing. The conclusions of the 2016 Shoulder Soil Study can also be applied to inform decisions on soil management through reuse under the Beneficial Use Determination (BUD) discussed below in Section 6.2.

3. **Shoulder soil sampling**: Regardless of Region, physiographic province, or project location, it is always within ODOT's prerogative to collect soil samples to do a site-specific clean fill evaluation and determination. While the final clean fill sample and analysis plan is up to the Region HazMat Staff, there are two main sampling approaches that should be considered:

    - *Sampling in accordance with the DEQ-approved 2016 Shoulder Soil Study Sampling and Analysis Plan (SAP)* – There are several physiographic provinces that have gaps in the dataset from the 2016 Shoulder Soil Study (e.g. Cascade Mountains, Klamath Mountains, Coast Range and Owyhee Uplands, Figure 1). It is

possible that these areas may have shoulder soil that meets the DEQ's CFSLs. Following the sampling location, depth, processing, and analytical protocols presented in the 2016 Shoulder Soil Study SAP should be considered when appropriate, based on project location and surrounding land use history. As projects are completed in these provinces, the soil sample data can be incorporated into the Statewide Shoulder Soil database, allowing future data analysis and evaluation. The ultimate goal is to acquire adequate data sets for every province across the state to better inform HazMat Staff, and for updates to the Statewide BUD for Highway Shoulder Soils.

- *Sampling to excavation depth* – When not using the methods described above, sampling to the total depth of the excavation (to 18 inches depth at a minimum) is ODOT's preferred approach. Sample the soil to the full depth of the excavation and either:

    1) Composite grabs from different depths or,
    2) Collect grab samples from different depths and average those concentrations for that location.

    There can be variation in this depending on site-specific factors like project location, site history, etc. The basic principal is that while the soil may be in-situ at the time of sampling, the sample program needs to consider how the material will be removed during construction. This can be thought of as a "waste stream" approach, where ODOT is "pre-characterizing" the anticipated waste stream as it will be generated during project construction.

    This approach is intended to provide representative sampling of the material to be removed and provide consistency across the state while conforming to the Solid Waste General Provisions (OAR 340-093-0005 through 340-09300290). Additionally, this can be applied to several types of projects, whether they are shoulder soils, a new stormwater infiltration facility, or deep sign foundation drilling. When there are no known or suspected volatile organics present, it

is encouraged that the ISM sample preparation methods (note, not ISM sampling techniques) used in the 2016 Shoulder Soil Study SAP are also used for these samples when appropriate.

DEQ's IMD allows for use of average concentrations in the clean fill evaluation when individual sample results are greater than CFSLs. There are two methods of calculating averages that are reasonable to apply for ODOT projects:

- Calculate the 90% Upper Confidence Limit (UCL) of the mean concentration – DEQ's IMD suggests that calculating a 90% UCL "is usually an appropriate statistical method" for evaluating soil sample data for CFDs. This is easily performed with EPA's free ProUCL software. It is, however, EPA's recommendation that a minimum of ten data points having a minimum of six detections be used in these calculations for making decisions on remediation sites. That number can increase or decrease depending on goal (e.g. determining background concentrations), or data variability.
- Calculate an arithmetic mean – It will be common for ODOT projects to collect less than ten soil samples for these evaluations based on project size (e.g., ADA ramps at a single intersection), or location (e.g. stretch of state highway in undeveloped rural areas). In these cases, ODOT recommends simply calculating the arithmetic mean. An arithmetic mean can also be used when there are less than six detections.
- When using either method discussed above, some professional judgement must be used when a small dataset has a broad range of analytical results or includes data outliers of high concentrations. A more careful assessment of the data may be warranted, laboratory follow-up analyses may be needed or additional sampling may be appropriate. Similarly, it may become apparent that only a small area or soil volume does not meet CFSLs, and if managed (e.g. disposed or reused), the remaining soil on the project may meet CFSLs.

The CFSLs for metals are different for each physiographic province across the state. The numbers for the 16 metals in the IMD (IMD Table 1) were adopted from the DEQ 2013 Technical Report Development of Oregon Background Metals

Concentrations in Soil. This document discussed the data collection, data variability, assumptions, and statistical evaluation used to develop the regional background concentrations for these metals. The complexities of performing assessments on inherently variable and widespread data can regularly impact ODOT's decisions in performing clean fill evaluations across much of the state. In evaluating project soil data for metals, it is important to understand the dataset variation in DEQ's Technical Report, and realize that any concentration is simply an estimation of naturally occurring background for a province and that local (project sized) concentrations can vary.

If a project average (or UCL) concentration for a metal is slightly above the published CFSL, it does **not** necessarily mean that the material is not clean fill, and that the detected concentration is not simply a localized background concentration. It is important to consider several things in evaluating this data. If the sample concentrations are similar to one another, this may be an indication that local concentrations of a metal are slightly greater than the published CFSLs.

These decisions can also be supported by observations by HazMat Staff such as:

1. The location of the material relative to the edge of pavement (e.g. slide debris from the pavement);
2. Adjacent property use (e.g. undeveloped forest service or range lands);
3. Material characteristics (e.g. predominantly local rock material used in shoulder construction); or,
4. Nearby project experience and sample data (e.g. a nearby project with similar (i.e., consistent) metals concentrations).

These considerations are not meant to be exhaustive, but are examples of project level intricacies that may influence the CFD. While it is ODOT's responsibility to make CFDs as the generator (owner) of the material, is also our responsibility to make these decisions carefully based on the data and site observations. For example, without considering these types of information, 10,000 cubic yards of material in the Klamath Mountains province, with an average copper concentration of 115 mg/Kg, might result in a huge impact to project cost and local landfill capacities for disposal of what is potentially clean fill.

There are important considerations to make when ODOT is developing the approach to conducting a clean fill evaluation so that a CFD provides clear direction on how to manage excess materials:

1) Type of samples to be collected (grab, composite, etc.) – Consider if the objective of sampling is to characterize a future waste stream, fill a data gap, provide characterization of a potential cleanup site, or some other purpose. The sample technique selected will depend on the objective(s) of sampling.
2) Project location and sampling approach (discussed above).
3) Number of samples collected – Consider if statistical analysis is anticipated or desired and collect a sufficient number of samples.
4) Reuse options – Consider how sampling and testing may need to be conducted if a reuse not listed in the BUD is desired or necessary for a particular project.
5) Documentation – A written CFD should be prepared for each clean fill evaluation that is conducted, as described below in Section 6.3.

This manual cannot discuss every possible combination of contaminant concentration, site variability, fluctuation in site-specific background levels (metals), or considerations that need to be made when making CFD. The intent is to discuss the underlying concepts and approach in data evaluation or statistical analyses, localized background metals concentration fluctuations, and ODOT responsibilities in making these decisions. The HazMat Coordinators will apply these concepts and professional judgement to develop a reasonable approach to conducting clean fill evaluations that are appropriate to each project.

6.2 ODOT's Statewide Beneficial Use Determination (BUD)

When excess material does not meet the CFSLs, it may be possible to manage that material through an approved reuse option under ODOT's Statewide Tier 3 BUD (BUD-20181204). This BUD is the direct result of the statewide studies discussed in Appendix B, with the intent to identify beneficial reuse options for material that did not meet DEQ's CFSLs. The BUD allows for the reuse of

material, with certain conditions, without the need to get permit exemptions or other variances on a project-by-project basis. The potential reuse options and restrictions vary across the state by a project's physiographic province as defined in the book titled *Geology of Oregon (1992)*, and as further subdivided by DEQ in its technical report titled *Development of Oregon Background Metals Concentrations in Soil (2013)*. Physiographic provinces have different boundaries than the ODOT Region boundaries. ODOT HazMat staff are aware of the differences and should be consulted early in project development to discuss potential project impacts, allowed beneficial uses in each province, and potential restrictions on those options.

The BUD contains a series of tables that summarize allowed reuses, based on depth and distance from edge of pavement. Tables 1 through 4 cover the Deschutes Columbia, Coast Range, High Lava Plains, and South Willamette Valley, and break down reuse options by distance from pavement and depth from ground surface. Table 5 covers the remaining six physiographic provinces. These reuse options are "worst case", default options, with no site specific sampling required, assuming that there are no suspected or observed sources of contaminants. As always, site specific sampling can be conducted (and is encouraged) to assess the nature of excess material for any project.

Table 6 lists DEQ's general and specific conditions on any of the reuse options that may be used when excess material is being managed under the BUD. There are three default reuse options or classes listed in Table 6. The three classes are described below.

- **Non-residential Construction Fill** – This beneficial reuse category encompasses soil that contains contaminants at concentrations greater than the CFSLs, but less than DEQ's Occupational RBCs. Table 6 provides five types of non-residential construction fill reuses that are allowed. Construction staff will need to work with HazMat Staff during project development to identify potential reuse options that may work at any specific project, so that the project team can collectively decide how (or if) project specific documentation of material placement is required. For example, temporary soil banking at ODOT sources or reuse within the ODOT ROW may require a different level of documentation than working

with a contractor who proposes to use the material on some other commercial or transportation project.

- **CFD** –The 2016 Shoulder Soil Study identified and proposed several regions where shoulder soil was shown to meet the CFSLs. In Tables 1 through 6, "CFD" identifies those regions where the material meets the definition of "Clean Fill" (OAR 340-093-0030) **AND** meets the subjective evaluations illustrated in the flow chart on Figure 2 of DEQ's IMD. The materials in these regions may be considered clean fill as demonstrated by the 2016 Shoulder Soil Study.
- **Mine Reclamation Fill** – This reuse option is the only acceptable reuse option for shoulder soils that are not clean fill in the Portland Basin, where it is common to find lead and B(a)P concentrations greater than DEQ's Occupational RBCs. As such, there are currently few options for beneficial reuse as a default outside from mine reclamation. There are restrictions and coordination between project staff, Geology/HazMat Staff, and possibly the ODOT Materials Source Program Geologist are required.

An important consideration of these three reuse classes is that they are a baseline or worst case scenario, based on the current shoulder soil data set. They represent what has been established (or can be inferred) statistically across the state (where data sets are adequate). In other words, a site away from any known or suspected contaminant sources in the Blue Mountains ("CFD" in BUD Table 5) may be considered Clean Fill in accordance with the guidance set forth in this manual. Similarly, without sampling, fill from the Portland Basin could possibly go to a mine for reclamation purposes. There is nothing, however, that prevents ODOT HazMat Staff from collecting samples for clean fill evaluation in any province, for any reason, whether that is to fill statewide database gaps in a specific area, or if a project in the Portland Basin may be located in an area that is less developed and has the potential to meet the CFSLs or some less restrictive default reuse option. Management of any soil under this BUD must be done in close coordination with the Region HazMat Staff. The selected reuse option or options should be documented in the written CFD, as discussed in the next section.

Based on project specific sampling results, other reuse options may be available.

6.3 Clean Fill Determinations

- Due at "Phase 2: Design Acceptance". (See Table, Section 5.0).
- Requires peer (technical) and manager (corporate) review (refer to Table 1.1 in the QC Manual, Appendix A).
- Requires a registered geologist or professional engineer stamp if the CFD contains interpretations of regional or local geology or other information that qualifies as the practice of Geology or Engineering.
- Provide copies or file locations to the Construction Project Manager, the Senior/Right of Way Agent, the Roadway Engineer/Designer, Regional Environmental Coordinator, and any other affected team members.

A CFD Report should be prepared to document the clean fill evaluation and reuse option(s) for each project. The CFD Report should describe the following elements:

- The type and amount of excess material that is not able to be used on the project.
- Sampling and lab testing activities.
- Material description to document the excess material complies with material type component of the clean fill definition.
- Data interpretation and statistical analysis of the sample results.
- Discussion and illustration of project areas where excess materials do or do not meet clean fills standards.
- Conclusions and recommendations for allowed uses/limitations on use of the excess material.

The CFD Report should be written to delineate the portions of the project that are considered to be clean fill and those that require other management (either through reuse under ODOT's Statewide BUD, landfill disposal, or some other method). The CFD Report should also support preparation of Special Provision 00294 when excess materials are not able to be considered Clean Fill.

7 Surplus Property and ODOT Property Purchases

Right of Way has two primary sales mechanisms for ODOT's surplus property:

- Sell clean through auction: ODOT conducts complete ASTM Phase 1 assessment, and ASTM Phase 2 assessment and cleanup (if required) prior to selling the property.
- Sell directly, as is: The buyer takes responsibility for HazMat assessments and can negotiate the property value based on the findings. In this case ODOT only provides information pertaining to use and potential sources of contamination on the property itself, without investigating adjacent sources or conducting a Phase 2 investigation to confirm or delineate potential on-site releases.

Right of Way Property Management determines the sales mechanism and Region HazMat should discuss this with the Senior/Right of Way Agent prior to initiating any site work. For all site assessment work, Region HazMat should discuss schedule, budget and EA with the ROW Property Manager.

7.1 ASTM Phase 1 Assessment

- Requires peer (technical) and manager (corporate) review (Refer to Table 1.1 in the QC Manual, Appendix A).
- Requires a registered geologist or professional engineer stamp if the ASTM Phase I Assessment contains interpretations of regional or local geology (i.e. not citations of other published documents) or other information that qualifies as the practice of geology or engineering.
- Provide copies to the Right of Way Property Manager.

Conducting a full ASTM Phase I is intended to provide sufficient information to the purchaser for them to meet the "innocent landowner" defenses in CERCLA Section 107(b)(3). The ASTM Phase I must follow the current ASTM E1527 (latest update 2013) to meet the requirements of a "CERCLA Environmental Site Assessment" per 40 CFR 312.

The required components of an ASTM Phase 1 Assessment is detailed in ASTM E1527-13, but is summarized below:

- A site reconnaissance noting site activities, building materials and utilities, oil/hazardous materials/waste storage, evidence of contamination, paving, etc.
- A description of adjoining land uses.
- A description of the physical setting, including USGS topographic map information and other available geologic or hydrologic information.
- An interview with an ODOT representative knowledgeable about ODOT's property use (District maintenance staff, Senior/Right of Way Agent, etc.).
- A review of past property use, in five year intervals, going back to 1940 or the property's first developed use, whichever is earlier (including adjacent property if available from the same documents). Resources should include: aerial photographs, Sanborn Fire Insurance Maps, property tax files (County Assessor's records), land title documents, USGS topographic maps, local street directories, building department records and/or zoning/land use records.
- An environmental records review using EPA, DEQ and OSFM databases (or a commercial database provider). Review should include NPL, RCRA CORRACTS TSD, and ECSI sites within 1.0 mile; CERCLIS, Non-CORRACTS TSD, landfills, OSFM spill and LUST sites within 0.5 miles; RCRA generators and UST facilities on or adjoining the property and ERNS on the property itself.
- Interviews of local officials likely to have knowledge of environmental issues at the property, e.g. local fire department, local health agency, or other local agency responsible for environmental matters.
- A report documenting the above information.
- Qualifications required as an "Environmental Professional" per the ASTM Standard are found in 40 CFR 312.10. They are also included as Section X2 of ASTM E1527-13.

7.2 Site Only Property Assessment

- Requires peer (technical) and manager (corporate) review (refer to Table 1.1 in the QC Manual, Appendix A).

- Requires a registered geologist or professional engineer stamp if the Assessment contains interpretations of regional or local geology (i.e. not citations of other published documents) or other information that qualifies as the practice of Geology or Engineering.
- Provide copies to the Right of Way Property Manager.

A "Site-only" Property Assessment is designed to provide information that ODOT should have within the agency. The goal is to ensure that ODOT maintains their cleanup liability defense, available due to acquisition under eminent domain authority, by disclosing all agency knowledge of any on-site releases. A "Site-only" Property Assessment includes:

- Site reconnaissance to identify storage of petroleum, hazardous materials or waste; evidence of tanks or UICs; or any evidence of spills or contamination.
- Interview of someone knowledgeable about ODOT site activities (e.g. District Maintenance staff, Senior/Right of Way Agent, etc.).
- Review of historic resources for the property, going back every five years to the earliest of 1940 or first development. Resources should include: aerial photographs, Sanborn Fire Insurance Maps, reverse directories, local government records and/or tax or title records.
- Review of environmental records for the property (and any adjacent ODOT owned or operated property) using DEQ and OSFM databases (or a commercial database provider). Review should include ECSI, LUST, UST, landfill, RCRA and spill databases.

7.3 ASTM Phase 2 Assessment

- Requires peer (technical) and manager (corporate) review (refer to Table 1.1 in the QC Manual, Appendix A).
- Requires a registered geologist or professional engineer stamp.
- Provide copies to the Right of Way Property Manager.

Use the guidance and report template for the STIP Level 2 PSI (see Section 5.7) and ensure that the scope of work aims at delineating contamination such that cleanup options and cost estimates can be developed. The Phase 2 Assessment should generally conform to the ASTM Standard *Phase II Environmental Site*

Assessment Process (E1903-19), and DEQ and EPA guidelines on conducting Site Characterizations and Assessments.

7.4 Cleanup Options

If Right of Way has opted to sell the site "clean" then Region HazMat must develop cleanup options (e.g. tank decommissioning, soil excavation, long term groundwater monitoring, active groundwater remediation systems, risk-based closure, property use limitation, etc.). The effectiveness of these closure options must be balanced with likely costs, time and future site use. Region HazMat must discuss these options with the Property Manager and obtain an EA, prior to proceeding with any remedial activities.

7.5 Funding

ODOT Property Management often funds the assessment and cleanup of surplus property. However, when the site is a former Maintenance yard, Property Management may negotiate with the District to pay for all or part of those costs.

If ODOT is not responsible for the contamination (see Section 4.0), and sale of the property will facilitate development that will stimulate the local economy, provide low-income housing or create green space, consider applying for Brownfields funds to help with assessment and cleanup costs. Information regarding Brownfields funding is available from the following resources:

- DEQ's web page
- EPA's Region 10 web page

7.6 Property Purchases

Some ODOT property purchases are not associated with STIP and other projects. Examples include acquiring property for new Maintenance yards, material sources, and other facilities. Sometimes properties are donated to ODOT.

Government agencies that acquire property may or may not meet CERCLA innocent landowner defense criteria. EPA document titled *CERCLA Liability and Local Government Acquisitions and Other Activities* (EPA-330-F-11-003, March 2011) should be reviewed before properties are acquired so that HazMat Staff and

ROW understand potential implications of potential contamination on future liability and seek DOJ support as needed.

Region HazMat should determine from Region Right of Way whether the property acquisition is by condemnation or the threat of condemnation. If not, conduct a full ASTM Phase 1 Assessment as described in Section 7.1 so that ODOT can meet CERCLA innocent landowner defense criteria. Conduct an ASTM Phase 2 Assessment in general accordance to Section 7.3 if warranted by the Phase 1 Assessment findings.

8 Maintenance Yards

If a spill occurs at a Maintenance yard, follow the emergency spill response procedures in Section 3.2.

8.1 Identification, Delineation and Cleanup

When contamination issues are identified at Maintenance yards, cleanup goals based on current and future use need to be developed. These issues are often found during yard expansion, construction, unknown release discovery, or property transfers. The contamination and cleanup work needs to be developed with the ODOT District Manager, Region HazMat and DEQ, as necessary.

A scope of work, following procedures in Section 5.7.1 needs to be developed prior to initiating cleanup. The scope of work should address the nature of the contamination and how the sampling and analysis will determine the extent of contamination. After completion of the work, a Level 2 Site Investigation report will be prepared as outlined in Section 5.7.2. This will describe the nature and extent of the contamination and present a conceptual site model to outline cleanup goals. Where necessary, report the results to DEQ. Use the results of the report to determine cleanup options and cost estimates.

Region HazMat must develop cleanup options to address the nature and extent of the contamination, ensure worker safety, protect the environment and address future uses of the site. The effectiveness of these closure options must be balanced with likely costs, time and site use requirements. Region HazMat must

discuss these options with the District Manager prior to proceeding with any remedial activities. Options must meet state and federal regulatory requirements.

- Work products require peer (technical) and manager (corporate) review (refer to Table 1.1 in the QC Manual, Appendix A).
- Work products require a registered geologist or professional engineer stamp if the products contain interpretations of regional or local geology or other information that qualifies as the practice of Geology or Engineering.
- Coordinate work the ODOT District Manager to ensure the work meets the needs of the site and prepare cost estimates.
- Submit work products to DEQ Project Manager, as required, to receive regulatory closure.

8.2 Funding

ODOT Maintenance sets aside funds for yard cleanups at the beginning of every biennium. The Statewide HazMat Coordinators prioritize yard cleanup needs and provides cost estimates which the Statewide HazMat Program Leader submits to the Statewide Maintenance Engineer for review and funding. This funding request also includes a Small Cleanup Fund for each region to handle abandoned roadside waste, spills with no available responsible party and unexpected yard contamination issues. Funds are set up in project specific EAs for each region (HZMTs). Funds can be redistributed during the biennium, based on cleanup priority (ODOT liability and risk to human health and the environment). Fund redistribution requires a betterment order signed by the Statewide HazMat Program Leader and the Statewide Maintenance Engineer.

The RHCs are responsible for tracking site specific budgets in their region, keeping expenditures within budget and requesting additional funds for new or existing sites, as necessary and as soon as identified. The Statewide HazMat Program Leader is responsible for tracking HZMT budgets statewide, prioritizing cleanup needs and funding requests, and requesting fund re-allocations as necessary to complete cleanup of as many facilities as possible during the biennium.

9 Spill Response & Abandoned Waste

9.1 Spill Response

Region HazMat groups have different spill response duties. In Region 1, Region HazMat provides on call assistance that responds to highway spills around the clock. In Regions 2, 3, 4, and 5, RHC is called by the District if a spill requires ongoing cleanup. The Office of Maintenance directs their employees to notify Region HazMat of all reportable spills that happen at Maintenance yards. Section 3.2 deals with spill response safety requirements. Note that OSHA training is required in order to enter the spill scene per 29 CFR 1910.120

9.2 Abandoned Waste

Litter crews and other ODOT Maintenance workers who find waste abandoned on state highways, are directed to call Region HazMat if the waste looks suspicious or cannot be identified. Region HazMat or a District representative will call a contractor to test and remove such materials. If the waste is a hazardous waste, then it must be disposed of using the RCRA ID# for the nearest Maintenance yard: however, the waste does NOT count towards the yard's monthly totals for its waste generator status. Section 3.3 deals with safety issues for handling abandoned waste and lists wastes that ODOT employees must not touch due to their extremely hazardous nature.

Personal property may be present in waste at illegal campsites. Infectious wastes may be present at these campsites, but may also be present at other locations where dumping is identified. In the event of that situation, reference the ODOT document titled *Guidelines for Removing Personal Property from Illegal Camping on State Highway Rights of Way* (internal ODOT link), and coordinate through District Maintenance. Campsites, and campsite waste, on state highways within the City of Portland should be reported to the City at their Report a Problem website. The City will address the problem using their resources.

Abandoned waste also may be discovered in material source sites, surplus properties, staging yards, or other ODOT facilities. The Maintenance and Operations Branch has an established Environmental Management System (EMS) which governs the management and disposal of this material at Maintenance

yards. Disposal of abandoned waste found at any ODOT property should be coordinated with District Maintenance.

9.3 Funding

Spills with an identifiable responsible party (RP) should be charged to a Claim Against Others (CAO) set up by District maintenance. A CAO may be available for a short period of time after the initial incident. For longer term cleanup efforts, coordinate with statewide Claims Against Others Coordinator and the District. For spills with no identifiable RP and for charges that cannot be covered by a CAO, use the Region Small cleanup fund.

Disposal of abandoned roadside waste (excluding illegal campsite waste discussed above) should be charged to the Region Small Cleanup fund, unless the responsible party can be identified from labels on the abandoned containers. In some cases, Oregon State Police may be able to fund drug lab waste removal.

10 Technical Assistance

Region HazMat may be called upon to provide technical assistance by other Region groups such as Maintenance, Construction, Right of Way, etc. Region Maintenance should provide assistance within their training and areas of expertise. If additional information is needed, call the Statewide HazMat Program Leader, unless otherwise noted below. Typical areas requiring technical assistance are listed below.

10.1 Environmental Management System (EMS)

ODOT Maintenance operates an Environmental Management System (EMS), which includes a guidebook on how to handle typical yard materials and wastes. Implementation of the EMS includes training and periodic audits. The monthly audits are a self-check by the yards. Regional audits are intended to inspect each yard once every three years to determine the effectiveness of the EMS and Region HazMat or Office of Maintenance Environmental Staff should always participate in these audits. Region HazMat should also provide technical assistance to yards that have questions about the EMS, if those questions are within that person's

technical expertise, or should refer such questions to the Office of Statewide Maintenance, Clean Water Program.

10.1.1 Spill Prevention Control and Countermeasure (SPCC)

Some yards with Aboveground Storage Tanks (ASTs) that are located near surface water bodies have SPCC plans to prevent or respond to fuel releases. Questions regarding these SPCC requirements should be referred to the Office of Statewide Maintenance, Clean Water Program.

10.1.2 Documentation

Maintenance yards are responsible for maintaining documentation required for fuel storage, hazardous substance storage and waste generation and disposal for their yard. Such documentation includes annual State Fire Marshals hazardous substance surveys, tanks inspection and testing records, waste characterization, waste generation logs, waste disposal logs and receipts. Region HazMat staff should provide technical support to Maintenance staff completing this documentation.

10.1.3 Audits and Violations

Region HazMat should be available to accompany DEQ or EPA and yard personnel on any yard audits. They should also help yard personnel prepare for such audits and understand any corrective action required. If a yard is audited by a regulatory agency, has a spill or any other regulatory violation, notify the Statewide HazMat Program Leader immediately and follow up with information about violations and fines. The Yard responsible should follow the ODOT Compliance Incident Reporting Process, as soon as possible. For spills, complete the Spill Response Form for Spills in ODOT Maintenance Yards in Appendix H of the ODOT Maintenance Yard Environmental Management System (EMS). The Statewide HazMat Program Leader should provide technical assistance to both Region HazMat and the affected yards to help respond to regulatory concerns and identify appropriate corrective actions.

10.2 Naturally Occurring Hazardous Materials

This section addresses the management of naturally occurring asbestos, but the principles could be expanded to other naturally occurring hazardous minerals as needed. Decisions regarding the potential presence of a naturally occurring hazardous rock or mineral will depend on an understanding of local geology. These procedures may be required when this material is disturbed as part of an unstable slope remediation or generated during a construction project. The Oregon Department of Geology and Mineral Industries (DOGAMI) conducted a Statewide Evaluation of Naturally Occurring Hazardous Materials on behalf of ODOT's Research Unit.

In the event that a material potentially contains serpentinized rocks or erionite (or similar asbestoform minerals), regard the material as "suspect of containing naturally occurring asbestos". ODOT staff will perform a determination regarding asbestos content using multiple lines of inquiry based on local geology, professional experience and judgement, observation of the material and potentially sampling. If this determination concludes that the material is free of asbestos, and meets the definition of Clean Fill (per OAR 340-093-0030(18)), it can be considered clean fill and made property of the contractor per Standard Specification 290.20(c)(2).

If the material likely contains or does contain asbestos, there are two primary options:

1) Leave/place the material as close to the original source as possible with the following considerations:

   A. Minimize handling to the maximum extent practicable.
   B. Establish a HASP that is approved by a CIH and details all worker health and safety requirements per OSHA, and material handling procedures. That HASP must address dust mitigation measures, air monitoring, and worker training.
   C. Keep material moist for maximum dust suppression.
   D. Place the material in a dedicated disposal site that is ODOT owned and secured.

E. Once placed cover with a minimum of 6 inches of cover material, lightly compact, and seed the surface for erosion control. If the placement of material will be repeated over a long term effort, cover the material with a thinner cover before seeding. Do not remove the vegetated cover material before additional NOA material is placed at the site. If placement is a single event, cover with 24 inches of material before compacting and seeding.
F. Document the location and placement in writing and with a map showing the fill material on the property and distribute to affected parties (District Maintenance, Region and Statewide Material Source Program, etc.). In some situations, an Easement and Equitable Servitude may be appropriate.

OR:

2) Transport the material to a DEQ permitted landfill for disposal. All onsite worker health and safety requirements discussed in the option above must be observed.

Additional guidance can be found in these documents:

- Asbestos Dust Mitigation Plan (ADMP) Guidance for Naturally Occurring Asbestos (NOA), Placer County Air Pollution Control District, Revision 14, May 21, 2014.
- Rule 223-2 Fugitive Dust - Asbestos Hazard Mitigation, El Dorado County Air Quality Management District, adopted July 19, 2005, amended October 18, 2005.
- NIOSH, 2019. Dust Control Handbook for industrial minerals mining and processing. Second edition. By Cecala AB, O'Brien AD, Schall J, Colinet JF, Franta RJ, Schultz MJ, Haas EJ, Robinson J, Patts J, Holen BM, Stein R, Weber J, Strebel M, Wilson L, and Ellis M. Pittsburgh PA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019–124, RI 9701.

10.3 Other Maintenance Projects

There may be occasions where HazMat support is requested for statewide or district projects that are funded by Maintenance budgets. This may include excess materials management from a specific project or process, due diligence for a property purchase or sale, material placement or disposal, or some other technical assistance. Maintenance projects do not require that HazMat be involved during project development or execution as this work is largely governed by ODOT's EMS Program and the Environmental Management System Manual. Exceptions to this are when projects require land acquisition either as permanent easement or through fee take, or when contamination is encountered. When land acquisition is needed for a Maintenance project, then an HCMS should be prepared prior to purchasing the property. If the land acquisition is an entire parcel ***and*** a voluntary sale to the State, then a Phase I ESA (per ASTM-1527) should be completed.

10.4 GASB 49 Reporting

The Governmental Accounting Standards Board, Statement No. 49 (referred to as GASB-49) addresses state accounting and financial reporting obligations for pollution remediation. HazMat staff assist in the production of these financial obligations and liabilities on an annual basis for Region projects that have a qualifying obligation according to GASB-49. These obligations are estimates, and TLC will work with Regions to complete these estimates. As cited in the GASB-49, obligating events include the following:

- The government is compelled to take pollution remediation action because of an imminent endangerment.
- The government violates a pollution prevention–related permit or license.
- The government is named, or evidence indicates that it will be named, by a regulator as a responsible party or potentially responsible party (PRP) for remediation, or as a government responsible for sharing costs.
- The government is named, or evidence indicates that it will be named, in a lawsuit to compel participation in pollution remediation.
- The government commences or legally obligates itself to commence pollution remediation.

10.5 Material Source Program Support

HazMat coordinators provide support to the Material Source Program for the following activities:

1. Land acquisition – Conduct an HMCS when acquiring permanent easements or buying land to expand material sources and disposal sites through fee take (see Section 5.5).
2. Spill cleanups resulting from operations in material sources and disposal sites – Provide direction on testing and cleanup requirements, conduct site visits, document cleanup actions for the region files. This process typically follows roadside cleanup processes, where the responsible party (i.e. the contractor using the material source or disposal site) is held accountable for conducting the testing and cleanup. The project contract contains standard language directing the contractor to conduct cleanup if a spill occurs (see Section 9.1).
3. Solid waste cleanup – Consult with the Region material source lead when conducting cleanup/removal actions associated with unauthorized public disposal of solid waste in source (see Section 9.2).
4. Offering a disposal site for excess materials from Maintenance activities or construction projects – Consult with Maintenance or Project Delivery/Construction staff on placement of excess materials in disposal sites. Disposal will be dependent on allowable use at the site, the requirements of the contract, and if the excess material meets clean fill criteria for placement in site.
5. Naturally Occurring Hazardous Minerals – The Materials Source Program may request assistance for waste management or other technical support if naturally occurring hazardous minerals (e.g. asbestos, etc.) are suspected or confirmed at a material source.

10.6 Construction Support

10.6.1 Review of Contractor Submittals

A variety of contractor submittals are specified in several locations in construction bid documents (Pollution Control Plans, Health and Safety Plans,

Lead Compliance Plans, etc.). Many of these documents have a review and comment period where ODOT can submit comments for inclusion to these documents. Reviews to these documents should be limited to required content (based on ODOT, or some other requirement) to make sure that there is nothing missing, that regulatory requirements are being met, and that the scope of the documents match the scope of work in the bid documents. These documents may be reviewed by a variety of qualified staff, but HazMat Staff may be requested to conduct the document reviews (e.g. the REC or RE).

Receipt and review of these documents is not the same as approval. It is the contractor's responsibility to follow all applicable regulations. HazMat staff cannot approve contractor documents, but should acknowledge that they appear to meet regulatory and scope of work requirements. Worker health and safety is the responsibility of the contractors, but ODOT must make a good faith effort to ensure contractors are satisfying environmental and waste management regulations in these plans, as required, and that they do not contain factual errors that are in conflict with other project documents.

10.6.2 Unanticipated Construction Support

There may be situations where unexpected contamination, USTs, UICs, or some other issue is encountered during a construction project that was not anticipated from the studies conducted during project design. These cases will be managed through ODOT under Standard Construction Specification 290.20(f).

These situations should be infrequent, but are always a possibility. Work with your Area Resident Engineer and/or Construction Project Manager and regulatory program contact to resolve the issue as efficiently as possible.

10.7 UIC

UICs that are addressed on ODOT projects are subject to the conditions of ODOT's Water Pollution Control Facilities (WPCF) Permit for Class V Stormwater Underground Injection Control Systems ("UIC permit"). UICs may be owned and operated by ODOT, they may become ODOT-owned if they are on land that will be acquired by ODOT, or they may be privately owned when outside existing ROW that is impacted by construction. ODOT Technical Bulleton GE07-03(B)

describes the requirements and process for handling UICs to maintain compliance with the UIC permit.

UIC designs can vary widely depending on the intended purpose, geographic location, age, and material availability. UICs can be constructed as vertical or horizontal features, and may be large or small, depending on the nature of the water stream being discharged. Older UICs may have been constructed using unconventional construction techniques, and from a wide range of materials that were likely those readily available at the time of construction. Keep an open mind about what a UIC could look like.

UICs that are identified as part of HazMat investigations conducted during preliminary design should be reported to ODOT's Senior Stormwater Hydraulic Engineer. To the extent possible, try to determine the class (UIC type and use), size, and whether the UIC(s) are already registered/permitted with DEQ. The ODOT Senior Stormwater Hydraulic Engineer will assist in determining if a UIC is listed in ODOT's UIC inventory, and if it's not in the inventory, determine whether it needs to be.

In addition to Class V stormwater UICs, ODOT's UIC permit covers the closure of all other classes of UICs. Follow the registration or decommissioning steps in Technical Bulletin GE07-03(B) if the UIC will be addressed during preliminary design, in advance of construction. If the UIC will be addressed during construction, prepare Special Provision 00299 to inform the construction contractor of decommissioning requirements.

UICs that are discovered during construction will also be addressed following the registration or decommissioning steps in Technical Bulletin GE07-03(B). Notify the ODOT Senior Stormwater Hydraulic Engineer of the discovery to determine if registration is required. Work with the ODOT Resident Engineer overseeing the construction project to aid in preparation of a contract change order to add UIC decommissioning to the project. Use Special Provision 00299.

UICs on private-property may still be in use, or connected to a broader system that is still in use. Work with the ODOT Senior Right of Way Agent for the project regarding potential conflicts with planned or ongoing construction to ensure that a privately-owned, active UIC is not inadvertently decommissioned.

A licensed geologist or engineer is required to oversee all work related to UIC decommissioning. Refer to the DEQ UIC fact sheet titled "Closure of an Injection System" for decommissioning and reporting requirements. The licensed geologist or engineer will need to provide the UIC decommissioning report to the ODOT Senior Stormwater Hydraulic Engineer and the ODOT Clean Water Coordinator, who in turn will include the UIC decommissioning report in ODOT's annual report to DEQ as required by the UIC permit.

11 ODOT HazMat Program and Other Important Contacts 2020

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12 Figures

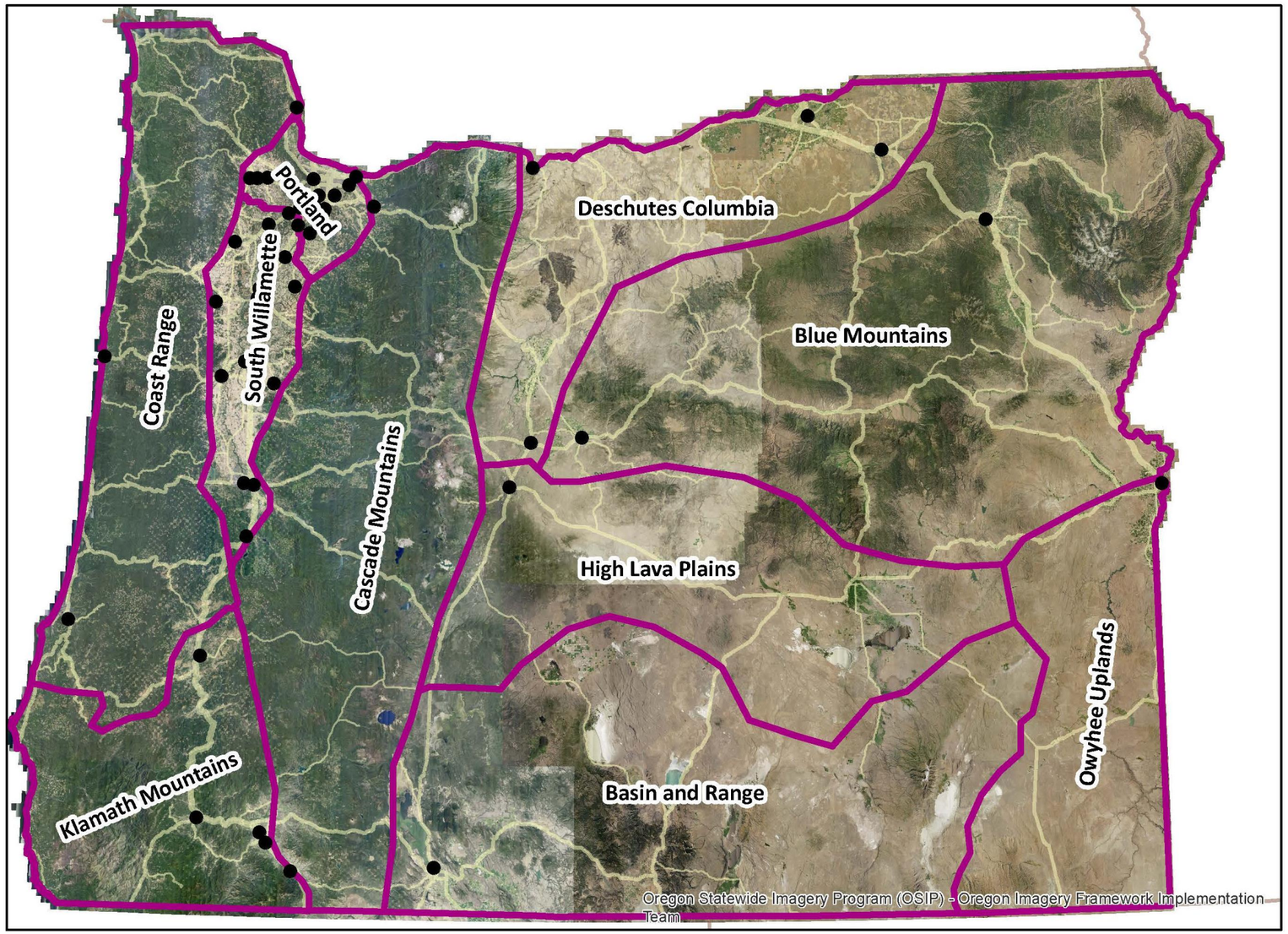

Figure 1 Physiographic Provinces

13 Appendices

Appendix A –Quality Control of HazMat Products

Appendix B –Shoulder Soil Investigation Background Information

ODOT provides a safe and reliable multimodal transportation system that connects people and helps Oregon's communities and economy thrive.

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