

1. INTRODUCTION

This Guidance document describes how to complete a Hazardous Material (HazMat) Analysis Report for Washington State Department of Transportation (WSDOT) projects in a two-step standardized process. This standardized process will limit redundancy, reduce the level of effort to compose the report, assist in “right-sizing” the report, and produce more consistent results. The term right-sizing is used to reflect the level of detail of the documentation that should be prepared without creating a lengthy report when not needed.

HazMat Analysis Reports are broad in scope and identify sites of concern, particularly those located along right-of-way of a project corridor that have documented or potential contamination based on current or historical practices. **The purpose** of the HazMat Analysis Report is to identify and evaluate known or potentially contaminated sites that may 1) adversely affect the environment, 2) create significant construction impacts, and/or 3) incur cleanup liability to the department. **The objective** of the HazMat Analysis Report is to conduct an appropriate level of investigation and provide sufficient documentation necessary to allow WSDOT staff to make informed decisions regarding the selection of alternatives, or mitigation measures and/or the necessity of initiating early coordination with relevant regulatory agencies.

Background

HazMat Analysis Reports are a type of environmental documentation that is prepared to satisfy National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA) requirements for a project. The intent of NEPA is to ensure that the environmental costs are considered. The necessary level of NEPA/SEPA documentation¹ is evaluated during the project scoping phase. The Environmental Review Summary (ERS) and Environmental Classification Summary (ECS) forms are completed by staff at the Regional Environmental Offices during project scoping. Further Guidance for completing the Hazardous Materials section of ERS/ECS forms is contained in the Environmental Manual Chapter 447:

<http://www.wsdot.wa.gov/publications/manuals/fulltext/M31-11/447.pdf>

Even if a HazMat Analysis Report is not required as part of NEPA or SEPA, conducting a hazardous materials investigation allows WSDOT to make good business decisions when managing project dollars. Hazardous materials can have significant cost impacts during construction and potential long-term liability for management and/or cleanup of contaminated properties. A complete investigation of hazardous material impacts and alternatives should be completed during the project design and environmental review phase. The findings will allow transportation staff to make informed decisions before the agency commits significant resources.

2. REPORT PROCESS

HazMat Analysis Reports should be completed in two steps. The first step evaluates the affected environment (i.e., existing conditions), standard impacts, and standard mitigation measures. The

¹ As stated in 40 CFR 1502.2, “Impacts shall be discussed in proportion to their significance” and that “in a finding of no significant impact, there should be only enough discussion to show why more study is not warranted.”

second step evaluates project-specific impacts and mitigation measures and determines appropriate cost estimates. The decision to move forward to the second step is based on the results of the first step and project-specific circumstances.

All reports or documentation regardless if the ECS is the sole justification must conclude that all potentially significant impacts have been considered and the report documents conditions that may present a significant unavoidable adverse impact that cannot be reasonably mitigated for.

A full-scale HazMat Analysis Report is not necessarily required to satisfy NEPA documentation requirements. Acquisition plans, project location, and the type of work influences the potential risks for impacts to the environment and construction project. General conditions regarding varying degrees of documentation are provided below.

HazMat Analysis Reports are prepared early in the project development phase, when many elements of a project are subject to change, such as design and acquisition plans, and funding priorities. Thus, Analysis reports older than two years should be re-examined to determine whether revisions are necessary prior to any major action, such as approval of the design summary, plans, specifications and estimates (PS&E), or right-of-way (ROW) purchase. In addition, revisions or updates are required if project changes (e.g., new alignments, acquisition areas or excavation work) arise that were not previously addressed in the original document. Revisions may be incorporated as an addendum to the original report. For additional guidance on the level of documentation appropriate for a project, contact your WSDOT HazMat Specialist.

3. REPORT "RIGHT-SIZING"

Most WSDOT projects will fall under the classification of Category Exclusion (CE) or Documented Categorical Exclusion (DCE). The investigation for the HazMat Analysis Report or environmental documentation should be "right sized" to fit each project. The environmental documentation must be thorough enough to provide the data necessary to recognize and assess the impact of the project. The level of detail is based on the complexity and size of the project, severity of potential contaminants, potential sites of concern, and any other project specific project needs. A checklist of items to include in the HazMat Analysis Report is outlined and presented in Attachment A of this document.

No formal documentation may be appropriate in some instances. The sole documentation can be the Environmental Classification (ECS) form which is completed by the WSDOT Regional Environmental office. This is typical for projects classified as a Categorical Exclusion or Documented Categorical Exclusion. The decision not to produce a report should be made in consultation with the Hazardous Materials Program and the rationale must be documented in the project file on the ECS form. A report may not be needed when the project:

- does not require new acquisition of land, and
- does not require excavation below the existing ground surface, and/or
- is located in a completely undeveloped area (i.e., no buildings, parking or storage areas, & agriculture (other than grazing), based on historical research.

Even if no formal environmental documentation is required or when conducting a lower level report, the initial screening process using the [Ecology Facility Site Database](#) should be conducted to evaluate if a potential site of concern will have an impact to the project which may require mitigation. The initial screening process narrows the long list to a subset of sites that warrant further investigation. Sites of concern and their potential to impact the project during construction are screened based on the judgment of an Environmental Professional using the following criteria:

- Project Description/Details – What work is proposed for this project (i.e. constructing bridge piers, lane expansions, utility decommission or paving, etc.)?
 - Depth of Excavations – This is listed in relation to the project description and the potential of encountering groundwater.
- Property Acquisition – Will the project require property acquisition? If not, please indicate this in the documentation.
 - Distance and Location – How far is the site of concern from the proposed project footprint?
- Hydrology – Will groundwater be encountered, and dewatering anticipated? Is the direction of groundwater flow known?
- Site Screening Methodology – Explain the process for considering a site as a potential concern or why it was eliminated.
- Impacted Media – What medium has been identified as contaminated (soil, groundwater, and/or surface water)?
- Chemicals of Concern – What type of contamination is present in the area (e.g., petroleum hydrocarbons, and solvents)?

A lesser level or low level (i.e. HazMat Technical Memorandum or brief HazMat Analysis report *no more than 6-8 pages*) of evaluation and documentation may be appropriate when a project:

- Requires minor strip takes of temporary or permanent acquisition of property
- Involves minor amounts of excavation below existing grade (e.g., guardrail installation, utilities, and illumination bases)
- Is located in a primarily residential or undeveloped area

A full-scale HazMat Analysis Report is typically necessary and a more detailed investigation is required above a moderate-level report when a project:

- Requires large portions of permanent or temporary property acquisition
- Has large amounts of excavation below existing grade
- Is primarily located in a developed area, where current and past land use is industrial, commercial and residential

The research of a Hazardous Materials Analysis Report is similar to the American Society for Testing and Materials (ASTM) 1527 standard for conducting a Phase I Environmental Site

Assessment (ESA). Similar to a Phase I, the investigation includes regulatory and historical use information to identify environmental conditions. Assessing environmental conditions helps evaluate the potential for contamination to exist on a property and prompts additional research to determine whether there is a concern with respect to construction activities and/or cleanup liability associated with acquisition.

Site Screening

Instead of a project footprint, some WSDOT projects establish a “Study Area” [or an Area of Potential Effect (APE)] for preparing an environmental impact statement (EIS) or environmental assessment (EA). An EIS/EA must cover a wide range of disciplines that typically results in a defined study area that is larger than the actual project design footprint. Project footprints and study areas can be smaller than the defined regulatory record search radius standards in ASTM 1527 (Section 8.2.1) that WSDOT requires for Hazardous Materials Analysis Reports (e.g., 1-mile search radius for Superfund sites). The environmental professional preparing a Hazardous Materials Analysis Report must get clarification from the project office about the specific, defined boundaries for the project.

Each site should be analyzed individually. The Analysis Report must document additional criteria used to automatically eliminate sites from further review. After screening, a preliminary list of sites of concern that have the potential to impact the environment, project construction and WSDOT’s liability is completed and a risk analysis is applied to the sites of concern. If using an Environmental Data Resource (EDR) report, the results should be saved on an electronic device and attached as an appendix to the report. Generally for low-level reports, an Ecology online database review should be sufficient to satisfy NEPA documentation requirements.

Risk Analysis

A “Risk Analysis” helps prioritize sites and determine the need for avoidance, remediation, and mitigation options. Evaluating risk entails taking site specific information, making reasonable assumptions, while considering planned project design and activities and evaluating environmental effects and associated construction schedule delays, costs and agency liability. The risk categories (Low, Moderate or High Impact) are provided below:

- **Low Impact:** This risk level identifies sites of concern where the likelihood for the site to impact the project is low because there was no evidence to suggest that groundwater from the site of concern is impacted, or the contamination from offsite migration is not expected to impact the project during construction.
- **Moderate Impact:** This risk level identifies sites of concern where the likelihood for the site to impact the project is moderate because of type or extent of contaminant, groundwater from the site of concern is impacted and has a reasonable potential to impact the project footprint from offsite migration of groundwater, but there is no conclusive evidence.
- **High Impact:** This risk level identifies sites of concern that may be substantially contaminated and will create a major liability for WSDOT either in construction liability or by virtue of acquiring all or a portion of the site. If the site has undergone a detailed investigation and a feasibility study, the impacts and remediation costs may already be

predicted. Nonetheless, the site is identified as a high impact site because of its potentially substantial impact or liability.

In general, high impact sites are properties that may have large volumes of contaminated soil, groundwater, or sediment or properties that have multiple complex types of contaminants that require special handling and disposal that is expensive to manage. High impact sites include properties where the information necessary to predict remedial costs is lacking and/or the contaminants are persistent, or expensive to manage.

The risk evaluation should also assess the level of complexity mitigation measures will have to the project for each site.

- **Straightforward:** Sites determined to be straightforward are typically small to medium in size and the potential contaminants are not extremely toxic or difficult to treat. Examples of straightforward sites are gas stations, auto repair shops, most USTs, ASTs, buildings with asbestos or materials that contain lead-based paint.
- **Complicated:** Sites determined to be complicated consist of sites with widespread contamination or potential contaminants are difficult to treat. Complicated sites will typically involve additional research, investigation and possibly regulatory involvement. Examples of complicated sites are dry cleaners, wood treating operations, metal plating facilities, or other operations that use or used large amounts of hazardous materials.

Agency Website Review and File Review

Whether preparing a low level or full-scale environmental document, an Ecology website and Ecology file review should be performed to obtain additional site specific information on moderate or high risk sites. Website and file reviews are typically necessary for moderate and high risk sites that:

- Have insufficient information,
- Are listed on a state or federal cleanup database (e.g., SWHS, LUST, NPL, etc.) that are located immediately adjacent or hydraulically upgradient to the project, or
- Are locations where ground disturbance or acquisition is planned

The website review can provide additional information not available in the regulatory database search, such as summary information on a site of concern. The online website review may provide sufficient information to eliminate a site as a concern, and reduce the need for completing the agency file review. Those conducting investigations and writing environmental reports may find site information and publications located in Ecology's online Toxics Cleanup Program Web Reporting database in the "view site documents" section. The agency file review should be completed after the website review on moderate and high risks site. A review of agency records should include documentation of the following items, as available:

- Brief summary of recent sampling activities and results;

- Recorded depths to groundwater; Soil types and geology of the site²;
- Details and/or conditions of a No Further Action (NFA) determination;
- Details regarding USTs such as year of installation, number of years of operation, year of removal, number and size of tanks, type of product stored; and
- Copies of maps or drawings that illustrate locations of ASTs/USTs and associated piping, former building structures, contaminant plumes, areas of excavation for removal or cleanup activities, or other drawings that identify sources contamination within project excavation areas or acquisition properties.

A description for each site identified during the research phase that poses a risk (impact) to the environment, construction project or WSDOT's liability should be included in a Site Summary Table. This assessment should also take into consideration planned acquisition areas (e.g., purchasing property strips or total parcels) and construction activities (e.g., cut and fill lines and approximate excavation depths).

The Site Summary Table should document the following as available:

- Site Name, Map ID, Database Listing, Proximity (distance and gradient) to the project area;
- Planned construction activities at the site (excavation, acquisition, etc.);
- Current/past land use at the site;
- Listing on regulatory database;
- Potential Contaminants of Concern;
- Impacted Media (soil, groundwater, or sediments);
- Potential distribution of contaminants based on existing physical environment (e.g., topography, groundwater depth, distance and gradient to project) and documented details obtained through Ecology website and file review;
- Evaluation of risk with specific concern stated; and
- Recommendations for further investigation.

Impacts and Mitigations

The intention of completing the impacts and mitigation sections in the format shown below is to 1) fulfill NEPA requirements, 2) provide construction-related impacts and mitigation to the project office and 3) provide acquisition liability impacts and mitigation measures to the WSDOT real estate office. The decision to vary from the above format should be made in coordination with the WSDOT Hazardous Materials Program.

A preliminary evaluation for the type of impacts to the project is completed in the first step during the development of the Analysis Report. If project-specific impacts are not established, a report including a summary of the affected environment, standard impacts and mitigation (in appendix of report) and recommendations for further investigation and associated costs is

² The soil type and geology of the site (a.k.a. physical setting) influences the fate and transport of hazardous materials released to the environment. In general, the physical environment controls the behavior and movement of contamination through environmental media (soil and groundwater). This includes: 1) mobility of chemicals, 2) rate of degradation for chemicals in the environment, and 3) preferred pathways for contaminants to transport away from the point of release. If site-specific soil type and geology are not available in regulatory files, general area information may be found in the Project's Soils and Geology Report.

developed. The second step evaluates project-specific impacts and mitigation measures and the appropriate cost estimates. The decision to move forward to the second step is based on the results of the first step and project-specific circumstances. In the second step, a report including a summary of the affected environment, project-specific impacts and mitigation measures with associated costs, and recommendations for further investigations and associated cost is developed.

The report should include three separate discussions for each alternative design in the Impacts and Mitigation Measures sections:

- 1) Environment/Sensitive Receptors Impacts and Mitigation Measures
 - Direct
 - Indirect (Operational)
 - Cumulative
- 2) Construction Impacts and Mitigation Measures
- 3) Agency Liability Impacts and Mitigation Measures

For additional guidance on the level of documentation appropriate for a project, contact your WSDOT Hazardous Materials Specialist.