# Application: This template is used when the Certified LPA owns the contract on a federal funded project.

**Version Date: 6/27/22**

**GENERAL INSTRUCTIONS:**

* Yellow highlighted areas include instructions that should be deleted prior to release.
* Blue highlighted areas indicate text or fields that need information provided or revised.
* “Agency” means the Certified LPA as defined in the CLPA Contract.
* **Delete instructions throughout the document before executing Contract or amendment. Deletions can be automated as follows:**
	+ From the “Edit” menu (or “Editing” menu on the “Home” ribbon) select “Replace”;
	+ With cursor in the “Find what” field, click “More” button, then “Format”, then “Font”, then in the font field select “Times New Roman” text;
	+ Leave the “Replace with” field blank;
	+ Click “Replace All”. This will delete all yellow highlighted text.

**PROJECT-SPECFIC INSTRUCTIONS:**

* The template language must be revised if needed for specifics applicable to the current project (including deletion of requirements that don’t apply to the current project).
* Not all subtasks are needed for each project.  If an entire subtask is not needed, leave the task number, add “RESERVED” after the subtask title, and delete all subtask text.

**Task 3.4 HAZARDOUS MATERIALS**

This work is intended to identify potential sources of environmental contamination (hazardous waste, hazardous substances, toxic substances and other hazardous materials regulated under federal and State statutes and regulations/administrative rules) that could impact the Project.

Performance of this task must be in accordance with ODOT’s HazMat Program Manual (see Section B list) and applicable industry standards. Deliverable submittals must be in an electronic format (Word and PDF).

The purpose of this task is to facilitate Agency compliance with environmental regulations pertaining to site cleanup and waste management. The Services to be provided shall include:

* Conduct a Hazardous Materials Corridor Study to identify potential sources of contamination that could impact property acquisition or construction.
* Inspect Bridge No. \_\_\_\_\_\_\_ for lead-based paint and asbestos containing materials.
* Conduct geophysical surveys to identify potential underground storage tanks or buried debris.
* Collect surface soil samples from road shoulders to determine if the soil meets Oregon Department of Environmental Quality (“DEQ”) standards for clean fill.
* Conduct site-specific subsurface investigations to determine if soil or groundwater are contaminated within the project corridor.
* Prepare contract bid documents for handling and disposal of contaminated materials.

**3.4.1 Hazardous Materials Corridor Study**

Consultant shall conduct a Hazardous Materials Corridor Study (“HMCS”) according to the following standards and guides:

* “Hazardous Waste Guide for Project Development”, by the American Association of State Highway and Transportation Officials (“AASHTO”) Special Committee on Environment, Archaeology and Historic Preservation.
* “ODOT Hazmat Program Procedures Guidebook,” Oregon Department of Transportation.
* “Level 1 Corridor Study” report template, Oregon Department of Transportation.
* And the requirements listed below.

Consultant shall conduct a site reconnaissance to identify potential sources of contamination that could impact construction or result in Agency acquiring contaminated property.

Consultant shall review available federal and State environmental databases to identify sites that could potentially impact the project, using the minimum search radii listed below.

| Environmental Database | Search Radius |
| --- | --- |
| State-Equivalent NPL List (ECSIS) | 0.5 mile |
| Oregon Permitted Landfill List | 0.5 mile |
| State Leaking (L)UST List | 0.25 mile |
| Federal RCRA Generators List | Site and Adjoining |
| State Fire Marshal’s Spill Response List | Site and Adjoining |
| Oregon Motor Carrier Spill List | Site and Adjoining |
| State Certified UST List | Site and Adjoining |

Consultant shall review DEQ files, available using DEQ’s Facility Profiler web site at <http://deq12.deq.state.or.us/fp20/>, to determine whether contamination from adjacent facilities is likely to impact project construction. Alternatively, this review may be conducted using commercially available database reports such as provided by EDR.

Consultant shall review the Oregon Water Resources Department on-line database at <http://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx> to determine if water wells or monitoring wells are located on or adjacent to the project corridor.

Consultant shall review project files at the appropriate DEQ Region office, based on the project location, for all facilities considered to be high risk for impacting project construction. Consultant shall use DEQ file information to delineate contaminated areas within the project corridor and identify if that information is sufficient to develop construction plans and specifications without additional sampling.

Consultant shall conduct historical research to identify past uses of the project corridor and adjacent properties, using one or more of the following resources:

* Sanborn Fire Insurance Maps
* Aerial Photographs
* Reverse Agency Directories
* Historic property ownership/occupancy records or building permits

The resource(s) selected must, if possible, provide historic information regarding land use back to 1935 at 10 year intervals, or the Consultant must demonstrate that such information is not readily available.

Consultant shall review pertinent records that may be made available by the Agency as they relate to the environmental condition of the project corridor.

Consultant shall assess if soil sampling is necessary to determine if soil excavated from the project corridor shall meet DEQ clean fill screening levels for contaminants-of-concern including pesticides, herbicides, metals, polynuclear aromatic hydrocarbons, petroleum hydrocarbons, and solid waste.

Consultant shall prepare a HMCS report summarizing the information obtained through the activities listed above, using ODOT’s Corridor Report Template available under “Guidance Materials” at <https://www.oregon.gov/odot/GeoEnvironmental/Pages/Haz-Mat.aspx>. The report shall include photographs documenting project corridor observations. The report must include conclusions that identify specific sources of contamination that could impact project construction and recommendations for further investigation, if needed.

**3.4.1 Consultant Deliverables and Schedule:**

* Draft HMCS report to REC and APM within 8 weeks following Notice to Proceed (“NTP”).
* Final HMCS report to REC and APM within 1 week following receipt of draft review comments.

**3.4.2 – American Society for Testing and Materials (“ASTM”) Phase I Environmental Site Assessment (“ESA”)**

Consultant shall prepare a draft and final ASTM Phase I ESA for Agency acquisition parcel(s). Consultant shall complete work in accordance with the ASTM International E1527-13 Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process (see Section B list). As the ASTM standards are revised or updated, Consultant shall apply the most recent ASTM Standard Practice.

**Environmental database search**

Consultant shall review available federal and state environmental records for identified hazardous waste sites using government web-based databases or using a commercial database search report. At a minimum the Consultant shall use the search radii set forth in the table below (see Section B list). Consultant shall review DEQ files for all sites identified as high or medium priority that could impact the Project acquisition parcel(s) to determine the nature and extent of contamination.

| Database Record | Search Radius |
| --- | --- |
| Federal RCRA Generators List | Acquisition parcel(s) and adjoining properties |
| DEQ Environmental Cleanup Site Information Database | 1.0 mile |
| State Fire Marshal’s Spill Response List | 0.5 mile |
| Oregon Permitted Landfill List | 0.5 mile |
| State Leaking Underground Storage Tank (“LUST”) List | 0.5 mile |
| State Certified UST List | Acquisition parcel(s) and adjoining properties |

**Site reconnaissance**

Consultant shall conduct a site reconnaissance that consists of systematically traversing the acquisition parcel(s) and viewing adjacent properties from roadways and public access areas. The final report must include photographs documenting the observations of Project acquisition parcel(s). Consultant shall use the reconnaissance to identify potential sources of contamination that could impact the proposed Project during construction or that could result in Agency acquiring contaminated property. Consultant shall not enter any private property or contact the property owners or occupants without a permit of entry that Agency supplies.

**Historical research**

Consultant shall conduct historical research to identify past uses of the Project acquisition parcel(s) and adjacent properties. Such research must include 1 or more of the following:

* Sanborn Fire Insurance Maps (see Section B list)
* Aerial photographs
* Reverse city directories
* Historic property ownership/occupancy records or building permits
* Other historic resources

The resource (or combination of resources) that Consultant selects must, if possible, provide historic information regarding land use back to at least 1940 at 5-year intervals, or Consultant shall demonstrate that such information is not readily available.

**ASTM Phase I ESA report**

Consultant shall prepare a draft ASTM Phase I ESA report for Project acquisition parcel(s) summarizing the information that Consultant obtained through prior tasks. The report must include field observations, environmental database information, historic land use, a scaled map showing the location of all identified potential sources of contamination, photographs, copies of historic data, copies of state and federal databases, copies of relevant portions of DEQ files for sites that may impact the Project, and any other relevant documentation.

The report must include conclusions that identify specific sources of contamination that could impact the Project acquisition parcel(s) or the proposed construction work. The report must also include recommendations for further investigation or remediation, along with cost estimates for such work. The report must summarize the findings in accordance with ASTM-recommended methodologies.

**3.4.2 Consultant Deliverables and Schedule:**

* Draft ASTM Phase 1 ESA report to REC and APM within 8 weeks following NTP.
* Final ASTM Phase 1 ESA report to REC and APM within 1 week following receipt of draft review comments.

**3.4.3 – Level 1 Initial Site Assessment (“ISA”)**

Consultant shall prepare a draft and final Level I ISA for Agency acquisition parcel(s), where ASTM Standards and Liability Protections are not required. Consultant shall complete work according to generally accepted environmental procedures as outlined in the Hazardous Waste Guide for Project Development (, see Section B list), by the AASHTO Special Committee on Environment, Archaeology and Historic Preservation.

**Environmental database search**

Consultant shall review available federal and state environmental records for identified hazardous waste sites using government web-based databases or using a commercial database search report. At a minimum Consultant shall use the search radii set forth in the table below (see Section B list). Consultant shall review DEQ files for all acquisition sites identified as high or medium priority that could impact the Project acquisition parcel(s) to determine the nature and extent of contamination.

| Database Record | Search Radius |
| --- | --- |
| RCRA Generators List | Acquisition parcel(s) and adjoining properties |
| DEQ Environmental Cleanup Site Information Database | 1.0 mile |
| State Fire Marshal’s Spill Response List | 0.5 mile |
| Oregon Permitted Landfill List | 0.5 mile |
| State Leaking Underground Storage Tank (“LUST”) List | 0.5 mile |
| State Certified UST List | Acquisition parcel(s) and adjoining properties |

**Site reconnaissance**

Consultant shall conduct a site reconnaissance that consists of systematically traversing the acquisition parcel(s) and viewing adjacent properties from roadways and public access areas. The final report must include photographs documenting observations of Project acquisition parcel(s). Consultant shall use the reconnaissance to identify potential sources of contamination that could impact the proposed Project during construction or that could result in Agency acquiring contaminated property. Consultant shall not enter any private property or contact the property owners or occupants without a permit of entry that Agency supplies.

**Historical research**

Consultant shall conduct historical research to identify past uses of the Project acquisition parcel(s) and adjacent properties. Such research must include 1 or more of the following:

* Sanborn Fire Insurance Maps (see Section B list)
* Aerial photographs
* Reverse city directories
* Historic property ownership, occupancy records or building permits
* Other historic resources

The resource (or combination of resources) that Consultant selects must, if possible, provide historic information regarding land use back to at least 1940 at 5-year intervals, or Consultant shall demonstrate that such information is not readily available.

**Level 1 ISA report**

Consultant shall prepare a Level 1 ISA Report according to the following standards and guides (see Section B list):

* Hazardous Waste Guide for Project Development by the AASHTO Special Committee on Environment, Archaeology and Historic Preservation
* ODOT HazMat Program Manual

Consultant shall prepare a draft Level 1 ISA report for Project acquisition parcel(s) summarizing the information that Consultant obtained through prior tasks. The report must include field observations, environmental database information, historic land use, a scaled map showing the location of all identified potential sources of contamination, photographs, copies of historic data, copies of state and federal databases, copies of relevant portions of DEQ files for sites that may impact the Project, and any other relevant documentation.

The report must include conclusions that identify specific sources of contamination that could impact the Project acquisition parcel(s) or the proposed construction work. The report must also include recommendations for further investigation or remediation, along with cost estimates for such work.

**3.4.3 Consultant Deliverables and Schedule:**

* Draft Level 1 ISA report to REC and APM within 8 weeks following NTP.
* Final Level 1 ISA report to REC and APM within 1 week following receipt of draft review comments.

**3.4.4 – Minimal Assessment Memorandum (“MAM”)**

Consultant shall prepare a MAM according to the following standards and guides (see Section B list):

* Hazardous Waste Guide for Project Development, by the AASHTO Special Committee on Environment, Archaeology and Historic Preservation
* ODOT HazMat Program Manual
* Minimal Assessment Memorandum template, ODOT

Consultant shall conduct site reconnaissance [insert whether through in-person visit or street view remote option] to identify potential sources of contamination that could impact construction.

Consultant shall review available federal and state environmental databases to identify sites that could potentially impact the Project. Search radii are for each environmental database listed below.

| Environmental Database | Search Radius |
| --- | --- |
| Environmental Cleanup Site Information ("ESCI")[NPL] | Site and adjoining |
| Oregon Permitted Landfill List | Site and adjoining |
| State Leaking Underground Storage Tank (“LUST”) List | Site and adjoining |
| Federal RCRA Generators List | Site and adjoining |
| State Fire Marshal’s Spill Response List | Site and adjoining |
| Oregon Motor Carrier Spill List | Site and adjoining |
| State Certified UST List | Site and adjoining |

Consultant shall review DEQ files, available using DEQ’s Facility Profiler website (see Section B list), to determine whether contamination from adjacent facilities is likely to impact Project construction. Alternatively, Consultant may conduct this review using commercially available regulatory database reports. The MAM must review and discuss information that DEQ published for Environmental Cleanup Site Information (“ECSI”) sites and UST sites to further evaluate whether the Project has the potential to encounter contamination associated with listed sites.

Consultant shall review the Oregon Water Resources Department (“OWRD”) on-line database (see Section B list) to determine whether water wells or monitoring wells are located on or adjacent to the Project area.

Consultant shall submit a public information request to DEQ for all facilities considered to have a high risk of impacting Project construction. Consultant shall use DEQ file information to delineate contaminated locations adjacent to the Project area and identify whether that information is sufficient to develop construction plans and specifications without additional sampling.

Consultant shall review pertinent records that Agency may make available as they relate to the hazardous materials condition of the Project area.

Consultant shall assess whether soil sampling is needed to determine whether excavation of soil from the Project area will meet DEQ clean fill screening levels for potential contaminants-of-concern. Consultant shall indicate which contaminants are a concern and therefore which contaminants Consultant shall evaluate during soil sampling.

Consultant shall prepare a MAM summarizing the information that Consultant obtained through the activities listed above, using Agency’s MAM template. The MAM must include photographs documenting the Project area observations. The MAM must include conclusions that identify specific sources of contamination that could impact Project construction and recommendations for further investigation, if needed.

**3.4.4 Consultant Deliverables and Schedule:**

* Draft MAM to REC and APM within 8 weeks following NTP.
* Final MAM to REC and APM within 1 week following receipt of draft review comments.

**3.4.5 – Shoulder Soil Investigation**

Consultant shall perform the following tasks to evaluate handling and disposal options for surface and near-surface shoulder soil within Project limits. This evaluation may involve the collection of surface and near-surface soil samples within the limits of the Project corridor for laboratory analysis. Comparison of the results of the analyses with the DEQ guidelines will determine whether surface soil excavated for Project construction can be handled and disposed as clean fill.

Shoulder Soil Investigations must be completed in accordance with the ODOT HazMat Program Manual (see Section B list).

**3.4.5.1 – Shoulder Soil Investigation Work Plan and Health and Safety Plan (“HASP”)**

Consultant shall prepare a Shoulder Soil Investigation Work Plan and a HASP describing how to collect samples for Task 3.4.5.2 – Sample collection and reporting. The Shoulder Soil Investigation Work Plan must describe sample collection methods, sampling equipment, equipment decontamination, and handling and shipment of samples. Consultant shall complete the HASP in accordance with 29 CFR 1910.120, OAR 437-002-0100 *et seq.*, and all other state and federal worker health and safety regulations applicable for Task 3.4.5.2 – Sample Collection and Reporting (see Section B list). The HASP must reflect the sampling and characterization activities described in the Shoulder Soil Investigation Work Plan. The HASP must cover the activities of all Consultant, subconsultant, and Agency employees. The HASP must include a traffic control plan, if needed.

Consultant shall obtain all required permits from Agency (District X) before initiating fieldwork activities. The District X contact person is:

\_\_\_\_\_\_\_\_\_\_\_\_, Permits Specialist

\_\_\_\_\_\_\_\_\_\_\_\_\_@odot.state.or.us

\_\_\_\_\_\_\_\_\_\_, OR 97\_\_\_

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**3.4.5.1 Consultant Deliverables and Schedule:**

* Draft Shoulder Soil Investigation Work Plan and HASP and APM within 4 weeks following NTP.
* Final Shoulder Soil Investigation Work Plan and HASP to REC and APM within 1 week following receipt of draft review comments. Consultant shall not proceed with any fieldwork activities under this task until after Consultant has received written authorization email from Agency.

**3.4.5.2 Sample Collection and Reporting**

[Select 1 of the 2 options below and delete the other option. The selected option will depend on the area of the state, the quality and type of data required, and Project needs. Verify which option is most appropriate for the Project with the Regional HazMat Geologist or Coordinator.]

[Option 1]

Consultant shall collect surface soil samples from up to XX locations. Consultant shall provide flagging and traffic control as needed to complete sample collection. At each location, Consultant shall collect samples at XX feet and XX feet from edge of pavement. Consultant shall obtain soil samples from XX feet and XX feet below ground surface. Consultant shall mark the proposed sample locations in white paint and obtain utility locates for all locations. Consultant shall backfill sample locations with excavation spoils. Consultant shall generate no IDW. Consultant may dispose of equipment decontamination water on-site, unless indications of contamination (e.g., staining, sheen) were observed during sampling or equipment decontamination.

Consultant shall ship the discrete samples to Pace Analytical (formerly ESC Lab Sciences) in Mt. Juliet, Tennessee, where Pace Analytical shall composite them into as many as XX groups based on depth and distance from edge of pavement. Analysis of the composite or grab samples must include analysis for the following:

[Adjust the bulleted list of analytes below based on anticipated or suspected contaminants that will likely be encountered. The minimum list of analytes must include PAHs by Method 8270 SIM and total arsenic, cadmium, chromium, copper, lead, and zinc. Additional potential contaminants-of-concern can be added based on information gathered in the HMCS, Phase I ESA, Level 1 ISA, etc.]

* NWTPH-Gx, NWTPH-Dx, Method 8270 SIM PAHs, Method 8151 herbicides, Method 8081 pesticides, Method 8082 polychlorinated biphenyls (“PCBs”), and total metals according to Methods 6020 and 7471A (see Section B list).
* Total metals analyses must include antimony, arsenic, barium, cadmium, chromium, copper, lead, selenium, silver, zinc, and mercury.

Consultant shall submit samples using the state’s chain-of-custody form, which must indicate that the laboratory shall bill Agency directly and must request a turnaround time of 10 business days. Consultant shall indicate on the chain-of-custody form that detection limits for each analysis must be below the clean fill screening levels set forth in DEQ’s Clean Fill Determination Internal Management Directive document (see Section B list). Consultant shall ship samples under chain-of-custody procedures, such that the samples arrive at the laboratory undamaged. Agency will pay all shipping costs directly to the laboratory.

Consultant shall prepare a Shoulder Soil Investigation (“SSI”) report summarizing the results of this task. The report must include the following:

* Field observations, photographs, detailed sample locations, description of sampling methods, laboratory reports, figures showing Project site location and sample locations, and tables summarizing the analytical results
* Evaluation of the laboratory results compared to DEQ’s clean fill screening levels
* Conclusions that identify specific sources of contamination that could impact Project construction.
* [Consult with Region HazMat Coordinator if the SSI report requires recommendations for handling and disposal of contaminated surface soil generated during construction. Consultation will focus on handling and disposal recommendations and establish that these are in accordance with Agency protocols.]

[Option 2]

Consultant shall collect surface soil samples from up to XX locations. Consultant shall provide flagging and traffic control as needed to complete sample collection. At each location, Consultant shall collect samples at 10 feet and 20 feet from edge of pavement, as specific site conditions allow. Consultant shall obtain soil samples from 0 to 0.5 feet, from 0.5 to 1.0 feet, and from 1 to 1.5 feet below ground surface. Consultant shall mark the proposed sample locations in white paint and obtain utility locates for all locations. Consultant shall backfill sample locations with excavation spoils and shall not generate any IDW. Consultant may dispose of equipment decontamination water on‑site, unless indications of contamination (i.e., staining, sheen) were observed during sampling or equipment decontamination.

Consultant shall ship the discrete samples to a laboratory that is accredited by the Oregon Environmental Laboratory Accreditation Program. The laboratory must be capable of compositing processing samples according to Agency’s October 2016 Sampling and Analysis Plan – Statewide Highway Shoulder Soil Evaluation (see Section B list), using Incremental Sampling Method sample processing methods. The laboratory must be capable of generating analytical results where the detection limits for each analysis must be below the clean fill criteria set forth in DEQ’s Clean Fill Determination Internal Management Directive document (see Section B list).

Analysis of the samples must be for contaminants-of-concern that include the following:

* Method 8270 SIM PAHs, and total metals according to Methods 6020 and 7471A (see Section B list)
* Total metals analyses that include arsenic, cadmium, chromium, copper, lead, and zinc
* [Additional analyses may be required from the list under Option 1. Adjust as needed.]

Consultant shall submit discrete samples using the state’s chain-of-custody form, which must indicate that the laboratory shall bill Agency directly and must request a turnaround time of 10 business days. Consultant shall ship samples under chain-of-custody procedures, such that the samples arrive at the laboratory undamaged. Agency will pay all shipping costs directly to the laboratory.

Consultant shall prepare a 3- to 7-page technical memorandum with attachments that summarizes the results of this task. The technical memorandum must include the following:

* Field observations, photographs, detailed sample locations, description of sampling methods, laboratory reports, figures showing Project site location and sample locations, and tables summarizing the analytical results
* Tabulation of the laboratory results compared to DEQ’s clean fill screening levels

**3.4.5.2 Consultant Deliverables and Schedule:**

* Draft SSI technical memorandum to REC and APM within 4 weeks following completion of Task 3.4.5.1 – Shoulder Soil Investigation Work Plan and HASP.
* Final SSI technical memorandum to REC and APM within 1 week following receipt of draft review comments.

**3.4.6 – Asbestos Survey**

Consultant shall conduct an asbestos materials survey at the site building(s) and structure(s) that Agency designates. Performance of the survey must be by an asbestos inspector accredited under the Asbestos Hazards Emergency Response Act (“AHERA”) to perform building inspections. The asbestos survey must include:

* Compiling a homogeneous materials list
* Collecting bulk samples of suspected asbestos-containing building or construction materials
* Submit samples to a National Voluntary Laboratory Accreditation Program (“NVLAP”)-certified laboratory for analysis.
* Analyzing bulk samples using polarized light microscopy ("PLM"), or a DEQ-accepted equivalent.

Consultant shall collect bulk samples in general accordance with AHERA protocols and DEQ standards, rules, and guidance. Collection of bulk samples requires the removal of small quantities of building or construction materials. Consultant shall apply a temporary patch that may not match the original finish when the sampled material is friable, or a seal, membrane, or other water-tight material has been damaged or compromised. Consultant shall prepare an Asbestos Survey Report that includes field observations, analytical results, diagrams indicating sample locations, and estimates of the quantity of asbestos-containing materials (“ACMs”) and their locations.

**3.4.6 Consultant Deliverables and Schedule:**

* Draft Asbestos Survey report to REC and APM within 4 weeks following NTP.
* Final Asbestos Survey report to REC and APM within 1 week following receipt of draft review comments.

**3.4.7 – Asbestos Abatement Specification [Contingency Task (Requires separate NTP from APM)]**

 mark as [RESERVED] and delete the paragraph text if not needed

Consultant shall prepare a brief Project specification for abatement of ACMs. The specification must be a performance-based document for use by Agency in demolition plans for designated buildings and must conform with OAR 340-248, OAR 437-003, and all other applicable state and federal rules and regulations pertaining to asbestos inspection and abatement (see Section B list). The specifications must not include instructions to bidders, contracts, or bonding requirements.

**3.4.7 Consultant Deliverables and Schedule:**

* Draft asbestos abatement specification to REC and APM within 4 weeks following NTP.
* Final asbestos abatement specification to REC and APM within 1 week following receipt of draft review comments.

**3.4.8 – Asbestos Abatement Oversight and Clearance Monitoring**

Agency will contract directly with an asbestos abatement contractor for the removal of ACMs from designated buildings and structures. Consultant shall provide oversight of abatement activities as the owner's representative; this oversight must include pre- and post-abatement visual surveys to observe whether the asbestos abatement contractor established negative pressure enclosures in buildings, removed ACMs, and detailed, cleaned, and encapsulated the regulated areas.

For indoor building abatement, Consultant shall confirm that the asbestos abatement contractor has conducted proper clearance air monitoring of buildings after the asbestos abatement contractor has passed the post-abatement visual survey. Consultant shall collect up to 5 clearance air samples per negative pressure enclosure in general accordance with the National Institute for Occupational Safety and Health (“NIOSH”) 582 procedures for analysis by phase contrast microscopy (“PCM”) or transmission electron microscopy (“TEM”) (see Section B list). Consultant shall collect and archive 1 background sample. Consultant shall collect and analyze 1 lab blank and 1 field blank (if PCM is the selected clearance analysis). Consultant shall select PCM or TEM clearance analyses based on factors such as the size of the negative pressure enclosure, the source of make-up air, and the type of ACMs to be abated.

**3.4.8 Consultant Deliverables and Schedule:**

* Clearance Air Monitoring report to APM within 2 weeks following receipt of clearance air monitoring results.

3.4.9 – Structure Survey [Contingency Task (Requires separate NTP from APM)]

mark as [RESERVED] and delete the paragraph text if not needed

Consultant shall conduct a survey of the hazardous materials in any structures to be demolished as part of the project, in accordance with the following subsections.

3.4.9.1 – Structure Survey Work Plan and HASP [Contingency Task (Requires separate NTP from APM)]

 mark as [RESERVED] and delete the paragraph text if not needed

Consultant shall prepare a structure survey work plan and a HASP that describe how to collect samples for Task 3.4.9.2 – Structure Survey Sample Collection and Reporting. The structure survey work plan must describe sample collection methods, sampling equipment, equipment decontamination, and handling and shipment of samples. Consultant shall complete the HASP in accordance with 29 CFR 1910.120, OAR 437-002-0100 *et seq.*, and all other state and federal worker health and safety regulations that may be applicable for Task 3.4.9.2 – Structure Survey Sample Collection and Reporting (see Section B list). The HASP must reflect the sampling and characterization activities described in the structure survey work plan. The HASP must cover the activities of all Consultant, subconsultant, and Agency employees. The HASP must include a traffic control plan, if needed.

Consultant shall obtain all required permits from Agency (District X) before initiating fieldwork activities. The District X contact person is:

\_\_\_\_\_\_\_\_\_\_\_\_, Permits Specialist

\_\_\_\_\_\_\_\_\_\_\_\_\_@odot.state.or.us

\_\_\_\_\_\_\_\_\_\_, OR 97\_\_\_

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**3.4.9.1 Consultant Deliverables and Schedule:**

* Draft Structure Survey Work Plan and HASP to REC and APM within 4 weeks following NTP.
* Final Structure Survey Work Plan and HASP to REC and APM within 1 week following receipt of draft review comments.

3.4.9.2 – Structure Survey Sample Collection and Reporting [20320] [Contingency Task (Requires separate NTP from APM)]

 mark as [RESERVED] and delete the paragraph text if not needed

Consultant shall collect paint and coating samples from all painted surfaces on [insert structure(s) and locations, e.g. Bridge No.]. Consultant shall collect at least 2 samples and as many as XX samples for each paint type observed for analysis. Consultant shall not separate paint layers into individual samples. Consultant shall provide flagging and traffic control as needed to complete sample collection.

Consultant shall ship the samples to Pace Analytical (formerly ESC Lab Sciences) in Mt. Juliet, Tennessee. Analysis of the samples must be for the following:

* Total lead, cadmium, and chromium
* [add for bridge surveys] PCBs according to Method 8082

Consultant shall submit samples using the state’s chain-of-custody form, which must indicate that the laboratory shall bill Agency directly and must request a turnaround time of 10 business days. Consultant shall ship samples under chain-of-custody procedures, such that the samples arrive at the laboratory undamaged. Agency will pay all shipping costs directly to the laboratory.

Consultant shall inspect [insert structure(s) and locations, e.g. Bridge No. \_\_\_\_\_\_\_] for ACMs and collect samples of all suspected ACMs that construction will disturb. Consultant shall use an AHERA-accredited asbestos inspector to perform the inspection and sampling. The asbestos survey must include:

* Compiling a homogeneous materials list
* Collecting bulk samples of suspected ACMs
* Submit samples to a NVLAP-certified laboratory for analysis.
* Analyzing bulk samples using polarized light microscopy ("PLM"), or a DEQ-accepted equivalent.

Consultant shall collect bulk samples in general accordance with AHERA protocols and submit samples to a National Voluntary Laboratory Accreditation Program certified laboratory for analysis and shall request a turnaround time of 10 business days. Consultant shall collect as many as XX samples for asbestos analysis.

Consultant shall summarize the results of the materials testing described above in a structure survey report. The report must discuss sample methods and laboratory analytical results, and must provide recommendations for materials handling. The report must include:

* A map showing sample locations
* Photographs of materials sampled
* Data tables summarizing laboratory results
* Laboratory reports and chain-of-custody forms

3.4.9.2 Consultant Deliverables and Schedule:

* Draft Structure Survey report to REC and APM within 8 weeks following NTP.
* Final Structure Survey report to REC and APM within 1 week following receipt of draft review comments.

3.4.10 – Geophysical Survey [Contingency Task (Requires separate NTP from APM)]

 mark as [RESERVED] and delete the paragraph text if not needed

 [If Task 3.4.1 – Hazardous Materials Corridor Study, Task 3.4.2 – ASTM Phase I ESA, Task 3.4.3 – Level 1 Initial Site Assessment, or Task 3.4.4 – Minimal Assessment Memorandum recommends] Consultant shall conduct geophysical surveys using magnetic survey and ground penetrating radar (“GPR”) to determine whether underground storage tanks or metallic debris are present.

Consultant shall prepare a geophysical survey work plan describing survey methods and equipment. The work plan must address the activities of all Consultant, subconsultant, and Agency employees and include a traffic control plan, if needed.

Consultant shall obtain all required permits from Agency (District X) before initiating fieldwork activities. The District X contact person is:

\_\_\_\_\_\_\_\_\_\_\_\_, Permits Specialist

\_\_\_\_\_\_\_\_\_\_\_\_\_@odot.state.or.us

\_\_\_\_\_\_\_\_\_\_, OR 97\_\_\_

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Consultant shall submit the draft geophysical survey work plan to Agency for review and comment. Agency will consolidate comments and submit to Consultant. Consultant shall incorporate Agency comments and suggested revisions, then delivery the final geophysical survey work plan to Agency for approval. Consultant shall not proceed with field survey until Consultant has received written authorization (e-mail) from Agency.

Consultant shall conduct geophysical surveys using the following, or comparable, equipment:

* GEOMETRICS 858G Cesium Vapor Magnetometer (Magnetic Survey)
* Mala RAMAC Ground Penetrating Radar System with a 250 MHz antenna (GPR Survey)
* Schonstedt GA52 Magnetic Gradiometer
* Aqua-Tronics A6 pipe and cable locator
* Heath Sure-lock pip and cable locator

Consultant shall process and contour the magnetic data to produce magnetic maps for each survey location. Consultant shall plot the magnetic maps at a contour interval sufficient to detect underground tanks. Where potential the magnetic survey identifies underground storage tanks, Consultant shall conduct GPR surveys to assess the size and number of tanks.

Consultant shall summarize the results of the geophysical surveys in a geophysical survey report that describes:

* Survey objectives
* Site location
* Equipment used
* Procedures
* Results

The report must include maps showing the locations of magnetic anomalies relative to property boundaries and the Project corridor.

**3.4.10 Consultant Deliverables and Schedule:**

* Draft geophysical survey work plan to REC and APM within 4 weeks following NTP.
* Final geophysical survey work plan to REC and APM within 1 week following receipt of draft review comments.
* Draft geophysical survey report to REC and APM within 8 weeks following NTP.
* Final geophysical survey report to REC and APM within 1 week following receipt of draft review comments.

3.4.11 – Site-Specific Investigation [Contingency Task (Requires separate NTP from APM)]

 mark as [RESERVED] and delete the paragraph text if not needed

3.4.11.1 – Site-Specific Investigation Work Plan and HASP [Contingency Task (Requires separate NTP from APM)]

mark as [RESERVED] and delete the paragraph text if not needed

[This task is applicable for Projects where soil or groundwater investigations are required that do not fall under the Shoulder Soil Investigation scope.]

[If Task 3.4.1 – Hazardous Materials corridor study, Task 3.4.2 – ASTM Phase I ESA, Task 3.4.3 – Level 1 Initial Site Assessment, or Task 3.4.4 – Minimal Assessment Memorandum recommends] Consultant shall collect subsurface soil and groundwater samples in the Project corridor on XX adjacent private property (properties). Consultant shall collect soil and groundwater samples for contaminant analysis and shall present the results in a Site Specific Investigation report. The report must discuss soil and groundwater sample methods, laboratory analytical results, and conclusions regarding the presence or absence of subsurface contamination.

Consultant shall prepare a Site-Specific Investigation Work Plan and a HASP that describe how to collect samples for Task 3.4.11.2 – Site-Specific Investigation Sampling and Reporting. The Site-Specific Investigation Work Plan must describe the number of borings, sample collection, sampling equipment, equipment decontamination, and handling and shipment of samples. Consultant shall complete the HASP in accordance with 29 CFR 1910.120 and OAR 437-002-0100 *et seq.*, and all other state and federal worker health and safety regulations applicable for Task 3.4.11.2 – Site-Specific Investigation Sampling and Reporting (see Section B list). The HASP must reflect the sampling and characterization activities described in the Site-Specific Investigation Work Plan. The HASP must cover the activities of all Consultant, subconsultant, and Agency employees. The HASP must include a traffic control plan, if needed.

Consultant shall obtain all required permits from Agency (ODOT District X) before initiating fieldwork. The District X contact person is:

\_\_\_\_\_\_\_\_\_\_\_\_, Permits Specialist

\_\_\_\_\_\_\_\_\_\_\_\_\_@odot.state.or.us

\_\_\_\_\_\_\_\_\_\_, OR 97\_\_\_

503 xxx-xxxx

**3.4.11.1 Consultant Deliverables and Schedule:**

* Draft Site Specific Investigation Work Plan and HASP to REC and APM within 4 weeks following NTP.
* Final Site Specific Investigation Work Plan and HASP to REC and APM within 1 week following receipt of draft review comments.

 Consultant shall not proceed with any fieldwork activities under Task 3.4.11.2 – Site Specific Investigation Sampling and Reporting until after Consultant has received written authorization email from Agency.

3.4.11.2 – Site-Specific Investigation Sampling and Reporting [Contingency Task (Requires separate NTP from APM)]

 mark as [RESERVED] and delete the paragraph text if not needed

Consultant shall conduct subsurface investigations within the Project corridor and on XX adjacent private property (properties). Consultant shall collect soil samples from XX direct push borings as per the approved Task 3.4.11.1 – Site-Specific Investigation Work Plan and HASP describes. Drilling of each of the borings must be to a depth of XX to XX feet below ground surface. Consultant shall collect minimum of 2 soil samples from each boring, based on field observations. If drilling encounters groundwater less than XX feet below ground surface, then Consultant shall collect 1 groundwater sample. Consultant shall field screen for volatile organic compounds (“VOCs”) from the samples collected from boreholes using a photo-ionizing detector (“PID”). Consultant shall provide flagging and traffic control as needed to complete drilling and sampling. Agency will obtain a right-of-entry permit for private property access if needed.

Consultant shall backfill all test bore holes according to ODWR regulations immediately following sample collection and shall fill the top 6 inches of each borehole with asphalt or concrete to match the existing pavement condition. Consultant shall place IDW generated from drilling and testing in 55-gallon drums and shall store them temporarily on Agency property pending the results of laboratory analyses. Consultant shall mark the contents and date of accumulation on each drum. Consultant shall arrange for disposal of all drummed IDW at a licensed waste disposal facility.

 Consultant shall analyze soil samples that do not test positive for VOCs upon field screening for: [Adjust analyte list based on Project requirements.]

* NWTPH-Dx; Method 8270 SIM PAHs; and total cadmium, chromium, and lead

Consultant shall analyze soil samples that test positive for VOCs, or show visual or olfactory evidence of petroleum contamination, for:

[Adjust analyte list based on Project requirements and potential contaminants-of-concern based on information gathered in the HMCS, Phase I ESA, Level I ISA, etc.]

* NWTPH-Gx; NWTPH-Dx; Method 8260B VOCs;, Method 8270 SIM PAHs; and total cadmium, chromium, and lead

Consultant shall analyze groundwater samples for:

[Adjust analyte list based on Project requirements and potential contaminants-of-concern based on information gathered in the HMCS, Phase I ESA, Level I ISA, etc.]

* NWTPH-Gx, NWTPH-Dx, Method 8260B VOCs, and Method 8270 SIM PAHs

Consultant shall ship samples to Pace Analytical (formerly ESC Lab Sciences). Consultant shall submit samples using the state’s chain-of-custody form, which must indicate that the laboratory shall bill Agency directly and must request a turnaround time of 10 business days. Consultant shall ship samples under chain-of-custody procedures, such that the samples arrive at the laboratory undamaged. Agency will pay all shipping costs directly to the laboratory.

Consultant shall prepare a Preliminary Site Investigation (“PSI”) report that summarizes the results of this task. The report must include the following:

* Field observations, photographs, detailed sample locations, description of sampling methods, laboratory reports, figures showing Project site location and sample locations, and data tables summarizing analytical results
* Evaluation of the laboratory results in comparison to DEQ’s clean fill screening levels and risk-based concentrations for residential, occupational, and construction and excavation workers, as applicable
* Conclusions that identify specific sources of contamination that could impact Project construction
* Recommendations for handling and disposal of contaminated soil or groundwater that construction activities may generate

**3.4.11.2 Consultant Deliverables and Schedule:**

* Draft PSI report to REC and APM within 4 weeks following completion of Task 3.4.11.1 Site Specific Investigation Work Plan and HASP.
* Final PSI report to REC and APM within 1 week following receipt of draft review comments.

[Note that section 3.4.12 is only for projects with NEPA classifications of Environmental Assessment (EA) or Environmental Impact Statements (EIS). See NEPA project classification (23 CFR 771.115 NEPA Classes of Action) for more information.]

3.4.12 – NEPA Hazardous Materials Technical Memorandum or Report for EA and EIS Projects [Reserved]

Consultant shall coordinate with the Project NEPA lead to prepare a draft and final NEPA Hazardous Materials Technical Memorandum or Report meeting the memorandum or report requirements defined in Task 3.X.X.X – Coordination for Resource and Technical Discipline Memoranda or Reports for the Draft EA or Draft EIS. The content of the NEPA Hazardous Materials Technical Memorandum or Report must be coordinated with the Project NEPA lead and other Agency technical subject matter experts, as appropriate.

Consultant shall submit the draft memorandum or report for Agency review and comment. Consultant shall incorporate Agency comments and suggested revisions, then deliver a revised report to Agency. The memorandum or report must not be considered “final” until Agency determines if revisions are required per Task 3.X.X.X – Coordination for Revisions to Resource and Technical Discipline Memoranda or Reports for the Revised EA or Final FEIS.

**3.4.12 Consultant Deliverables and Schedule:**

* Draft NEPA Hazardous Materials Technical Memorandum or Report for EA and EIS Projects (Coordinated with Task 3.X.X.X - Coordination for Resource and Technical Discipline Memoranda or Reports for the Draft EA or Draft EIS) to REC and APM within X weeks of receipt of comments on draft with Task 3.X.X.X.
* Revised NEPA Hazardous Materials Technical Memorandum or Report for EA and EIS Projects (Coordinated with Task 3.X.X.X - Coordination for Resource and Technical Discipline Memoranda or Reports for the Draft EA or Draft EIS) to REC and APM within X weeks following receipt of draft review comments.
* Revised NEPA Hazardous Materials Technical Memorandum or Report for EA and EIS Projects (Coordinated with Task 3.X.X.X - Coordination for Resource and Technical Discipline Memoranda or Reports for the Revised EA or Final EIS) to REC and APM within X weeks from X with Task 3.X.X.X Coordination for Resource and Technical Discipline Memoranda or Reports for the Revised EA or Final EIS.
* Final NEPA Hazardous Materials Technical Memorandum or Report for EA and EIS Projects (Coordinated with Task 3.X.X.X - Coordination for Resource and Technical Discipline Memoranda or Reports for the Revised EA or Final EIS) to REC and APM within X weeks from X with Task 3.X.X.X Coordination for Resource and Technical Discipline Memoranda or Reports for the Revised EA or Final EIS.