

RIDOT Natural Resources Unit (NRU)
Hazardous Material/Waste Investigations & Remediation Guidance
ENVIRONMENTAL SITE ASSESSMENT(ESA) GUIDANCE CHECKLIST

*This document is to serve as a guide to assist with investigating possible contaminants and/or contaminated materials or wastes on project sites. For each project consideration, use the following guidance checklist and check a response, which is most appropriate. Once complete, refer to **Hazardous Material/Waste Investigations Section I** for the next course of action. In responding to Nos. 2A and 2B, if there is any uncertainty as the answer, it should be considered to be "yes".*

Coordinate with the RIDOT Natural Resources Unit for approvals and guidance on the required documentation.

No.	Project Considerations	Response
1	Will the project have a Design Study Report (or equivalent) which includes a Corridor Land Use Evaluation?	Yes ___ No ___
2A	Does the project involve any work outside of any paved/impervious areas and/or include any excavation into or below sub-grade of such areas?	Yes ___ No ___
2B	Does project include any strip takings or property acquisitions?	Yes ___ No ___

*In responding to Nos. 2A and 2B, if there is any uncertainty as to the answer, it should be considered "yes".

Once the Checklist is completed, refer to the following table in Section 1.1 for the next course of action:

No.	Answer	Action	Answer	Action
1	Yes	Use info collected to determine further action.	No	Proceed to 2a and 2b
2a	Yes (Perform CLUE and/or Phase I)	Go to 1.2 and/or 1.3	No	Complete
2b	Yes(Perform CLUE and/or Phase I)	Go to 1.2 and/or 1.3	No	Complete

RIDOT Natural Resources Unit (NRU)

Hazardous Material/Waste Investigations & Remediation Guidance

Section I

1.0 SITE CONTAMINATION ASSESSMENTS (NON-ANALYTICAL)

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1.1 REVIEW PROJECT FOR POTENTIAL SITE CONTAMINATION ISSUES

1.2 CORRIDOR LAND USE EVALUATION

1.3 PHASE I/TSA ENVIRONMENTAL SITE ASSESSMENT

Background

The discovery of contaminants and/or contaminated materials or wastes on a project can severely hamper the progress of a project or stop it completely. The early identification and quantification of contaminants and/or contaminated materials is vitally important for proper protection of workers' health and safety. The correct delineation and management of contaminants and/or contaminated materials, both prior to the acquisition of property or following discovery of these materials within a project alignment, is imperative in reducing the potential harm to human health and minimizing impacts to the environment.

It is essential that the Consultant completes the checklist and initiates Environmental Site Assessment (ESA) activities for all projects at the earliest possible stage in project development (often prior to or at 10%). In no case should any project advance to 30% without addressing the potential need for an ESA. In accordance with the referenced documentation, **no samples are to be collected and/or analyzed during the first stages of the ESA process.** Work under this Task will be limited to data collection as described below.

1.1 REVIEW PROJECT FOR POTENTIAL SITE CONTAMINATION ISSUES

A. Work Narrative

This task is generally performed by the Consultant, consisting of the following:

1. Complete the Environmental Site Assessment (ESA) Guidance Checklist

The Consultant will address all questions with the appropriate action, per the latest Environmental Site Assessment (ESA) Guidance Checklist.

2. Determine Next Action (Checklist)

Refer to the table below for interpreting the answers to the checklist:

No.	Answer	Action	Answer	Action
1	Yes	Use info collected to determine further action.	No	Proceed to 2a and 2b
2a	Yes (Perform CLUE and/or Phase I)	Go to 1.2 and/or 1.3	No	Complete
2b	Yes (Perform CLUE and/or Phase I)	Go to 1.2 and/or 1.3	No	Complete

B. Responsibilities

Organization Unit	Responsibility
Consultant	<ul style="list-style-type: none"> Use the ESA checklist as guidance with data from preliminary studies, if available.
RIDOT – PM/NRU	<ul style="list-style-type: none"> Provide assistance and/or coordination.

C. Documentation

Document Title	Description	Destination
ESA Checklist	Checklist to outline the sequencing of actions required per the list of “Project Considerations”.	RIDOT PM/NRU

1.2 CORRIDOR LAND USE EVALUATION

A. Work Narrative

This work generally consists of the following:

1. Perform Corridor Land Use Evaluation (CLUE)

This task is generally performed by the Consultant to address multiple properties along a project alignment or alternative alignments. The evaluation should be conducted during the scoping process or as indicated by the completion of the ESA Guidance Checklist **following approval from the RIDOT NRU. A CLUE may not always be appropriate depending on project type and activities.**

The purpose of this evaluation is to identify any potential sources of contamination or threat to the project along any alignment(s) in which excavation is required and/or assess the potential for contamination on properties abutting the alignment(s) in the event of a strip-taking, purchase or condemnation. Any properties identified as potential concerns are subject to a more rigorous investigation.

The evaluation should consist of a description of all properties abutting any project alignment(s) and their uses. Tasks to be conducted are as follows:

- (A) **Regulatory review** (state and local);
- (B) **Historical review** (an overview of the general development of the project vicinity, with a focus on industrial properties);
and
- (C) **Windshield survey** (also referred by a “drive-by” inspection)

2. Prepare CLUE Report

A report will be prepared documenting the findings of the evaluation and identifying properties (e.g. Gasoline stations, manufacturing facilities, dry cleaners), which warrant further investigation (typically a Phase 1 Environmental Site Assessment). If the Consultant identifies the need for further investigation on a specific property but believes that a Transaction Screen Assessment (TSA) is appropriate, the justification for this type of investigation should be provided in the CLUE Report. In the case of a project with multiple alignments under consideration, a recommendation as to the alignment with the least potential for contamination issues shall be included in the report.

The report should be forwarded to the Project Manager and a copy to the Natural Resources Unit for review.

B. Responsibilities

Organization Unit	Responsibility
Consultant	<ul style="list-style-type: none"> It is the responsibility of the Consultant to perform the reviews and surveys on the identified properties as specified and submit report to PM/NRU. Submit the CLUE report to the PM/NRU with all findings.
RIDOT – PM/NRU	<ul style="list-style-type: none"> Provide support and review the report and recommendations submitted by consultant.

C. Documentation

Document	Description	Destination
Corridor Land Use Evaluation	Evaluation to identify properties which warrant further investigation.	RIDOT PM/NRU/NEPA

D. References

Reference Title	Description	Source
American Society for Testing and Materials (ASTM)	Reference to standards for conducting environmental site assessments.	RIDOT - NRU
RIDEM Remediation Regulations	Reference to the technical requirements of the generation, transportation, treatment, storage and disposal of hazardous wastes.	https://rules.sos.ri.gov/regulations/part/250-140-10-1
US Environmental Protection Agency (EPA) Regulations and Method's for Analytical Procedures		RIDOT – NRU

1.3 PHASE I/TSA ENVIRONMENTAL SITE ASSESSMENT

A. Work Narrative

This work generally consists of the following:

1. Phase I Environmental Site Assessment

This task is generally performed by the Consultant **following approval from the RIDOT NRU**. It typically addresses individual properties allowing greater attention to detail and site assessment accuracy. The purpose of a Phase I is to assess the potential for hazardous contamination or identify Recognized Environmental Concerns (RECs) at a property that is being acquired or which may potentially impact a project alignment in which excavation is required.

A **Phase I ESA** must include:

- (A) Environmental database search;
- (B) Detailed local and state regulatory review;
- (C) Historical research (local records, aerial photographs, city directories, Sanborn maps, etc.); and
- (D) Site inspection (chemical/petroleum/waste storage and areas of concern, including underground storage tanks (USTs), aboveground storage tanks (ASTs), floor drainage systems, dry wells, waste storage/disposal practices, floor/ground staining, etc)

2. Transaction Screen Assessment

Under certain circumstances, at the discretion of the Natural Resource Unit, the Consultant may perform a Transaction Screen Assessment (TSA) in place of the more rigorous Phase 1 ESA. Refer to ASTM Designation E 1528-00, for the appropriate guidelines. **The TSA cannot be used to replace the Phase I unless approved by RIDOT.**

3. Preparation of Phase I/TSA Report

A Phase I/TSA report shall be prepared detailing all findings of the Phase I or TSA. The report should include recommendations with respect to further investigations of the subject property. In the case of property acquisitions or strip takings, a separate report should be prepared for each proposed real estate transaction.

The report(s) should be forwarded to the Project Manager and a copy to the Natural Resources Unit for review. Upon completion of the report, the status of the project should be evaluated before proceeding with further investigations. This is due to the possibility of unavoidable regulatory obligations arising out of further ESA activities, regardless of project status.

In the event that Recognized Environmental Concerns (RECs) or the potential for contamination were identified during the above non-analytical investigations, following RIDOT NRU approval refer to **Hazardous Material/Waste Investigations & Remediation Guidance Section II** for the next course of action.

B. Responsibilities

Organization Unit	Responsibility
Consultant	<ul style="list-style-type: none"> It is the responsibility of the Consultant to perform the reviews and surveys on the identified properties as specified and submit report to PM/NRU. Submit the Phase I/TSA report to the PM/NRU with all findings.
RIDOT – PM/NRU	<ul style="list-style-type: none"> Provide support and review the report and recommendations submitted by consultant.

C. Documentation

Document	Description	Destination
Phase I or TSA Report	A detailed account of all findings and recommendations with respect to further investigations of the subject property.	RIDOT PM/NRU/NEPA

D. References

Reference Title	Description	Source
American Society for Testing and Materials (ASTM)	Reference to standards for conducting environmental site assessments.	RIDOT - NRU
RIDEM Remediation Regulations	Reference to the technical requirements of the generation, transportation, treatment, storage and disposal of hazardous wastes.	https://rules.sos.ri.gov/regulations/part/250-140-10-1
US Environmental Protection Agency (EPA) Regulations and Method's for Analytical Procedures		RIDOT – NRU

RIDOT Natural Resources Unit (NRU)
Hazardous Material/Waste Investigations & Remediation Guidance
Section II

2.0 SITE CONTAMINATION ASSESSMENT AND INVESTIGATION (ANALYTICAL)

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2.1 PHASE II ENVIRONMENTAL SITE ASSESSMENT

2.2 PHASE III ENVIRONMENTAL SITE ASSESSMENT/SITE INVESTIAGTION

2.3 REMEDIAL APPROVAL/ACTION

2.1 PHASE II ENVIRONMENTAL SITE ASSESSMENT

A. Work Narrative

In the event that Recognized Environmental Concerns (RECs) or the potential for contamination were identified during the Phase I ESA, the Consultant will perform analytical Phase II ESA **following approval from the RIDOT NRU.**

The purpose of a Phase II ESA is to identify subsurface soil and groundwater contamination that may exist on a property, consisting of the following:

1.Phase II Sample Location Plan

This task includes:

A **Sample Location Plan** must be prepared and submitted to the PM and NRU for review and approval. The plan should be accompanied by a short narrative indicating rationale for location and number of samples to be collected. Proposed sample locations, analytical parameters and sample collection methodology should be included. The sampling program should be developed to allow for the collection of samples from the locations and depths where the highest concentrations of a contaminant are most likely to occur. **Approval of this plan by the RIDOT PM/NRU is required prior to proceeding with the Phase II activities.**

2.Phase II Environmental Site Assessment (ESA) Activities

This work typically includes:

- (A) Installation of soil borings and groundwater monitoring wells
- (B) Collection of soil and groundwater samples for lab analysis
- (C) Sample analysis to determine the presence of contaminants and their concentrations within a right-of-way or proposed acquisition/easement areas at a Rhode Island licensed laboratory

3. Prepare Phase II ESA Report

The findings of a Phase II ESA investigation will be submitted to the RIDOT PM and NRU as a written report. The report should include:

- (A) Narrative description of work being performed
- (B) Summary of compounds or contaminants identified in excess of applicable RIDEM regulations
- (C) Recommendations and an estimate for further investigation, if necessary

B. Responsibilities

Organization Unit	Responsibility
Consultant	<ul style="list-style-type: none">• Prepare Phase II Sample Location Plan• Investigate subsurface RECs• Submit ESA reports to RIDOT
RIDOT – PM/NRU	<ul style="list-style-type: none">• The RIDOT will review and approve Sample Location Plan ESA activities and reports.

C. Documentation

Document	Description	Destination
Phase II Sample Location Plan		RIDOT PM/NRU/NEPA
Phase II ESA Report	A detailed account of all compounds and contaminants in excess of RIDEM regulations which constitute a Reportable Condition and a recommendation for further investigations.	RIDOT PM/NRU/NEPA

D. References

Reference Title	Description	Source
American Society for Testing and Materials (ASTM)	Reference to standards for conducting environmental site assessments.	RIDOT – NRU

RIDEM Remediation Regulations	Reference to the technical requirements of the generation, transportation, treatment, storage and disposal of hazardous wastes.	https://rules.sos.ri.gov/regulations/part/250-140-10-1
US Environmental Protection Agency (EPA) Regulations and Method's for Analytical Procedures		RIDOT – NRU

2.2 PHASE III ENVIRONMENTAL SITE ASSESSMENT

A. Work Narrative

In the event that the Phase II ESA identifies the need for further site assessment, the following will be performed/coordinated by the Consultant.

A Phase III ESA is conducted to quantify and delineate the extent of contaminants identified in the Phase II ESA Report, consisting of the following:

1. Phase III Sample Location Plan

A **Sample Location Plan** with parameters of the identified site conditions must be prepared and submitted to the RIDOT PM/NRU for review and approval. The plan should be accompanied by a short narrative indicating rationale for location and number of samples to be collected. Proposed sample locations, analytical parameters and sample collection methodology should be included. The sampling program should be developed to allow for the collection of samples from the locations and depths where the highest concentrations of a contaminant are most likely to occur. **Approval of this plan by the RIDOT PM/NRU is required prior to proceeding with the Phase III activities.**

2. Phase III Environmental Site Assessment (ESA) Activities

The tasks include:

- (A) Installation of soil borings and groundwater monitoring wells
- (B) Collection of soil and groundwater samples for lab analysis
- (C) Sample analysis to determine the presence of contaminants and their concentrations within a right-of-way or proposed acquisition/easement areas at a Rhode Island licensed laboratory

3. Prepare Site Investigation Report (SIR)

The findings of a Phase III ESA investigation will be submitted to the RIDOT PM/NRU in the form of a Site Investigation Report, prepared in accordance

with the RIDEM Remediation Regulations. The SIR is a comprehensive summary of the work to date, including:

- (A) Delineation and quantification of contaminated media (soil or groundwater) at a project site or proposed acquisition/easement area
- (B) An estimate of the clean-up costs
- (C) Applicable remediation methods

Following approval of the SIR by the RIDOT PM/NRU, it will be forwarded to the RIDEM Office of Land Revitalization and Sustainable Materials Management (OLRSMM) for approval.

2.3 REMEDIAL APPROVAL/ACTION

1. Prepare Remedial Action Work Plan (RAWP)

Once RIDEM/OLRSMM has approved the SIR and issued a Remedial Decision Letter (RDL), a Remedial Action Work Plan (RAWP) must be developed in accordance with the RIDEM Remediation Regulations. The RAWP is a presentation of the selected remediation method(s) and a schedule for addressing site contamination issues. **Copies of the RAWP should be submitted to the RIDOT PM and NRU for review and approval.**

Following approval of the RAWP by the RIDOT PM/ NRU, it will be forwarded to RIDEM/ OLRSM for approval. **See Section III for remediation guidance and site closure requirements following the approval of a RAWP.**

B. Responsibilities

Organization Unit	Responsibility
Consultant	<ul style="list-style-type: none"> • Prepare Phase III sample Location Plan • Investigate subsurface RECs • Submit the SIR to the RIDOT
RIDOT – PM/NRU	<ul style="list-style-type: none"> • The RIDOT PM/NRU will review and approve Sample Location Plan ESA activities, SIR, and RAWP.

C. Documentation

Document	Description	Destination
Phase III Sample Location Plan		RIDOT PM/NRU

Site Investigation Report	A further analysis of the Phase II ESA, per the ASTM regulations.	RIDOT PM/NRU
RAWP	Remedial Action Work Plan	RIDEM- OLRSM

D. References

Reference Title	Description	Source
American Society for Testing and Materials (ASTM)	Reference to standards for conducting environmental site assessments.	RIDOT - NRU
RIDEM Remediation Regulations	Reference to the technical requirements of the generation, transportation, treatment, storage and disposal of hazardous wastes.	https://rules.sos.ri.gov/regulations/part/250-140-10-1
US Environmental Protection Agency (EPA) Regulations and Method's for Analytical Procedures		RIDOT – NRU

RIDOT Natural Resources Unit (NRU)

Hazardous Material/Waste Investigations & Remediation Guidance

Section III

3.0 REMEDIAL ACTION AND SITE CLOSURE

Contents

3.1 SITE CLOSURE REQUIREMENTS

A. Work Narrative

Once the RAWP has been approved by the RIDEM, the remedial action is conducted in accordance with the approved RAWP. If site conditions require changes to the remedial strategy and the RAWP, they must be approved by RIDEM. Documentation and record keeping (such as manifests and bills of lading for transport and disposal of contaminated soil) are critical during remediation activities. Certain site conditions such as groundwater contaminated by chlorinated solvents, nature of site contamination may be such that the approved remedial method requires long-term actions and/or post construction monitoring.

It is critical to understand that RIDOT's obligation to bring RIDOT-owned/controlled contaminated sites into regulatory compliance does not necessarily end with the completion of the main construction activity associated with a given project or contract. Often, remediation actions involve periods of time that exceed the actual construction contract. As such, RIDOT must ensure that proper mechanisms are in place to ensure that the required remediation action is carried forward to full completion and that final recognition of compliance is issued by RIDEM. Following the completion of the remedial action, RIDEM requires the following:

1. Prepare Remedial Action Closure Report

RIDEM regulation require that a Remedial Action Closure Report be submitted to document adherence to the workplan and to demonstrate that the site has been brought into regulatory compliance.

2. Prepare Environmental Land Use Restriction (ELUR) and Post-Construction Soil Management Plan (SMP)

In the event that the approved remedial method includes internment of impacted soils via capping (in accordance with RIDEM regulations) and associated institutional controls, and Environmental Land Use Restriction (ELUR) and associated Post-Construction Soil Management Plan (SMP) must accompany the Closure Report for approval by RIDEM.

3. Record ELUR and SMP in Land Evidence Records

Upon approval, the ELUR and SMP must be recorded in municipal Land Evidence Records. Evidence of that recording must then be provided to RIDEM. An ELUR may require yearly monitoring of the subject site, regardless of the LOC. RIDOT will need to ensure that such requirements are met.

4. Letter of Compliance (LOC)

Once all the remedial actions and associated items are completed and RIDEM concurs with the conclusions documented in the Closure Report, RIDEM will issue a Letter of Compliance (LOC), indicating that the site is compliant with the RIDEM Remediation Regulations. RIDOT obligations to bring a site into compliance are not considered to be fulfilled until the LOC is issued.

As stated above, the nature of site contamination may be such that the approved remedial method requires long-term actions and/or post construction monitoring. As such, RIDOT must continue to engage in such activities until such time as the remedial objectives are met, RIDEM Remediation Regulations are satisfied, and the LOC is issued.

Responsibilities

Organization Unit	Responsibility
Consultant	<ul style="list-style-type: none"> • Prepare Remedial Action Closure Report • Prepare ELUR • Prepare SMP • Record ELUR and SMP in Municipal Land Evidence Records
RIDOT – PM/NRU	<ul style="list-style-type: none"> • The RIDOT PM/NRU will review and approve Remedial Action Closure Report, ELUR, and SMP before submission to RIDEM- OLRSM and Municipal Land Evidence Records.

A. Documentation

Document	Description	Destination
Remedial Action Closure Report	Documents meeting of remedial objective and compliance.	RIDEM-OLRSMM
Environmental Land Use Restriction	Legal document describing remedial method and resulting site conditions.	RIDEM- OLRSM; Municipal Land Evidence Records

Post-Construction SMP	Appendix to ELUR; provides requirements for any future soil disturbance	RIDEM- OLRSM; Municipal Land Evidence Records
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B. References

Reference Title	Description	Source
American Society for Testing and Materials (ASTM)	Reference to standards for conducting environmental site assessments.	RIDOT - NRU
RIDEM Remediation Regulations	Reference to the technical requirements of the generation, transportation, treatment, storage and disposal of hazardous wastes.	https://rules.sos.ri.gov/regulations/part/250-140-10-1 Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases - Part 1.12.9
US Environmental Protection Agency (EPA) Regulations and Method's for Analytical Procedures		RIDOT – NRU