

**WAC 173-340-351 Feasibility study.** (1) **Purpose.** The purpose of the feasibility study is to develop and evaluate cleanup action alternatives to enable the selection of a cleanup action that meets the requirements in WAC 173-340-360 and conforms, as appropriate, to the expectations in WAC 173-340-370.

(2) **Applicability.**

(a) **Whether required.** A feasibility study of cleanup action alternatives must be conducted, regardless of which administrative option in WAC 173-340-510 is used to conduct remedial action, except in the following circumstances.

(i) **Permanent cleanup action completed.** A feasibility study is not required if prior remedial actions at the site constitute a permanent cleanup action and meet the criteria in WAC 173-340-330 (5)(a). To qualify for this exemption, sufficient information must be collected and included in the remedial investigation report to demonstrate that the site meets the criteria (see WAC 173-340-350 (6)(j)(i) and (5)(f)(i) and (g)(vii)).

(ii) **Model remedy selected.** A feasibility study is not required to select a model remedy as the cleanup action or as a component of the cleanup action for a site (see WAC 173-340-390). However, a feasibility study is still required to select any remaining cleanup action components for the site. To qualify for this exemption or partial exemption, sufficient information must be collected and included in the remedial investigation report to demonstrate that the site meets the conditions established by ecology for using the model remedy (see WAC 173-340-350 (6)(j)(ii) and (5)(f)(ii) and (g)(vii)).

(b) **Requirements.** A feasibility study must comply with the requirements in this section and, as applicable, the following:

(i) For sites where there is a release or threatened release to sediment, the applicable requirements in WAC 173-204-550; and

(ii) For sites on the national priorities list, the applicable requirements under the federal cleanup law.

(3) **Timing and phasing.**

(a) Except as otherwise directed by ecology, a feasibility study must be completed before cleanup standards are established and a cleanup action is selected. An emergency remedial action or an interim action may be conducted before a remedial investigation/feasibility study is completed.

(b) A feasibility study may be conducted, or required by ecology to be conducted, for the entire site or for separate parts of a site, such as a sediment cleanup unit as defined in WAC 173-204-505.

(c) A remedial investigation and a feasibility study may be conducted, or required by ecology to be conducted, as a single step or as separate steps in the cleanup process.

(d) A feasibility study may be conducted, or required by ecology to be conducted, in phases. For example, additional study may be necessary to evaluate the feasibility of a cleanup action alternative.

(4) **Administrative options and requirements.** A feasibility study may be conducted under any of the administrative options for remedial action described in WAC 173-340-510. Reporting and public participation requirements depend on the administrative option used to conduct remedial action.

(a) **Ecology-conducted or ecology-supervised remedial actions.** For an ecology-conducted or ecology-supervised feasibility study, ecology will provide or require:

(i) A feasibility study report that complies with the requirements in subsection (6)(f) of this section and WAC 173-340-840. For

ecology-supervised remedial actions, ecology may require submittal of a report for its review and approval; and

(ii) Public notice of a feasibility study report in accordance with WAC 173-340-600(13).

(b) **Independent remedial actions.** Independent feasibility studies must be reported to ecology in accordance with WAC 173-340-515. Unlike for investigations conducted under WAC 173-340-350, such studies do not need to be reported separately upon completion (see WAC 173-340-515 (4)(a)). Reports must include, as appropriate, the information specified in subsection (6)(f) of this section.

(5) **Scope.** A feasibility study must adequately evaluate a reasonable number and type of cleanup action alternatives to meet the purposes in subsection (1) of this section.

(a) The scope of the study depends on many factors, including the nature and extent of contamination, the exposure pathways of concern, the human and ecological receptors potentially impacted by the contamination, the characteristics of the site, the type of cleanup action alternatives being evaluated, and any previous evaluations of cleanup action alternatives.

(b) The study may rely on previously collected information about the site and previous evaluations of cleanup action alternatives, such as treatability or pilot studies. Such information may be summarized and incorporated by reference in the feasibility study report to avoid unnecessary duplication.

(6) **Steps.** Except as otherwise directed by ecology, a feasibility study of cleanup action alternatives must be conducted in accordance with the following steps. The study should remain flexible to avoid collecting unnecessary information or conducting unnecessary evaluations.

(a) **Step 1: Identify cleanup goals.** Identify the goals for the cleanup action, in addition to compliance with the requirements in WAC 173-340-360. Include any planned future uses of the site and any habitat restoration or resource recovery goals for the site.

(b) **Step 2: Identify alternatives.** Identify cleanup action alternatives for evaluation in the study. The alternatives must achieve the goals identified in Step 1 and comply with the requirements in WAC 173-340-360. Include:

(i) A reasonable number and type of alternatives, taking into account:

(A) The characteristics and complexity of the site, including current site conditions and physical constraints; and

(B) The threats posed by the site to human health and the environment, including likely vulnerable populations and overburdened communities;

(ii) At least one permanent cleanup action alternative;

(iii) For each environmental medium, at least one alternative with a standard point of compliance (see Part 7 of this chapter);

(iv) As appropriate, alternatives with a conditional point of compliance for one or more environmental media (see Part 7 of this chapter); and

(v) As appropriate, alternatives relying on a combination of cleanup action components for an environmental medium (such as treatment of some soil contamination and containment of the remainder). The alternatives must specify remediation levels for each component (see WAC 173-340-355).

(c) **Step 3: Screen alternatives and components.** Based on a preliminary analysis, eliminate from further evaluation the following cleanup action alternatives or components identified in Step 2:

(i) Alternatives that clearly do not meet the requirements for a cleanup action in WAC 173-340-360, including alternatives for which costs are clearly disproportionate to benefits under WAC 173-340-360(5);

(ii) Alternatives or components that are not technically possible at the site.

(d) **Step 4: Evaluate remaining alternatives.** Conduct a detailed evaluation of each remaining cleanup action alternative to determine whether it meets the requirements in WAC 173-340-360 and conforms to the expectations in WAC 173-340-370. If necessary, conduct additional remedial investigations under WAC 173-340-350 to complete the evaluation, including any investigations needed to complete a terrestrial ecological evaluation;

(e) **Step 5: Select preferred alternative.** Based on the detailed evaluation in Step 4, select a preferred cleanup action alternative that meets the requirements in WAC 173-340-360 and conforms, as appropriate, to the expectations in WAC 173-340-370.

(f) **Step 6: Report results.** Report the results of the feasibility study in accordance with subsection (4) of this section. Include the following information in the report:

(i) If the remedial investigation report is not combined with the feasibility study report, a summary of remedial investigation results, including:

(A) The conceptual site model used to develop and evaluate cleanup action alternatives;

(B) The proposed cleanup level for each hazardous substance within each affected environmental medium at the site, and the basis for the cleanup level; and

(C) Maps, cross-sections, and calculations illustrating the location, estimated amount, and concentration distribution of hazardous substances above the proposed cleanup levels for each affected environmental medium at the site;

(ii) Results of any additional investigations conducted after completing the remedial investigation report;

(iii) Results of any treatability or pilot studies needed to develop or evaluate cleanup action alternatives;

(iv) The cleanup goals identified in Step 1 of the feasibility study;

(v) The cleanup action alternatives identified in Step 2 of the feasibility study. For each alternative, include:

(A) The cleanup action components relied on to clean up each affected environmental medium;

(B) For alternatives relying on a combination of cleanup action components to clean up an environmental medium, the proposed remediation levels and the basis for those levels;

(C) The proposed point of compliance for each hazardous substance within each affected environmental medium at the site, and the basis for any conditional points of compliance (see Part 7 of this chapter);

(D) The location and estimated mass of each hazardous substance to be removed or treated by the alternative and the estimated time frame in which removal or treatment will occur. Ecology may require or allow estimates of the volume of contaminated material in place of, or in addition to, estimates of the mass of hazardous substances; and

(E) The location, estimated mass, and projected concentration distribution of each hazardous substance remaining above proposed cleanup levels after implementing the alternative. Ecology may require or allow estimates of the volume of contaminated material in place of, or in addition to, estimates of the mass of hazardous substances;

(vi) The cleanup action alternatives eliminated from further evaluation during the screening process in Step 3 of the feasibility study, and the basis for elimination;

(vii) Documentation of the detailed evaluation process in Step 4 of the feasibility study, including how impacts on likely vulnerable populations and overburdened communities were considered in the evaluation, and the basis for eliminating any alternative from further evaluation;

(viii) The preferred cleanup action alternative selected in Step 5 of the feasibility study, including:

(A) The basis for selecting the alternative and for any nonconformance to the expectations in WAC 173-340-370;

(B) Any local, state, or federal laws applicable to the alternative, including any known permits or approval conditions (see WAC 173-340-710);

(C) As appropriate, proposed indicator hazardous substances for the alternative (see WAC 173-340-703); and

(D) Sufficient information about the alternative to enable ecology to conduct the evaluations and make the determinations required under chapter 43.21C RCW, the State Environmental Policy Act, and chapter 197-11 WAC, the State Environmental Policy Act Rules;

(ix) Documentation of the proper management and disposal of any waste materials generated as a result of the feasibility study in accordance with applicable state and federal laws; and

(x) Any other information required by ecology.

[Statutory Authority: Chapters 70A.305 and 70A.355 RCW. WSR 23-17-159 (Order 18-09), § 173-340-351, filed 8/23/23, effective 1/1/24.]