


DEPARTMENT OF
ECOLOGY
State of Washington

Guidelines for Property Cleanups under the Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

Publication No. 08-09-044
Revised July 2015

 *Original printed on recycled paper*

Publication and Contact Information

This publication is available on the Department of Ecology's website at www.ecy.wa.gov/biblio/0809044.html.

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Disclaimers

This document provides guidance on how to conduct property-specific cleanups under the Model Toxics Control Act (MTCA), [Chapter 70.105D RCW](#), and obtain No Further Action opinions from the Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). The guidance is intended for both Ecology staff and our Customers.

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List of Acronyms and Abbreviations

Ecology	Washington State Department of Ecology
EIM	Environmental Information Management
FA	Further Action
MTCA	Model Toxics Control Act
NFA	No Further Action
PQL	Practical Quantitation Limit
PS	Partial Sufficiency
RCW	Revised Code of Washington (statute)
UECA	Uniform Environmental Covenants Act
VCP	Voluntary Cleanup Program
WAC	Washington Administrative Code (rule adopted under statute)

List of Revisions

July 2015

This revision includes the following changes:

- **Section 3.6, Example #2 (Page 26):** Corrected error in the description of Figure 3-8.
- **Section 5.1.3.3 Certification (Page 60):** Clarified that not all remedial action work requires a license. Added description of what remedial action work usually requires a license. Directs people to applicable licensing board if there is uncertainty about what work requires a license.

Acknowledgements

The Washington State Department of Ecology would like to thank the **Voluntary Cleanup Program (VCP) Steering Committee** and the following staff and managers for their contributions and support in the redevelopment of the VCP:

- **Headquarters Office:**
Nnamdi Madakor, VCP Statewide Coordinator & Hydrogeologist
Dave Bradley, Manager, Information & Policy Section
Michael Feldcamp, Legal and Policy Analyst
Dolores Mitchell, VCP Financial Manager
Trish Akana, VCP Financial Manager (retired)
Tara Davis, VCP Data Coordinator
Ann McNeely, Section Secretary
Carol Dorn, Public Disclosure
- **Eastern Regional Office:**
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Kim Cross, VCP Data Coordinator (former)
Chuck Cline, Hydrogeologist
Tom Middleton, Hydrogeologist
- **Northwest Regional Office:**
Russ Olsen, VCP Unit Manager
Mark Edens, VCP Unit Manager (former) & Hydrogeologist
Sara Nied, VCP Data Coordinator
Dale Myers, VCP Data Coordinator (former)
Joe Hickey, Brownfields Coordinator
Mark Adams, Hydrogeologist
- **Attorney General's Office**
Melissa Rourke
Ivy Anderson

We would also like to specifically thank members of the **VCP Advisory Group**, which included attorneys, developers, lenders, local governments, and environmental consulting firms.

Chapter 1 Introduction

The Model Toxics Control Act (MTCA), [Chapter 70.105D RCW](#), is a citizen-mandated law that governs investigation and cleanup of hazardous waste sites in the State of Washington. Under MTCA, sites are defined by the nature and extent of contamination associated with one or more releases of hazardous substances. Therefore, sites can include more than one parcel of real property.

The purpose of the Voluntary Cleanup Program (VCP) is to encourage cleanup and facilitate redevelopment of contaminated properties. Under the VCP, people may clean up sites independently, without supervision by the Department of Ecology (Ecology). They may request from Ecology written opinions on the sufficiency of their cleanups under the law.

Historically, Ecology only provided opinions on the sufficiency of cleanups of whole sites. To reflect changes in the marketplace and better achieve the purposes of the VCP, Ecology has decided to also provide opinions on the sufficiency of cleanups of individual parcels of real property located within sites. Ecology began providing such opinions in July 2008.

1.1 Purpose of the Document

This document provides guidance on how to conduct a property-specific cleanup under MTCA and obtain a No Further Action (NFA) opinion from Ecology under the VCP. The guidance addresses the following questions:

- What do I need to understand before I clean up the Property?
- How do I define the Property for the purposes of obtaining an opinion on my cleanup?
- What do I need to do to clean up the Property?
- What do I need to submit to Ecology to document my cleanup?
- What types of opinions does Ecology provide on Property cleanups?

This document is designed to promote the consistent management of cleanup projects and reduce the management problems that delay cleanups and issuance of opinions. The document is intended as both a guide and a reference for our staff and Customers.

The guidance provided in this document is based on the authority and requirements found in the Model Toxics Control Act (MTCA), [Chapter 70.105D RCW](#), and its implementing regulations, [Chapter 173-340 WAC](#). The instructions provided in this document reflect the policies of the Toxics Cleanup Program at the time of this publication.

1.2 Intended Audience

This document is intended for use by those people performing or reviewing independent cleanups under the VCP, including:

- Customer's project managers and consultants.
- Ecology's site managers.

This document may also provide useful information to those who rely on the opinions issued by Ecology under the VCP, including:

- Current owners and prospective purchasers of contaminated property.
- Local governments where contaminated property is located.
- Institutions lending money against contaminated property.
- Others who may need to rely on the advisory opinions.

Those who perform remedial actions independently should be appropriately trained and should exercise the same care and professional judgment as when performing remedial actions under Ecology supervision.

1.3 Organization of the Document

This document consists of six chapters. The remaining chapters of this document include:

- Chapter 2 – Background.** This chapter explains several important cleanup concepts that you need to understand before you clean up a Property, including:
 - Relationship between Properties and Sites.
 - Nature and Extent of Liability.
 - Types of Remedial Actions.
 - Types of Opinions.
- Chapter 3 – Guidelines for Defining the Property.** This chapter provides guidance on how to define a “Property” for purpose of obtaining a property-specific opinion under the VCP, including:
 - What is a Property?
 - Who defines the Property?
 - When should I define the Property?
 - What do I need to do to describe the Property?
 - What guidelines should I consider when defining the Property?
 - What cleanup at the Property does the opinion apply to?

- Chapter 4 – Guidelines for Conducting Property Cleanups.** This chapter identifies the laws and rules governing the cleanup of Sites and explains what you need to do to clean up a Property located within a Site, including:
 - Characterize the Site.
 - Establish cleanup standards for the Site.
 - Select a cleanup for the Property.
 - Clean up the Property.

- Chapter 5 – Guidelines for Reporting Property Cleanups.** This chapter explains what you need to do to document your independent clean up of a Property located within a Site and request an opinion under the VCP, including:
 - Regulatory Requirements.
 - Guidelines for Property Cleanup Reports.
 - Requesting Opinion on Property Cleanups.

- Chapter 6 – Opinions on Property Cleanups.** This chapter describes the opinions Ecology provides on Property cleanups, including:
 - Issues Presented.
 - Opinions Provided.
 - Analysis Conducted.
 - Content of Opinion Letters.
 - Meaning of No Further Action.

Chapter 2 Background

This chapter explains several important cleanup concepts that you need to understand before you clean up a Property, including:

- Relationship between Properties and Sites. (Section 2.1)
- Nature and Extent of Liability. (Section 2.2)
- Types of Remedial Actions. (Section 2.3)
- Types of Opinions. (Section 2.4)

2.1 Relationship between Properties and Sites

This section answers some frequently asked question about how “hazardous waste sites” or “sites” are defined under MTCA. This section also explains the differences between a site and the parcels of real property affected by the release of hazardous substances associated with the site.

2.1.1 What is a “hazardous waste site” or “site”?

A “**hazardous waste site**” is any site “where there has been confirmation of a release or threatened release of a hazardous substance that requires remedial action.” [WAC 173-340-200](#).

A “**site**” may include “any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft; or any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located.” [WAC 173-340-200](#).

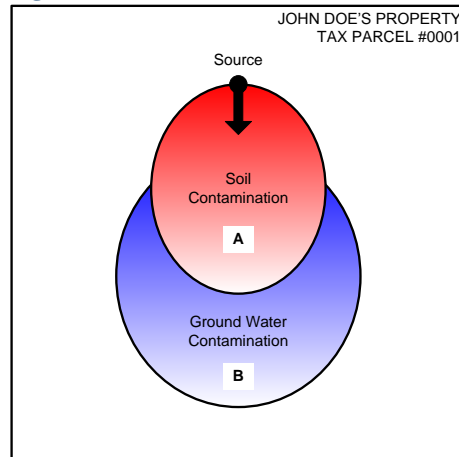
ATTENTION: For the purposes of this guidance, the terms “hazardous waste site” and “site” are used interchangeably. This guidance assumes that a release or threatened release of a hazardous substance has already been confirmed and that remedial action is required at the site.

2.1.2 How is a site defined?

Under MTCA, a site is **defined** by the nature and extent of contamination associated with one or more releases of hazardous substances (such as the release of gasoline from a leaking underground storage tank) prior to any cleanup of that contamination.

The following site scenario illustrates how a site is defined.

Figure 2-1: Hazardous Waste Site



Identification of the Release: Assume that a release of hazardous substances into the soil has occurred on John Doe’s parcel (#0001). Further assume that those hazardous substances have migrated laterally through the soil and vertically into the ground water.

Definition of the Site: The Site is defined by the extent of contamination caused by the release. Therefore, the Site consists of the following areas, which are illustrated in the adjacent site diagram (Figure 2-1):

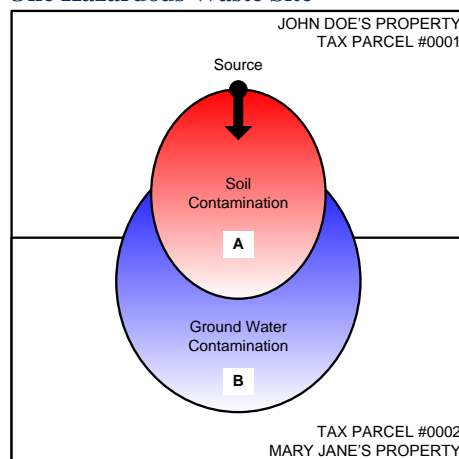
- A = Soil contamination;
- B = Ground water contamination.

2.1.3 Could a site be defined to include more than one parcel of real property?

YES. A site could be defined to include more than one parcel of real property. For example, assume the contamination from a release of hazardous substances migrates beyond the boundary of the parcel where the release occurred. In such a case, the site would be defined to include the contaminated areas on the parcel where the release occurred and on any adjacent parcels affected by the release.

The following site scenario illustrates the relationship between a site and the parcels of real property affected by it.

Figure 2-2: Two Parcels affected by One Hazardous Waste Site



Identification of the Release: Assume that a release of hazardous substances into the soil has occurred on John Doe’s parcel (#0001). Further assume that those hazardous substances have migrated vertically into the ground water and laterally onto Mary Jane’s parcel (#0002).

Definition of the Site: The Site is defined by the extent of contamination caused by the release. The contamination extends beyond the boundary of John Doe's parcel to affect Mary Jane’s parcel. Therefore, the Site affects two parcels of real property and consists of the following areas, which are illustrated in the adjacent site diagram (Figure 2-2):

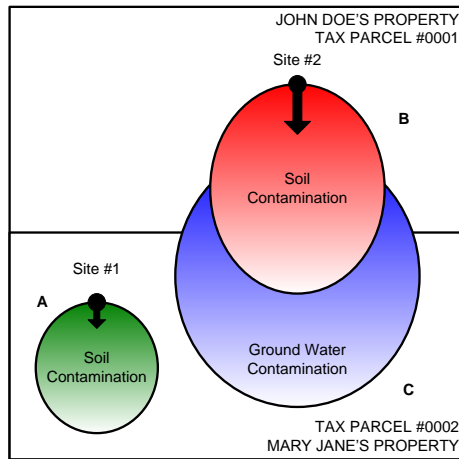
- A = Soil contamination on both parcels.
- B = Ground water contamination on both parcels.

2.1.4 Could a parcel of real property be affected by more than one site?

YES. A single parcel of real property could be affected by more than one site. This is because a parcel could be affected by more than one release of hazardous substances. The source of those releases could either be on the same parcel or on an adjacent parcel.

The following site scenario illustrates how a parcel could be affected by more than one site.

Figure 2-3: One Parcel affected by Two Hazardous Waste Sites



Identification of the Releases: Assume that a release of hazardous substances into the soil has occurred on Mary Jane's parcel (#0002). Further assume that a release of hazardous substances into the soil and ground water has occurred on John Doe's parcel (#0001) and that the contamination has migrated laterally onto Mary Jane's parcel.

Definition of the Sites: A site is defined by the extent of contamination caused by one or more releases. In this example, assume that the two distinct releases are defined as two distinct sites, which are illustrated in the adjacent site diagram.

Site #1 consists of the following areas:

- A = Soil contamination on Mary Jane's parcel.

Site #2 consists of the following areas:

- B = Soil contamination on both parcels.
- C = Ground water contamination on both parcels.

2.1.5 May a site be redefined if a portion of the site is cleaned up?

NO. A site may not be redefined if a portion of the site (such as one of two affected parcels of real property) is cleaned up. A site is defined by the nature and extent of contamination associated with the release of hazardous substances **prior to any cleanup of that contamination**. The fact that a remedial action has eliminated one or more hazardous substances or reduced the extent of the contamination does not alter the definition of the site.

For example, in the site scenario illustrated in Figure 2-2, if John Doe decided to clean up all the soil and ground water contamination located on his parcel (#0001), the definition of the site would remain the same. As you might expect, this fact has important implications for liability. See Section 2.2 for a discussion of the nature and extent of liability.

2.2 Nature and Extent of Liability

This section answers some frequently asked questions about the nature and extent of a person's liability under MTCA for the cleanup of a hazardous waste site. However, this section does not answer any questions about whether a person is liable under MTCA. If you have questions about your liability, you should seek advice from private counsel.

ATTENTION: Under the Voluntary Cleanup Program (VCP), Ecology does not determine who is potentially liable under MTCA or settle the liability of any persons who are potentially liable under MTCA.

2.2.1 What is the nature and scope of a person's liability to the state under MTCA?

Each person who is liable to the state under MTCA is **strictly liable, jointly and severally**, for all remedial action costs and for all natural resource damages resulting from the release or threatened release of hazardous substances at a site.

- Strict liability** means that a person is liable for the costs and damages resulting from the release or threatened release of hazardous substances at a site without regard to fault.
- Joint and several liability** means that each liable person is liable for all the costs and damages resulting from the release or threatened release of hazardous substances at a site, regardless of relative fault.

*For example, in the site scenario illustrated in **Figure 2-2**, assume that John Doe is a liable person under MTCA. As a liable person, John Doe would be liable to the state for all remedial action costs and for all natural resource damages resulting from the release of hazardous substances at the site. John Doe could be liable even if he was not at fault for causing the release and another liable person (such as a previous owner) was at fault.*

2.2.2 Is a person's liability to the state limited by the extent of property ownership?

NO. A person's liability to the state is not limited by the extent of property ownership. As discussed above, each person who is liable to the state under MTCA is **strictly liable, jointly and severally**, for the following:

- The costs of all remedial actions performed at the site**, regardless of where at the site those actions were performed.
- All natural resource damages at the site**, regardless of where at the site those damages were incurred.

The fact that remedial actions are performed on a property not owned by a liable person does not mean the person is not liable to the state for the costs of those remedial actions.

*For example, in the site scenario illustrated in **Figure 2-2**, assume that John Doe is a liable person under MTCA. As a liable person, John Doe would be liable to the state for the costs of all remedial actions performed at the site, including those actions performed on Mary Jane's parcel (#0002). John Doe would also be liable for all natural resource damages resulting from the release or threatened release of hazardous substances at the site, including those incurred on Mary Jane's parcel (#0002).*

2.2.3 What must a liable person do to resolve its liability to the state?

To resolve its liability to the state under MTCA, a liable person must obtain a settlement with the state. To obtain such a settlement, the liable person must enter into a consent decree with Ecology in accordance with [RCW 70.105D.040\(4\)](#).

ATTENTION: The opinions Ecology provides under the VCP do not resolve or alter a person's liability to the state under MTCA.

2.2.4 If a person incurs remedial action costs, then may that person seek contribution from other liable persons under MTCA?

YES. Persons who incur remedial action costs may bring a private right of action, including a claim for contribution, against other liable persons under MTCA to recover their costs. Persons may only recover the costs of remedial actions that are the substantial equivalent of Ecology-conducted or Ecology-supervised remedial actions. The court decides whether remedial actions are substantially equivalent. See [RCW 70.105D.080](#).

To facilitate private rights of action and minimize staff involvement in those actions, Ecology has developed guidance for potentially liable persons and courts on what remedial actions Ecology would consider substantially-equivalent. That guidance is provided in [WAC 173-340-545](#).

ATTENTION: The opinions Ecology provides under the VCP do not provide opinions on whether the independent remedial action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. Courts make that determination.

2.2.5 What must a liable person do to protect itself from contribution claims by third parties?

To obtain protection from contribution claims by third parties, a liable person must resolve its liability to the state under MTCA as described in **Section 2.2.3**. A person who has resolved its liability to the state is not liable to third parties for matters addressed by the consent decree. See [RCW 70.105D.040\(4\)\(d\)](#).

ATTENTION: The opinions Ecology provides under the VCP do not protect liable persons from contribution claims by third parties.

2.3 Types of Remedial Actions

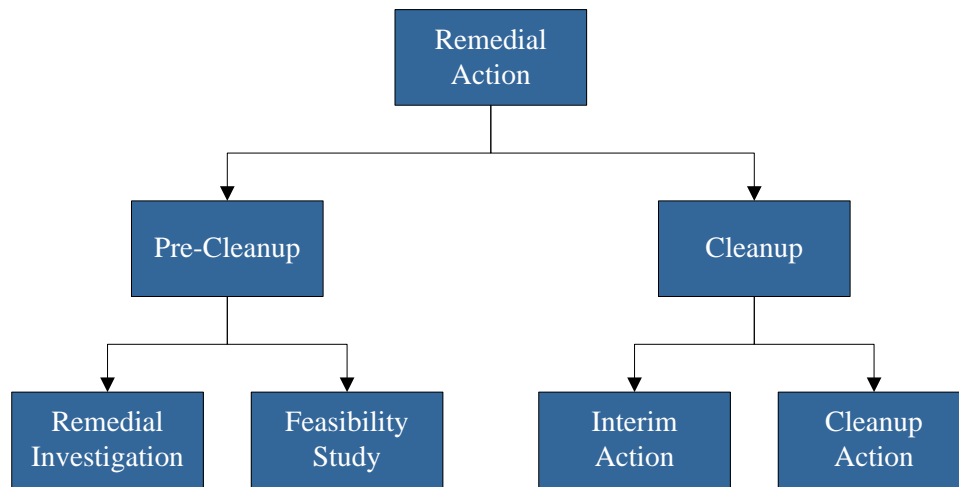
This section answers some frequently asked questions about the cleanup process and the different types of remedial actions that are performed during that process.

2.3.1 What is a “remedial action”?

A “remedial action” is any action performed under MTCA to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment. *See* [WAC 173-340-200](#).

As illustrated below, there are several different phases to the cleanup process and different types of remedial actions that are performed during each of those phases.

Figure 2-4: Types of Remedial Actions



2.3.2 What is a “remedial investigation”?

A “remedial investigation” is a type of remedial action that usually consists of an investigation of the following:

- The source of contamination.
- The nature and extent of contamination.
- The pathways of exposure to the contamination.

The purpose of the investigation is to enable the following:

- The establishment of cleanup standards.
- The selection of a cleanup action.

See [WAC 173-340-200](#) and [173-340-350\(7\)](#).

2.3.3 What is a “feasibility study”?

A “feasibility study” is a type of remedial action that consists of developing cleanup action alternatives and evaluating those alternatives against the minimum requirements set forth in [WAC 173-340-360\(2\)](#). The purpose of the study is to select a cleanup action. See [WAC 173-340-200](#) and [173-340-350\(8\)](#).

2.3.4 What is an “interim action”?

An “interim action” is a type of remedial action that consists of a **partial cleanup** of a hazardous waste site. See [WAC 173-340-200](#) and [WAC 173-340-430](#). An interim action may:

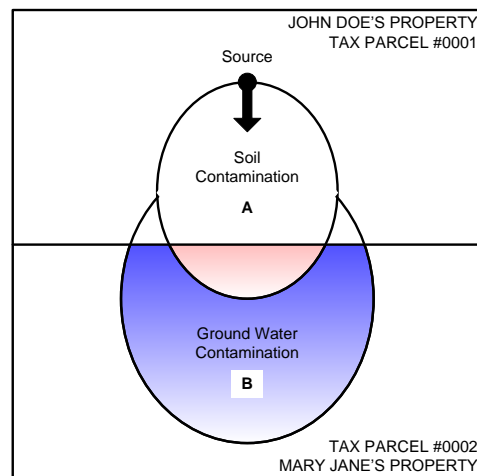
1. Achieve cleanup standards at one or more, but not all, areas of a site.

An interim action may achieve site cleanup standards within one or more, but not all, parcels of real property at a site.

a. Source parcel.

*As illustrated in **Figure 2-5** below, an interim action may achieve site cleanup standards within the parcel of real property that was the source of the release of hazardous substances.*

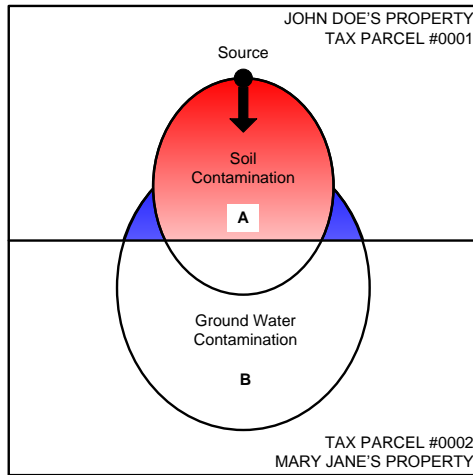
Figure 2-5: Interim Action: Property-Specific (Source Parcel)



b. Affected parcel.

*As illustrated in **Figure 2-6** below, an interim action might achieve site cleanup standards within a parcel of real property that was affected by the release of hazardous substances on the source property.*

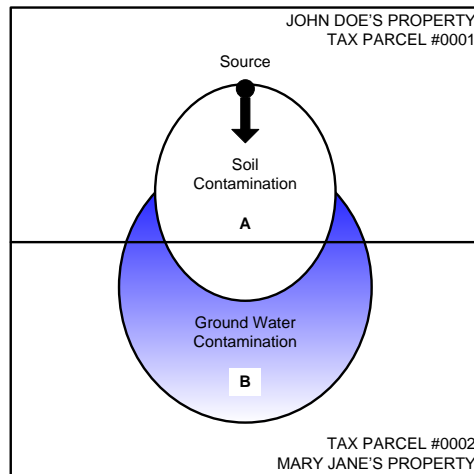
Figure 2-6: Interim Action: Property-Specific (Affected Parcel)



2. Achieve cleanup standards for one or more, but not all, media at a site.

As illustrated in Figure 2-7 below, an interim action might achieve site cleanup standards for one media (e.g., soil), but not the other media (e.g., ground water) affected by the site.

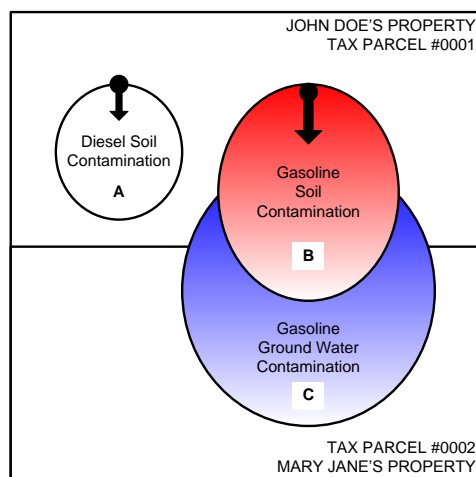
Figure 2-7: Interim Action: Media-Specific



3. Achieve cleanup standards for one or more, but not all, hazardous substances at a site.

As illustrated in Figure 2-8 below, an interim action could achieve site cleanup standards for one hazardous substance (e.g., diesel), but not the other hazardous substances (e.g., gasoline) at the site.

Figure 2-8: Interim Action: Substance-Specific



Note: This example assumes the two distinct releases (diesel and gasoline) are defined as part of one site.

4. **Otherwise achieve a partial cleanup of a site by eliminating or reducing one or more, but not all, pathways of exposure to a hazardous substance at a site.**

For example, assume the soil cleanup level for a hazardous substance at a site is based on the protection of ground water quality. That cleanup level is more stringent than the concentration that is protective of human health (based on direct contact). An interim action could reduce soil concentrations at the site down to the concentration that is protective of human health (based on direct contact), but not down to the soil cleanup level (which is based on protection of ground water quality).

5. **Demonstrate an unproven cleanup technology by achieving a partial cleanup of a site.**

An interim action could be used to test an unproven cleanup technology or test a proven cleanup technology in previously untested conditions. To the extent the cleanup technology proves successful, the interim action would achieve a partial cleanup of the site.

2.3.5 What is a “cleanup action”?

A “cleanup action” is a type of remedial action that consists of the **complete cleanup** of a hazardous waste site. To constitute a cleanup action, a remedial action must meet the minimum requirements for a cleanup action set forth in [WAC 173-340-360\(2\)](#). If the remedial action does not meet those requirements, the remedial action is considered an “interim action.”

A cleanup action may consist of one or more “cleanup action components.” A “component” is a treatment technology, containment action, removal action, engineered control, institutional control or other type of remedial action that is used, individually or in combination with other components, to achieve a cleanup action at a site.

See [WAC 173-340-200](#) and [WAC 173-340-360](#).

2.4 **Types of Opinions**

This section answers some frequently asked questions about the types of opinions Ecology provides under the Voluntary Cleanup Program (VCP).

2.4.1 **On what types of remedial actions does Ecology provide opinions?**

Ecology provides opinions on the following types of remedial actions:

1. **Pre-cleanup actions**, including both remedial investigations of the Site and feasibility studies of cleanup action alternatives for the Site.
2. **Cleanup actions**, including both the cleanup of the whole Site and the cleanup of one or more parcels of real property located within the Site.

2.4.2 **Does Ecology provide opinions on proposed remedial actions?**

YES. Ecology provides opinions on proposed remedial actions, including:

1. Remedial investigation work plans.
2. Cleanup action plans for either Property cleanups or Site cleanups.

2.4.3 **On what types of cleanups does Ecology provide opinions?**

As illustrated below in **Figure 2-9** below, Ecology provides written opinions on the following types of cleanups:

1. **Site Cleanups.** Ecology provides written opinions on cleanups of whole Sites.
2. **Property Cleanups.** Ecology provides written opinions on cleanups of one or more parcels of real property located within Sites.

Ecology will always categorize your cleanup as either a Site cleanup or a Property cleanup.

2.4.4 What types of opinions will Ecology provide on cleanups?

As illustrated in **Figure 2-9** below, the type of opinion Ecology provides depends on whether the cleanup addresses the whole Site or only some of the parcels of real property located within the Site:

1. **Site Cleanups.** If your cleanup addresses the whole Site, then Ecology will provide you one of the following opinions:
 - No further action (NFA).
 - Partial sufficiency (PS).
 - Further action (FA).

2. **Property Cleanups.** If your cleanup addresses only some of the parcels of real property located within the Site, then Ecology will provide you one of the following opinions:
 - No further action (NFA).
 - Further action (FA).

ATTENTION: Even if Ecology concludes that no further remedial action is necessary on your Property, **further remedial action** may still be necessary **elsewhere** at the Site. While your cleanup constitutes the final action for the Property, it constitutes only an **“interim action”** for the Site as a whole.

2.4.5 Does Ecology use boilerplate letters to provide opinions on cleanups?

YES. Ecology always uses boilerplate letters to provide opinions on cleanups, whether proposed and completed.

2.4.6 How many different boilerplate letters has Ecology developed to provide opinions on cleanups?

Ecology has developed **nine** different boilerplate letters for providing opinions on cleanups. Those boilerplate letters are available on our VCP web site: <http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm>.

2.4.7 Which boilerplate letter will Ecology use to provide an opinion on my cleanup?

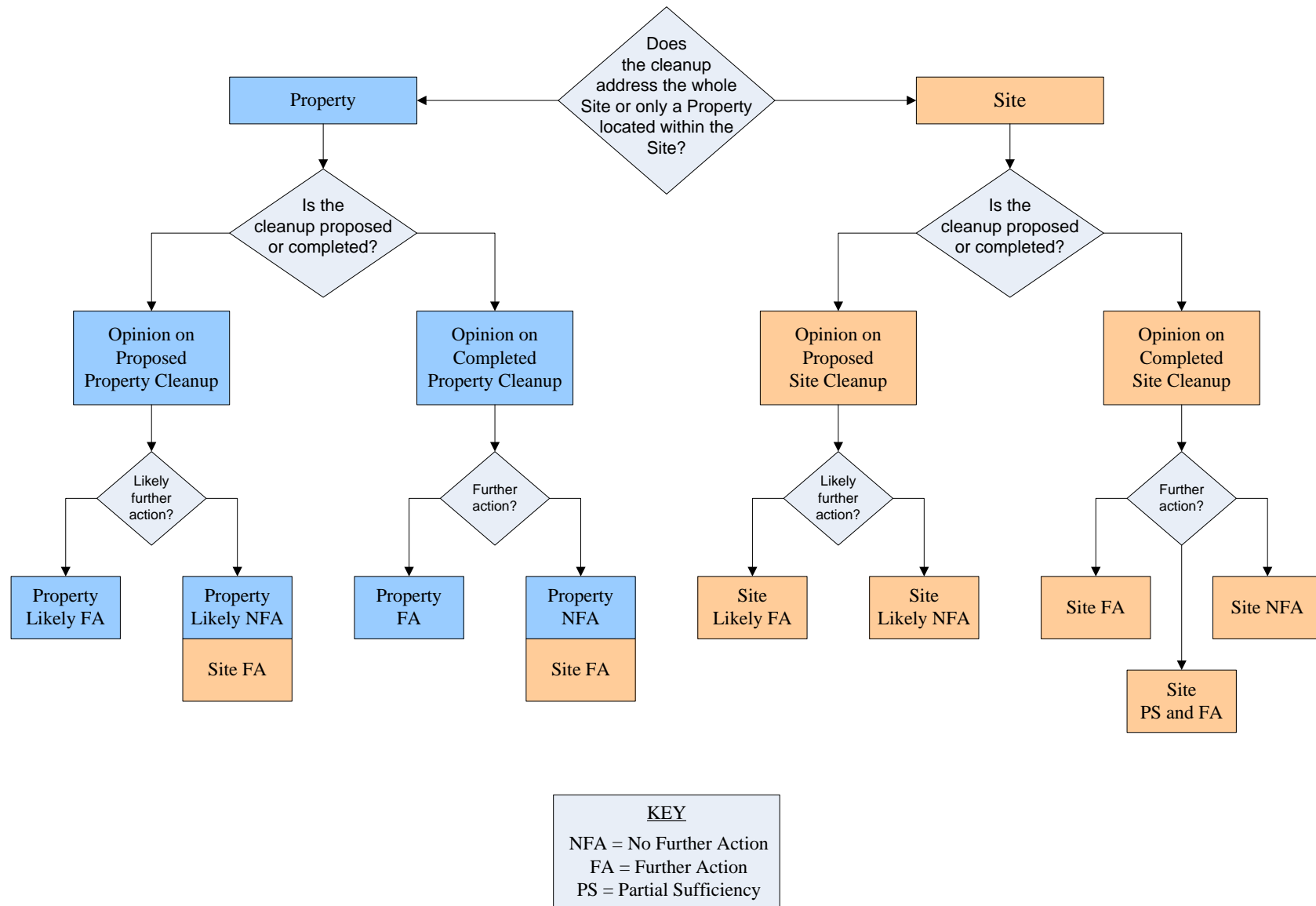
The boilerplate letter that Ecology will use to provide an opinion on your cleanup depends on the answer to the following three questions:

1. Does your cleanup address the whole Site or only a Property located within the Site?
2. Is your cleanup completed or proposed?
3. Is further remedial action necessary?

Figure 2-9 illustrates the process Ecology uses to select the boilerplate letter that it will use to provide an opinion on your cleanup.

Appendix B illustrates the types of opinions Ecology may provide on Site and Property cleanups under different cleanup scenarios.

Figure 2-9: Types of Opinions on Cleanups



Chapter 3 Guidelines for Defining the Property

This chapter provides guidance on how to define a “Property” for the purpose of obtaining opinions on property-specific cleanups under the Voluntary Cleanup Program (VCP), including:

- What is a Property? (Section 3.1)
- Who defines the Property? (Section 3.2)
- When should I define the Property? (Section 3.3)
- What do I need to do to describe the Property? (Section 3.4)
- What guidelines should I consider when defining the Property? (Section 3.5)
- What cleanup at the Property does the opinion apply to? (Section 3.6)

3.1 What is the “Property”?

For the purposes of this guidance, the “Property” is the parcel or parcels of real property affected by the Site and addressed by your cleanup.

ATTENTION: The definition of “Property” is important because it defines the area of the Site you must clean up to obtain a No Further Action (NFA) opinion from Ecology.

3.2 Who defines the Property?

The Customer defines the boundaries of the Property and thereby the scope of Ecology’s review under the VCP. However, Ecology may not provide an opinion on the property-specific cleanup if the Property is not defined in accordance with the guidelines in **Section 3.5** of this document.

ATTENTION: Ecology may not provide an opinion on a property-specific cleanup if the Property does not include at least one whole tax parcel.

3.3 When should I define the Property?

The Customer should define the Property before conducting the cleanup. Again, the boundaries the Property determine the area that must be cleaned up to obtain a No Further Action (NFA) opinion from Ecology.

The Customer must provide Ecology a description of the Property when requesting an opinion on a proposed or completed Property cleanup.

3.4 What do I need to do to describe the Property?

When requesting an opinion on a proposed or completed Property cleanup, the Customer needs to provide Ecology with a description of the Property. To describe the Property, the Customer needs to do the following:

1. Provide a legal description of the Property.

The Customer needs to provide a legal description of the Property. If the boundaries of the Property are not the same as the boundaries of a tax parcel, then the Customer may need to conduct a survey to provide an accurate legal description.

2. Illustrate the boundaries of the Property and the location of the Property within the Site.

The Customer needs to illustrate the boundaries of the Property and the location of the Property within the Site. The illustration should be included in the Site diagram that the Customer must also provide Ecology.

If you do not provide Ecology with this information, then Ecology will not be able to provide you an opinion on your Property cleanup.

3.5 What guidelines should I consider when defining the Property?

When requesting a property-specific opinion and defining the boundaries of the property on which you want that opinion, consider the following three guidelines:

- The Property should include at least one whole tax parcel.
- The Property should include right-of-way easements located on tax parcels, except under certain conditions.
- The Property may include multiple tax parcels, provided that they are contiguous.

Each of the guidelines is discussed separately below.

3.5.1 The Property should include at least One Whole Tax Parcel

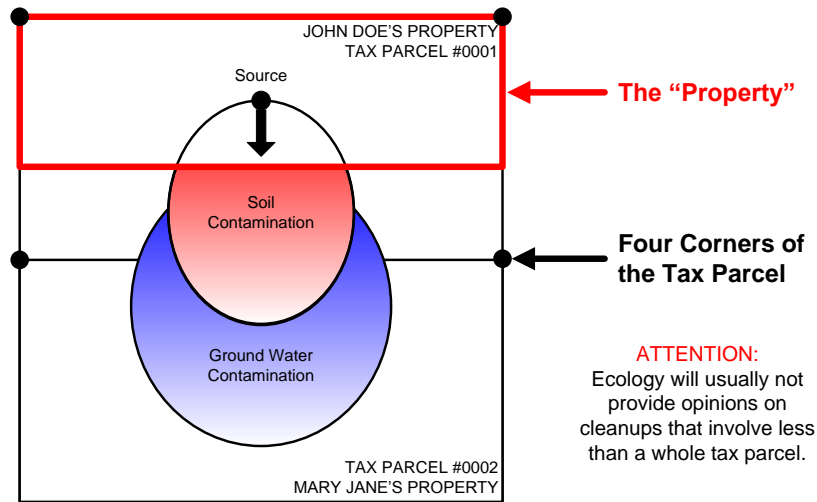
In general, Ecology will only provide opinions on property-specific cleanups if the Property includes at least one whole tax parcel.

Ecology will usually not provide opinions on cleanups of portions of parcels for several reasons, including:

- The technical difficulty in judging the sufficiency of such cleanups.
- The need to prioritize the use of our limited resources.
- The difficulty in tracking such cleanups.

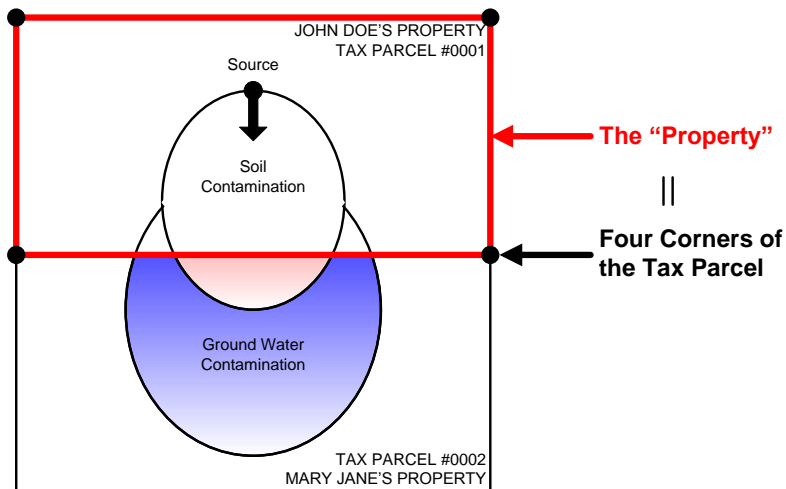
Example #1 – Portion of One Tax Parcel: As illustrated in **Figure 3-1** below, assume John Doe defined the Property as only a portion of his tax parcel (#0001). Ecology would not likely provide an opinion on his property-specific cleanup.

Figure 3-1: Definition of Property – Portion of One Tax Parcel



Example #2 – One Whole Tax Parcel: As illustrated in **Figure 3-2** below, assume John Doe defined the Property as his whole tax parcel (#0001). Ecology would likely provide an opinion on his property-specific cleanup under the VCP.

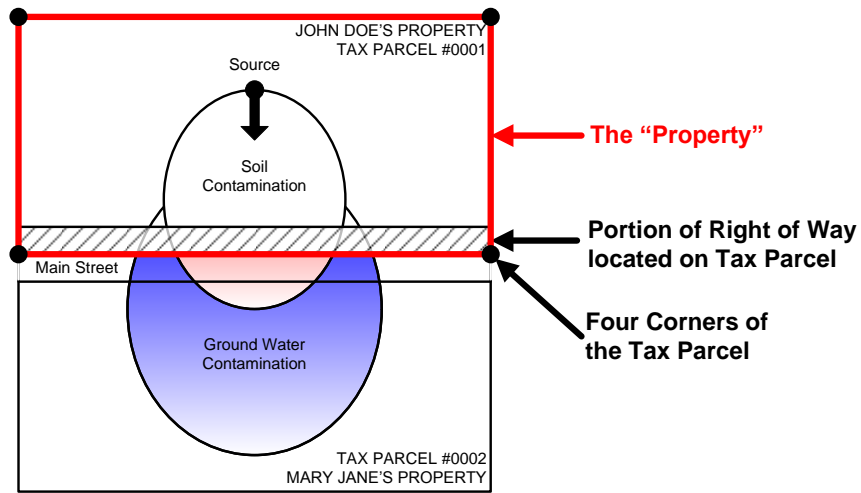
Figure 3-2: Definition of Property – One Whole Tax Parcel



3.5.2 The Property should include Right-of-Way Easements located on Tax Parcels, except under Certain Conditions.

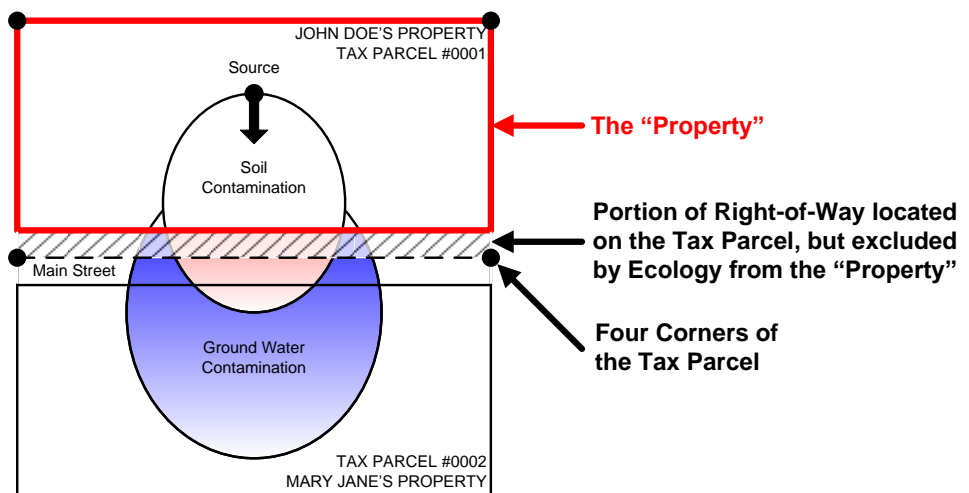
In general, Ecology will only provide opinions on property-specific cleanups when the Property includes the right-of-way (ROW) easements located on the tax parcels. See **Figure 3-3** below for an illustrated example.

Figure 3-3: Definition of Property – Tax Parcel including ROW



However, upon your request and under certain conditions, Ecology may provide opinions on property-specific cleanups when the Property excludes right-of-way (ROW) easements located on the perimeters of the tax parcels. See **Figure 3-4** below for an illustrated example.

Figure 3-4: Definition of Property – Tax Parcel excluding ROW



For Ecology to accept your request, you must demonstrate the following:

1. That you have insufficient control of the ROW easement to implement necessary remedial actions within the easement.
2. That you have made a good faith effort to resolve issues related to the implementation of remedial actions with the easement holder.

Such issues may include:

1. Access to or use of the easement to conduct necessary remedial actions.
2. Subordination of the easement holder’s prior property interests to an environmental covenant, or agreement by the holder to be bound by that covenant.

Demonstration of good faith may include:

1. Written documentation from the easement holder rejecting any remedial actions necessary under MTCA.
2. Documentation that the easement holder failed to respond to your written requests to resolve the issues, such as the use of certified mail.
3. Documentation of good faith efforts to resolve the issues with the easement holder.

BACKGROUND ON PROPERTY RIGHTS:

- An easement is the right to use another person's land for a stated purpose. It can involve a general or specific portion of the parcel. An easement can benefit (that is, be “held by”) an individual, a business entity, or a public entity.
- A right-of-way (ROW) is a type of easement that gives someone the right to travel across parcels owned by another person. For example, City X may have a ROW easement on your parcel to maintain a road or sidewalk and allow the public to travel on the easement; however, you would own the parcel.
- Fee simple is a type of ownership in land that includes most of the rights of ownership. In some cases, City X may actually own a ROW (that is, the road or sidewalk) in fee simple.

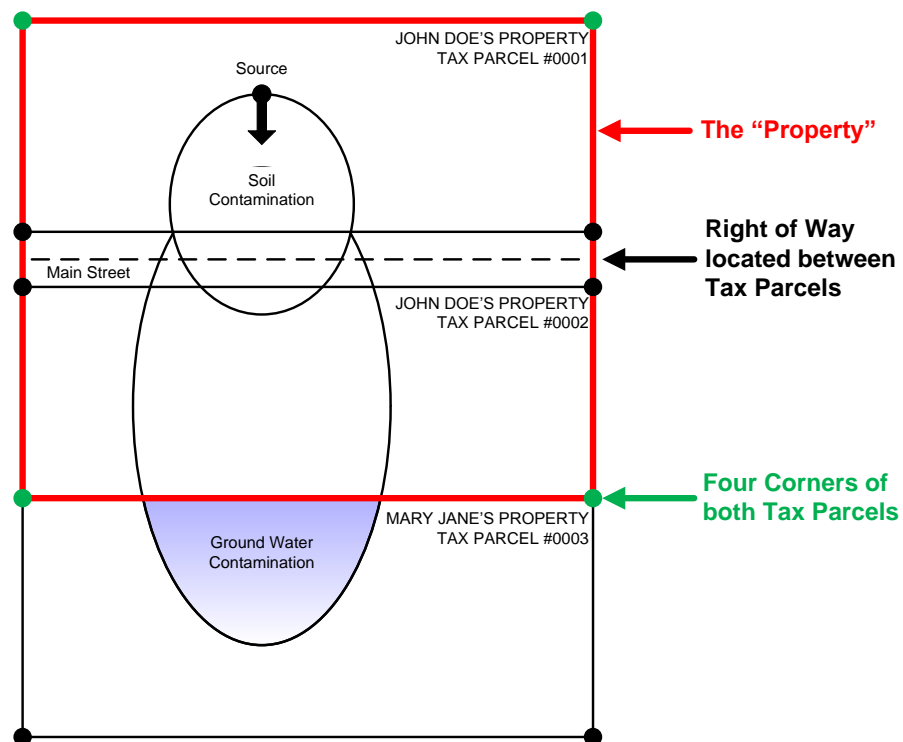
3.5.3 The Property may include Multiple Tax Parcels, provided that those Parcels are Contiguous.

Ecology may provide opinions on property-specific cleanups when the Property includes multiple tax parcels. However, Ecology will usually only provide such opinions if the parcels are contiguous and any right-of-ways located between those parcels are included within the boundaries of the Property.

Example #1 – Two Tax Parcels and ROW located between Parcels:

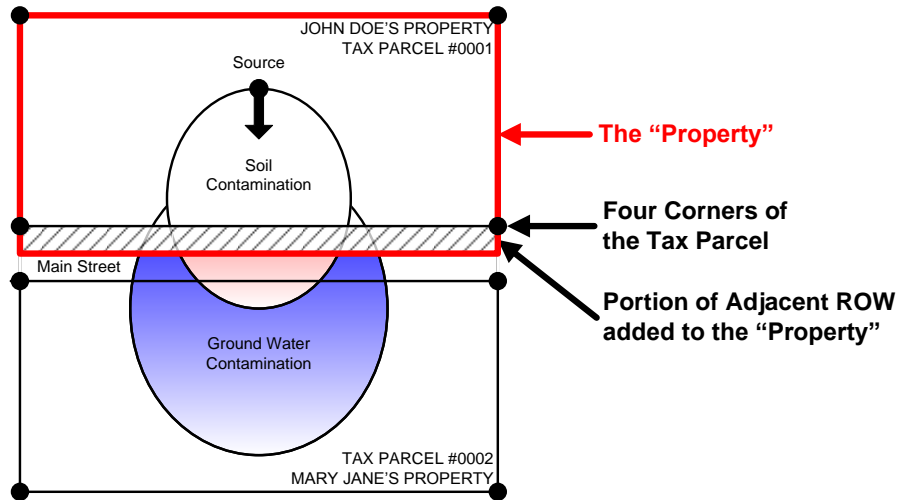
As illustrated in **Figure 3-5** below, the Property could be defined to include both of John Doe’s tax parcels (#0001 and #0002), provided that it also included the right-of-way (ROW) located between those two tax parcels (main street).

Figure 3-5: Definition of Property – Two Tax Parcels and ROW located between Parcels



Example #2 – One Tax Parcel and Adjacent ROW: As illustrated in **Figure 3-6** below, the Property could be defined to include John Doe’s tax parcel and part or all of an adjacent right-of-way.

Figure 3-6: Definition of Property – One Tax Parcel and Adjacent ROW



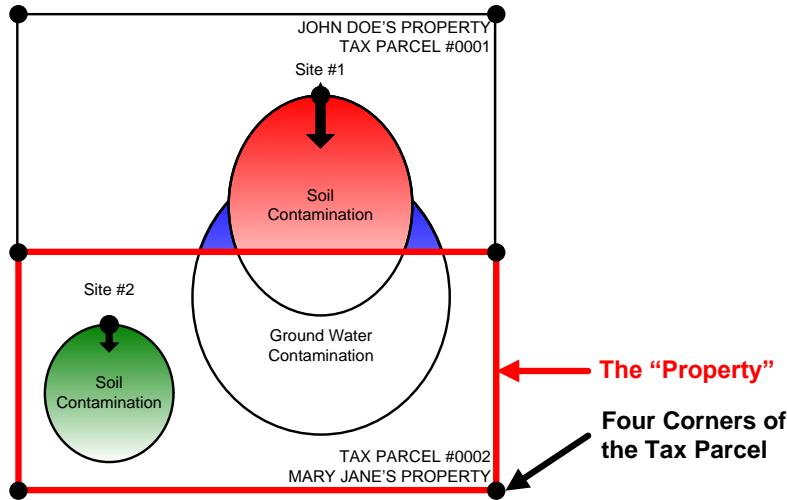
3.6 What cleanup at the Property does the opinion apply to?

The opinion applies only to the clean up of contamination associated with the Site described in the opinion. The opinion does not apply to any other site that may also affect the Property. Ecology will likely notify you in the opinion of the existence of any other sites that are known to affect the Property.

For examples, see the next page.

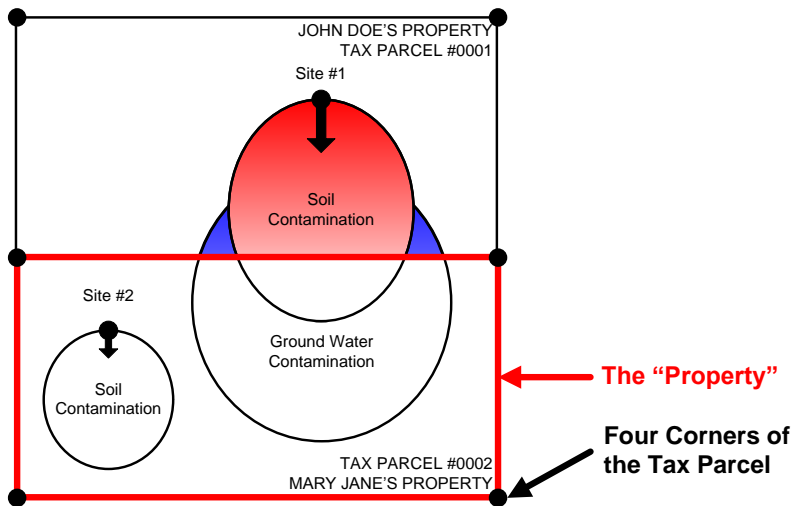
Example #1 – Cleanup of Site #1 within Property: As illustrated in **Figure 3-7** below, if Mary Jane successfully cleaned up all of the contamination from Site #1 on her tax parcel (#0002), but did not clean up Site #2, then Ecology would likely issue a Property NFA for Site #1. However, in that opinion, Ecology would likely provide notice that the Property (tax parcel #0002) is also affected by Site #2.

Figure 3-7: Cleanup of Site #1 within Property



Example #2 – Cleanup of Site #1 within Property and Cleanup of Site #2: As illustrated in **Figure 3-8** below, if Mary Jane successfully cleaned up Site #2 and all contamination from Site #1 on her tax parcel (#0002), then Ecology would likely issue two opinions, a Site NFA opinion for Site #2 and a Property NFA opinion for Site #1.

Figure 3-8: Cleanup of Site #1 within Property and Cleanup of Site #2



Chapter 4 Guidelines for Conducting Property Cleanups

This chapter identifies the laws and rules governing the cleanup of Sites and explains what you need to do to clean up a Property located within a Site, including:

- Characterize the Site. (Section 4.2)
- Establish cleanup standards for the Site. (Section 4.3)
- Select a cleanup for the Property. (Section 4.4)
- Clean up the Property. (Section 4.5)

4.1 Overview

This section identifies the laws and rules governing cleanups (Section 4.1.1) and provides an overview of the following:

- Cleanup process. (Section 4.1.2)
- Cleanup requirements. (Section 4.1.3)
- Guidelines for Property cleanups. (Section 4.1.4)

4.1.1 Laws and Rules

The cleanup of hazardous waste sites is governed by the state's cleanup law:

- [Chapter 70.105D RCW, Model Toxics Control Act \(MTCA\)](#).

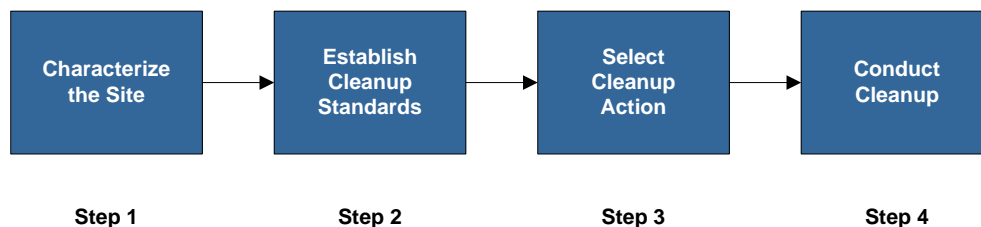
The process and requirements for cleaning up a site are set forth in the regulations adopted under that law:

- [Chapter 173-340 WAC, MTCA Cleanup Regulation](#).
- [Chapter 173-204 WAC, Sediment Management Standards](#).

4.1.2 Cleanup Process

The cleanup process involves four basic steps, which are illustrated in **Figure 4-1** below. You may combine the steps. At any point in the process, you may also go back to conduct further action under a previous step.

Figure 4-1: Steps in Cleanup Process



1. Characterize the Site.

First, you need to collect and evaluate sufficient information about the Site to establish cleanup standards (Step 2) and select a cleanup action (Step 3). To collect sufficient information, you may need to conduct a remedial investigation.

2. Establish cleanup standards.

After characterizing the Site (Step 1), you need to establish standards for the cleanup of the Site, including:

- Substance-specific standards.
- Location-specific standards.
- Action-specific standards.

3. Select cleanup action.

After characterizing the Site (Step 1) and establishing standards for the cleanup (Step 2), you need to select an action that meets those standards and other requirements.

4. Conduct cleanup.

After selecting a cleanup action (Step 3), you need to conduct the cleanup. You need to monitor the progress of the cleanup to determine whether the cleanup is meeting the cleanup and other performance standards established under Steps 2 and 3.

4.1.3 Cleanup Requirements

The requirements set forth in the cleanup regulations can be split into two types:

1. Substantive.

The substantive requirements govern the sufficiency of a cleanup. They directly affect the cleanup and the condition of the environment upon completion of the cleanup.

The substantive requirements are the **same** for Ecology-supervised and independent cleanups.

EXAMPLE: Conducting a feasibility study to evaluate cleanup alternatives and select a cleanup is a substantive requirement.

Ecology has developed four guidelines to help you determine what you need to do to conduct a Property cleanup and meet the substantive requirements of MTCA. Those guidelines are discussed in this chapter.

2. Administrative.

The administrative requirements govern the cleanup process. They generally govern, for example, documenting and reporting planned or completed remedial actions.

EXAMPLE: Writing a feasibility study report and submitting that report to Ecology for review and approval before conducting the selected cleanup is an administrative requirement.

The administrative requirements are **not the same** for Ecology-supervised and independent cleanups.

EXAMPLE: If you are conducting a cleanup independently, then you do not need to write a feasibility study report and submit that report to Ecology for review and approval before conducting your selected cleanup. However, you must still submit a report upon completion of your cleanup. And that report must contain sufficient information for Ecology to determine whether the remedial actions you completed, including the feasibility study, meet substantive requirements.

For guidance on what you need to submit to Ecology to document your independent cleanup, see **Chapter 5** of this document.

4.1.4 Guidelines for Property Cleanups

Ecology's opinion on Property cleanups will be based on an analysis of whether the cleanup meets the **substantive requirements** of MTCA, [Chapter 70.105D RCW](#), and its implementing regulations, [Chapter 173-340 WAC](#).

To help you determine what you need to do to conduct a Property cleanup and meet the substantive requirements of MTCA, Ecology has developed the following four guidelines, which reflect the four basic steps in the cleanup process identified in **Section 4.1.2** above:

1. Characterization of the Site.

To meet the substantive requirements of MTCA, you must collect and evaluate sufficient information to:

- Establish cleanup standards for the Site (see **Guideline #2**).
- Select a cleanup for the Property (see **Guideline #3**).

To collect sufficient information, you may need to conduct a remedial investigation. In some cases, your investigation may need to extend beyond the boundary of your Property. The need for and the scope of any such investigation depends on site-specific factors.

Refer to **Section 4.2** below for additional guidance and answers to some frequently asked questions.

2. Establishment of cleanup standards for the Site.

After characterizing the Site, you need to establish standards for the cleanup of the Site, including:

- Substance-specific standards.
- Location-specific standards.
- Action-specific standards.

The standards you establish must meet the substantive requirements of MTCA.

Refer to **Section 4.3** below for additional guidance and answers to some frequently asked questions.

3. Selection of cleanup for the Property.

After characterizing the Site and establishing standards for the cleanup of the Site, you need to select a cleanup for the Property that meets those standards and other requirements.

To select a cleanup for the Property, you must conduct a feasibility study of cleanup alternatives. To meet the substantive requirements of MTCA, the cleanup you select for the Property must:

- Meet minimum cleanup requirements, including the cleanup standards you established (see **Guideline #2**).
- Not exacerbate conditions or foreclose reasonable cleanup alternatives elsewhere at the Site.

Refer to **Section 4.4** below for additional guidance and answers to some frequently asked questions.

4. Cleanup of the Property.

After selecting the cleanup, you need to clean up the Property. To meet the substantive requirements of MTCA, the cleanup must achieve and maintain compliance with Site cleanup standards within the Property.

Actions may be necessary to maintain compliance with cleanup standards within the Property if your cleanup involves:

- Preventing recontamination of the Property by contaminants located elsewhere at the Site.
- Containing or managing contamination located on the Property.

Those actions may include:

- Constructing, operating, and maintaining engineered controls.
- Executing and complying with institutional controls.
- Monitoring the effectiveness of those controls.

Refer to **Section 4.5** below for additional guidance and answers to some frequently asked questions.

4.2 **Guideline #1: Characterization of the Site**

To meet the substantive requirements of MTCA, you must collect and evaluate sufficient information to:

- Establish cleanup standards for the Site (see **Guideline #2**).
- Select a cleanup for the Property (see **Guideline #3**).

To collect sufficient information, you may need to conduct a remedial investigation. In some cases, your investigation may need to extend beyond the boundary of your Property.

4.2.1 Requirements

The regulatory requirements for conducting a remedial investigation are set forth in [WAC 173-340-350\(7\)](#).

4.2.2 Property-Specific Guidance

This subsection provides answers to frequently asked questions about the purpose of remedial investigations and how much investigation is necessary when you are cleaning up only a Property located within a Site, not the entire Site.

- **What is the purpose of the investigation?**

The purpose of the investigation is to collect sufficient information to:

1. Establish cleanup standards for the Site.
2. Select a cleanup for the Property.

- **Do I always need to conduct an investigation?**

NO. You do not always need to conduct an investigation. You only need to conduct an investigation if you do not have sufficient information to characterize the Site for the purposes stated above.

- **On what does the scope of the investigation depend?**

The scope of the investigation is site-specific and depends on:

1. **The information needed to make decisions.**

The scope of the investigation depends on the type, quality, and quantity of information necessary to:

- a. Establish cleanup standards for the Site.
- b. Select a cleanup for the Property.

2. **The information that is already available.**

The scope of the investigation also depends on what information is already available to make those decisions, including the results of any interim actions, initial investigations, site hazard assessments, and other site investigations.

3. **The specific characteristics of the Site.**

The scope of the investigation also depends on the specific characteristics of the Site.

- **Do I always need to investigate off-property areas?**

NO. You do not always need to investigate off-property areas. You only need to investigate off-property areas if you do not have sufficient information to characterize the Site for the purposes stated above.

- **Are there alternatives to investigating off-property areas?**

YES. Instead of investigating off-property areas of the Site, you may as appropriate:

1. **Assume the release affects off-property areas.**

Instead of investigating off-property areas, you may simply assume the release affects those areas. In other words, you may assume the worst.

2. Use modeling to predict the effects of the release.

Instead of investigating off-property areas, you may use modeling to predict the effects of the release. However, you must still collect sufficient data to verify the accuracy of the model.

3. Establish cleanup levels based on practical quantitation limit (PQL) or natural background levels.

Instead of investigating off-property areas, you may establish cleanup levels based on PQL or natural background levels. Doing so may eliminate the need for information from other areas of the Site.

4.3 Guideline #2: Establishment of Cleanup Standards for the Site

After characterizing the Site, you need to establish standards for the cleanup of the Site, including:

- Substance-specific standards.
- Location-specific standards.
- Action-specific standards.

The standards you establish must meet the substantive requirements of MTCA.

4.3.1 Types of Standards

There are basically three types of cleanup standards:

1. Substance-specific.

A substance-specific cleanup standard consists of the following:

- Cleanup level**, which is the concentration of the hazardous substance that protects human health and the environment.
- Point of compliance**, which is the location at the Site where the cleanup level must be attained.

The cleanup levels, in combination with the points of compliance, typically define the area or volume of contamination at the Site that must be addressed by the cleanup.

EXAMPLE: Assume that arsenic was released into the soil and ground water, that no other substances were released, and that the release did not affect any other media. Further assume that Method A was used to establish cleanup levels.

- Soil cleanup standard:** The cleanup level is 20 mg/kg (based on natural background) and the point of compliance is throughout the soils at the Site (based on protection of ground water quality).
- Ground water cleanup standard:** The cleanup level is 5 ug/l (based on natural background) and the standard point of compliance is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth which could potentially be affected by the Site.

Disclaimer: These cleanup standards are intended only as examples and are based on many assumptions. Your standards may differ based on site-specific factors.

2. Action-specific.

An action-specific standard is a requirement specified in applicable federal, state, or local law that applies based on the type of action. These requirements are generally established in conjunction with the selection of a specific cleanup action.

EXAMPLES:

- Well construction and maintenance requirements:** If you are constructing wells as part of your cleanup, then you must comply with the requirements of [Chapter 173-160 WAC](#).
- Water-discharge requirements:** If you plan to release hazardous substances directly or indirectly into the waters of the state as part of your cleanup, then you must use all known, available and reasonable methods of treatment consistent with the requirements of the Water Pollution Control Act, [Chapter 90.48 RCW](#), and the Water Resources Act, [Chapter 90.54 RCW](#), and their implementing regulations.
- Air-discharge requirements:** If you plan to release hazardous substances into the air as part of your cleanup, then you must use best available control technologies consistent with the requirements of the Washington Clean Air Act, [Chapter 70.94 RCW](#), and its implementing regulations.

3. Location-specific.

A location-specific standard is a requirement specified in applicable federal, state or local law that applies based on the location of the action. These requirements are generally established in conjunction with the selection of a specific cleanup action.

EXAMPLE: If you plan to clean up areas located within the “shorelines of the state,” then you need to comply with the requirements of the Shoreline Management Act, [Chapter 90.58 RCW](#), and its implementing regulations.

4.3.2 Requirements

The cleanup standards you establish for the Site must meet the substantive requirements in Part VII of the MTCA rules. Those rules include:

1. General requirements, which apply to all media ([WAC 173-340-700](#) through 710).
2. Specific technical requirements, which apply to each specific medium ([WAC 173-340-720](#) through 760).

Please note that you must obtain any permits required by applicable federal, state, and local laws to conduct your selected cleanup. See [WAC 173-340-710](#).

4.3.3 Technical Guidance

For guidance on how to establish cleanup standards, refer to the following focus sheet:

- [Establishing Cleanup Standards and Selecting Cleanup Actions.](#)

For more specific guidance on how to establish cleanup standards for each of the different media, please refer to the following media-specific focus sheets:

- [Developing Soil Cleanup Standards.](#)
- [Developing Ground Water Cleanup Standards.](#)
- [Developing Surface Water Cleanup Standards.](#)
- [Developing Air Cleanup Standards.](#)

Ecology has also developed several tools to help you establish cleanup levels, including:

❑ [Searchable Database Tool](#).

Ecology has developed a web-based compendium of technical information related to the calculation of cleanup levels, known as CLARC (Cleanup Levels and Risk Calculations). Guidance documents on how to establish cleanup levels are also available through CLARC.

❑ [Calculation Tools](#).

Ecology has also developed tools for calculating soil and ground water cleanup levels for both single contaminants and petroleum.

These and other guidance documents and tools are available on the following Ecology web site: <http://www.ecy.wa.gov/programs/tcp/cleanup.html>.

4.3.4 Property-Specific Guidance

This subsection provides answers to frequently asked questions about how to establish cleanup standards for a Site when you are cleaning up only a Property located within that Site, not the entire Site.

4.3.4.1 *Substance-specific standards*

- **Do I need to establish cleanup standards for the Site as a whole instead of just for my Property?**

YES. As a **general rule**, you need to establish cleanup standards for the Site as a whole instead of just for your Property. You need to do this because:

1. Cleanup standards apply to the Site as whole, not individual parcels of real property within the Site.
2. The cleanup standards for one medium (such as soil) must protect not only the quality of that medium, but also the quality of every other medium (such as ground water) into which the contaminants may migrate.

There is **one exception to this general rule**. Industrial soil clean-up levels can be established on a property-specific basis. But even those cleanup levels must still protect the quality of other media, even if those media (such as surface water) are not located on your Property.

- **Do I need to establish cleanup standards for contaminated media that are not located on my Property?**

YES. As a **general rule**, you need to establish cleanup standards for contaminated media that are not located on your Property. You need to do this because the cleanup standards established for one medium (e.g., ground water) must protect the quality of every other media (e.g., surface water and sediment) into which the contaminants may migrate.

There is **one exception to this general rule**. If the cleanup standards you establish for the contaminated media on your Property are based on practical quantitation limit (PQL) or natural background levels, then you do not need to establish cleanup standards for the contaminated media that are not located on your Property. That is because those standards would protect the quality of the other media, irrespective of what the standards for those other media are.

- **May I establish cleanup levels based on practical quantitation limit (PQL) or natural background levels?**

YES. You may establish cleanup levels based on PQL or natural background levels.

- **May I establish cleanup standards that are different from those previously established for the Site?**

YES. You may establish cleanup standards that are different from those previously established for the Site, provided that they meet the substantive requirements of MTCA.

This situation may arise if the previously established standards did not meet the substantive requirements of MTCA or were more stringent than necessary to meet those requirements.

- **Do I need to conduct a feasibility study to justify the use of a conditional point of compliance for ground water?**

YES. You need to conduct a feasibility study to justify the use of a conditional point of compliance for ground water. See [WAC 173-340-360\(2\)\(c\)](#) and [173-340-720\(8\)\(c\)](#).

- **Do I need to conduct a site-wide feasibility study to justify the use of an off-property conditional point of compliance for ground water?**

YES. You need to conduct a site-wide feasibility study to justify the use of an off-property conditional point of compliance for ground water. See [WAC 173-340-360\(2\)\(c\)](#) and [173-340-720\(8\)\(d\)](#).

4.3.4.2 *Action and Location-specific standards*

- **May other regulatory requirements apply based on the type or location of the cleanup?**

YES. Other regulatory requirements may apply based on the type of location of the cleanup. See [WAC 173-340-710](#).

- **Am I exempt from obtaining permits required under applicable state and local laws?**

NO. Since you are conducting the cleanup independently, as opposed to under Ecology-supervision, you are not exempt from obtaining permits required under applicable state and local laws. See [RCW 70.105D.090](#) and [WAC 173-340-710](#).

- **When should I identify action-specific and location-specific requirements?**

You should usually identify action- and location-specific requirements during the feasibility study when you are developing and evaluating cleanup alternatives.

4.4 **Guideline #3: Selection of Cleanup for the Property**

After characterizing the Site and establishing standards for the cleanup of the Site, you need to select a cleanup for the Property that meets those standards and other requirements.

To select a cleanup for the Property, you must conduct a feasibility study of cleanup alternatives. To meet the substantive requirements of MTCA, the cleanup you select for the Property must:

- Meet minimum cleanup requirements, including the cleanup standards you established (see **Guideline #2**).
- Not exacerbate conditions or foreclose reasonable cleanup alternatives elsewhere at the Site.

4.4.1 Requirements

The regulatory requirements for conducting a feasibility study are specified in [WAC 173-340-350\(8\)](#).

The cleanup you select for the Property must meet the following regulatory requirements:

Minimum cleanup requirements.

As your cleanup constitutes the **final action for the Property**, the cleanup you select must meet the minimum cleanup requirements. The requirements are specified in [WAC 173-340-360\(2\)](#).

Other cleanup requirements.

As your cleanup constitutes only an **interim action with respect to the Site as a whole**, the cleanup you select must not exacerbate conditions or foreclose reasonable cleanup alternatives elsewhere at the Site. See [WAC 173-340-430](#).

4.4.2 Technical Guidance

For guidance on how to select cleanup actions, refer to the following focus sheet:

[Establishing Cleanup Standards and Selecting Cleanup Actions](#).

This and other guidance documents and tools are available on the following Ecology web site: <http://www.ecy.wa.gov/programs/tcp/cleanup.html>.

4.4.3 Property-Specific Guidance

This subsection provides answers to frequently asked questions about the purpose of feasibility studies and how to conduct such a study when you are selecting a cleanup for only the Property, not the Site as a whole.

4.4.3.1 *Nature and Scope of Feasibility Study*

- **What is a feasibility study?**

A feasibility study is remedial action that consists of developing cleanup alternatives and evaluating those alternatives against the minimum requirements set forth in [WAC 173-340-360\(2\)](#).

- **What is the purpose of a feasibility study?**

The purpose of a feasibility study is to select a cleanup for your Property.

- **Do I always need to conduct a study to select a cleanup for my Property?**

YES. You always need to conduct a study to select a cleanup for your Property.

However, you do not need to document the study or the results of the study in a separate document. You may include that information in your cleanup report.

- **What does the scope of the study depend on?**

The scope of the study is site-specific and depends on:

1. The specific characteristics of the Site.
2. The cleanup alternatives you evaluate.
3. Whether you want to establish a conditional point of compliance.
4. Whether you want to select a non-permanent cleanup alternative.

- **May the study be property-specific?**

YES. As a **general rule**, the study may be property-specific. In other words, you only need to select a cleanup for the Property, not the Site as whole. As part of that study, though, you must demonstrate that the cleanup you select for the Property does not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere at the Site.

There is **one exception to this general rule**. You must conduct a site-wide study if you want to establish an off-property conditional point of compliance for ground water. That is because you would be effectively selecting a cleanup for the entire Site, not just your own Property. You might also need the approval of the other affected property owners. See [WAC 173-340-720\(8\)\(d\)](#).

- **How many cleanup alternatives do I need to evaluate as part of the study?**

You need to evaluate a reasonable number and type of cleanup alternatives as part of the study. You should take into account the characteristics and complexity of the Site, including current conditions and physical constraints. See [WAC 173-340-350\(8\)\(c\)\(i\)\(B\)](#).

You must include alternatives with the standard point of compliance for each contaminated media. See [WAC 173-340-350\(8\)\(c\)\(i\)\(F\)](#).

- **May I include alternatives that use innovative technology?**

YES. You may include alternatives that use innovative technology. However, you may need to conduct an interim action to demonstrate an unproven technology or the use of a proven technology in different conditions.

- **May some of the cleanup alternatives I developed be screened from further study?**

YES. You may screen the following cleanup alternatives from further study:

1. Alternatives that, based on a preliminary analysis, clearly do not meet the minimum cleanup requirements. This includes those alternatives whose costs are clearly disproportionate to the benefits.
2. Alternatives that are not technically possible.

See [WAC 173-340-350\(8\)\(b\)](#).

- **Against what must the cleanup alternatives be judged?**

The cleanup alternatives must be judged against the following:

- 1. Minimum cleanup requirements.**

As your cleanup constitutes the **final action** for the Property, the cleanup you select for the Property must meet the minimum cleanup requirements. The requirements are specified in [WAC 173-340-360\(2\)](#).

2. Other cleanup requirements.

As your cleanup constitutes only an **interim action** for the Site as a whole, the cleanup you select for the Property must not exacerbate conditions or foreclose reasonable cleanup alternatives elsewhere at the Site.

See [WAC 173-340-350\(8\)\(c\)\(i\)\(G\)](#) and [173-340-430\(3\)](#).

4.4.3.2 Minimum Cleanup Requirements**• What are the minimum requirements for a cleanup?**

The minimum requirements for a cleanup are specified in [WAC 173-340-360\(2\)](#). The cleanup must, for example:

1. Protect human health and the environment.
2. Comply with cleanup standards within the Property.
3. Comply with applicable federal, state and local laws (including applicable permits).
4. Monitor compliance with the cleanup standards within the Property.
5. Use permanent solutions to the maximum extent practicable.
6. Restore the Property within a reasonable time frame.
7. Consider public concerns.

• Must I demonstrate that my selected cleanup uses permanent solutions to the maximum extent practicable?

YES. As a **general rule**, you must demonstrate that your selected cleanup uses permanent solutions to the maximum extent practicable. To make that demonstration, you must conduct a disproportionate cost analysis.

The analysis involves comparing the benefits and costs of cleanup alternatives. The comparison may be quantitative, but often is qualitative and requires the use of best professional judgment.

There is **one exception to this general rule**. You do not need to make that demonstration if you select a permanent cleanup.

See [WAC 173-340-360\(2\)\(b\)\(i\)](#) and [173-340-360\(3\)](#).

- **What must I demonstrate to establish a conditional point of compliance for ground water?**

To establish a conditional point of compliance for ground water, you must demonstrate at a minimum:

1. That it is not practicable to meet cleanup levels at the standard point of compliance within a reasonable restoration time frame.
2. That the conditional point of compliance is established as close as practicable to the source of contamination.
3. That all practicable methods of treatment are used to clean up the contamination.

You may also need to make additional demonstrations. See [WAC 173-340-360\(2\)\(c\)](#) and [173-340-720\(8\)\(c\)](#) and (d).

- **Must I demonstrate that my selected cleanup will prevent recontamination of the Property from sources located elsewhere at the Site?**

YES. You must demonstrate that your selected cleanup will prevent recontamination of the Property from sources or contaminants located elsewhere at the Site.

You must prevent recontamination to maintain compliance with cleanup standards within the Property.

- **To what extent do I need to prevent recontamination of the Property from sources located elsewhere at the Site?**

You only need to prevent recontamination of the Property **to the extent necessary** to maintain compliance with cleanup standards within the Property.

- **When is remedial action necessary to maintain compliance with cleanup standards?**

Remedial action is necessary to maintain compliance with cleanup standards when:

1. Action is necessary to manage or contain contamination on the Property.
2. Action is necessary to prevent recontamination of the Property.

- **What types of remedial actions may be necessary to maintain compliance with cleanup standards?**

The following types of remedial actions may be necessary to maintain compliance with cleanup standards:

1. **Institutional controls**, which prohibit or limit activities that may interfere with the integrity of engineered controls or result in exposure to hazardous substances.
2. **Engineered controls**, which prevent or limit movement of, or exposure to, hazardous substances.
3. **Confirmational monitoring**, which may be necessary to confirm the long-term effectiveness of the cleanup.

4.4.3.3 *Other Cleanup Requirements*

- **May the cleanup exacerbate any existing or threatened releases of hazardous substances at the Site?**

NO. The cleanup you select must not exacerbate any existing or threatened release of hazardous substances at the Site.

For example, the cleanup must not redirect contamination to areas not previously impacted by the release of hazardous substances at the Site.

ATTENTION: Your cleanup should also not adversely affect physical conditions, including hydrogeologic conditions, elsewhere at the Site. For example, your cleanup should not adversely affect the flow of ground water, causing flooding of basements or backing up of sewer systems.

- **May the cleanup foreclose reasonable alternatives elsewhere at the Site?**

NO. As your cleanup constitutes only an **interim action** for the Site as a whole, the cleanup you select for the Property must not foreclose reasonable cleanup alternatives, including permanent alternatives, elsewhere at the Site. *See* WAC 173-340-430(3).

4.5 **Guideline #4: Cleanup of the Property**

After selecting the cleanup, you need to clean up the Property. To meet the substantive requirements of MTCA, the cleanup must achieve and maintain compliance with Site cleanup standards within the Property.

Actions may be necessary to maintain compliance with cleanup standards within the Property if need to:

- Prevent recontamination of the Property by hazardous substances located elsewhere at the Site.
- Contain or manage contamination located on the Property.

Those actions may include:

- Constructing, operating, and maintaining engineered controls.
- Executing and complying with institutional controls.
- Monitoring the effectiveness of those controls.

4.5.1 Requirements

The regulatory requirements for conducting a cleanup, including doing the following, are specified in [Part IV of the MTCA rules](#):

- Design.
- Construction.
- Operation and Maintenance.
- Monitoring.
- Review.

The requirements for demonstrating compliance with the cleanup standards are specified in [Part VII of the MTCA rules](#).

If your cleanup is not permanent, then institutional controls are required as part of your cleanup. Institutional controls must be imposed through an environmental covenant on the real property subject to the covenant, except under certain specified circumstances.

- For direction on when institutional controls are required as part of your cleanup, and when such controls must be imposed through an environmental covenant, see [WAC 173-340-440](#).
- For direction on how to execute, amend, or terminate a covenant, see [Chapter 64.70 RCW, Uniform Environmental Covenants Act \(UECA\)](#).

If an environmental covenant is required, please use the boilerplate covenant we developed. The boilerplate may be downloaded from our VCP web site: <http://www.ecy.wa.gov/programs/tcp/cleanup.html>.

4.5.2 Technical Guidance

For guidance on how to demonstrate compliance with cleanup standards, refer to the last section of the following media-specific focus sheets:

- [Developing Soil Cleanup Standards](#).
- [Developing Ground Water Cleanup Standards](#).
- [Developing Surface Water Cleanup Standards](#).
- [Developing Air Cleanup Standards](#).

For statistical guidance on how to demonstrate compliance with cleanup standards, refer to the following:

- [Statistical Guidance Document](#).
- [Statistical Tools](#).

These and other guidance documents and tools are available on the following Ecology web site: <http://www.ecy.wa.gov/programs/tcp/cleanup.html>.

4.5.3 Property-Specific Guidance

This subsection provides answers to frequently asked questions about how to achieve and maintain compliance with cleanup standards within the Property.

4.5.3.1 *General*

- **Where do I need to meet cleanup standards?**

You need to meet cleanup and other performance standards within the boundaries of the Property.

- **What does it mean to “meet” cleanup standards?**

Your cleanup must both achieve and maintain compliance with cleanup standards within the Property.

- **Do I need to implement any controls to maintain compliance with cleanup standards within the Property?**

You need to implement controls to maintain compliance with cleanup standards within the Property if:

1. Controls are necessary to manage or contain contamination on the Property after the cleanup.
2. Controls are necessary to prevent recontamination of the Property after the cleanup.

- **What types of controls may I need to implement to maintain compliance with cleanup standards within the Property?**

You may need to implement the following types of controls to maintain compliance with cleanup standards within the Property:

1. **Engineered controls**, which prevent or limit movement of, or exposure to, hazardous substances.
2. **Institutional controls**, which prohibit or limit activities that may interfere with the integrity of engineered controls or result in exposure to hazardous substances.

- **Do I need to do anything after the cleanup to maintain compliance with cleanup standards within the Property?**

If you needed to implement controls to maintain compliance with cleanup standards within the Property, then you need to do the following after the cleanup:

1. **Operate and maintain any engineered controls.** You need to operate and maintain any engineered controls in accordance with an Ecology-approved plan.
2. **Comply with institutional controls.** You need to comply with any Ecology-approved institutional controls. You must also comply with any recorded environmental covenant used to impose those controls.

You may also need to conduct **confirmational monitoring** to monitor the long-term effectiveness of those controls.

4.5.3.2 *Engineered Controls*

- **What are engineered controls?**

Engineered controls are containment or treatment systems that are designed and constructed to prevent or limit the movement of, or exposure to, hazardous substances. See [WAC 173-340-200](#).

- **Do I need to construct any engineered controls to maintain compliance with cleanup standards within the Property?**

You may need to construct engineered controls to maintain compliance with cleanup standards within the Property if you need to:

1. Manage or contain contamination on the Property.
2. Prevent recontamination of the Property.

- **What type of engineered controls may be necessary to prevent recontamination of the Property?**

The type of engineered controls that may be necessary to prevent recontamination depends on the pathway of concern and site-specific factors. Common types of **active controls** include:

1. **Physical barriers**, such as slurry walls, grout injection, sheet piling, high-density polyethylene walls, and surface water controls.
2. **Hydraulic barriers**, such as drains/trenches, pumping and gas venting.

In some cases, **passive options** may also be appropriate. Such options would include a series of performance monitoring wells or points. The use of such options would depend on the pathways of concern and the specific dynamics of the Site.

- **Do I need to develop an operation and maintenance plan?**

YES. If engineered controls are necessary to maintain compliance with cleanup standards, then you need to develop an operation and maintenance plan. For guidance on how to develop and what to include in a plan, see [WAC 173-340-400](#).

- **Do I need to submit my operation and maintenance plan to Ecology for review and pre-approval?**

YES. You need to submit your operation and maintenance plan to Ecology for review and pre-approval. Ecology will not issue an NFA opinion without an approved plan. We will attach the approved plan to the NFA opinion.

4.5.3.3 *Institutional Controls*

- **What are institutional controls?**

Institutional controls are measures that prohibit or limit activities that may interfere with the integrity of engineered controls or result in exposure to hazardous substances.

The limitations can vary from restricting the type of use of the property (e.g., no use of ground water) to restricting activities on the property (e.g., no digging below 5 feet). The limitations on activities or use of the property are designed to protect people and the environment.

See [WAC 173-340-200](#) and [173-340-440](#).

- **Do I need to impose any institutional controls on my Property to maintain compliance with cleanup standards within the Property?**

In general, you need to impose institutional controls to maintain compliance with cleanup standards within the Property if you need to:

1. Manage or contain contamination on the Property.
2. Prevent recontamination of the Property.

For a complete list of circumstances where institutional controls are needed, see [WAC 173-340-440\(4\)](#).

- **What is an environmental covenant?**

An environmental covenant is a legal document used to impose institutional controls (such as activity and use limitations) on parcels real property affected by the release of hazardous substances.

Guidelines for Property Cleanups

The covenant is recorded in every county where the real property subject to the covenant is located. This provides future owners notice of the controls imposed on the property. The covenant attaches to the property and is said to “run with the land” because it can be enforced against both current and future owners. The covenant can be enforced by Ecology, as well as other holders.

The execution, amendment, and termination of covenants are governed by the [Uniform Environmental Covenants Act \(UECA\), Chapter 64.70 RCW](#).

- **Do I need to use a covenant to impose institutional controls?**

YES. Except under certain conditions, you need to use a covenant to impose institutional controls.

You do not need to use a covenant to impose institutional controls if you can demonstrate, for example, that:

1. The property is owned by a local, state, or federal government entity.
2. The entity does not routinely file with the county recording officer records relating to the type of interest in the real property that it has in the Site.
3. The entity will implement an affective alternative system that meets the requirements of [WAC 173-340-440\(9\)](#).

Ecology must approve the use of any alternative system. See [WAC 173-340-440\(8\)](#).

- **Do I need to submit my covenant to Ecology for review and approval?**

YES. You need to submit your covenant to Ecology for review and approval. The drafting of covenants is discussed more below.

- **Do I need to record my covenant to obtain a No Further Action (NFA) opinion?**

YES. You need to record your covenant to obtain a NFA opinion. The signing and recording of covenants is discussed more below.

Drafting the Covenant

- **May Ecology request that I draft the covenant?**

YES. Ecology may request that you draft the covenant.

- **Is there a boilerplate covenant?**

YES. There is a boilerplate environmental covenant. The boilerplate is available on our VCP web site:
www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm.

- **May I modify the boilerplate covenant?**

NO. You may not modify the boilerplate covenant without consulting with Ecology's Site Manager and the Attorney General's Office.

- **Are there any instructions on how to draft the covenant?**

YES. Instructions on how to draft the covenant are available in the boilerplate covenant. Additional guidance is provided in [WAC 173-340-440\(9\)](#). As of the time of this publication, there is no additional guidance.

- **Who should I contact if I have questions about how to draft the covenant?**

If you have questions about how to draft the covenant, contact Ecology's Site Manager and the Attorney General's Office.

Consultation with Local Governments

- **May Ecology request that I consult with the local government?**

YES. The Uniform Environmental Covenants Act (UECA) requires consultation with local governments when developing land use or activity limitations. Ecology may request that you consult with the local governments to help meet that requirement. See [RCW 64.70.040\(5\)](#).

- **When should I consult with the local government?**

You should usually consult with the local government before drafting the covenant, and as often as necessary during the drafting process.

- **What do I need to do as part of the consultation?**

As part of the consultation, you need to:

- Obtain information about present and proposed land and resource uses.
- Consider comprehensive land use plan and zoning provisions applicable to the real property subject to the covenant.
- Consider potential redevelopment and revitalization opportunities.

See [RCW 64.70.040\(5\)](#).

You should already have obtained much of this information when you characterized the Site. See [WAC 173-340-350\(7\)\(c\)\(iii\)\(E\)](#).

- **Is local government approval required?**

NO. If requested, you need to consult with the local government, not obtain the approval of the local government. See [RCW 64.70.040\(5\)](#).

However, if the local government holds an interest in the real property subject to the covenant (for example, an easement), then you need to obtain the concurrence of the local government. See the discussion below about subordinating prior interests.

Subordinating Prior Interest in the Property

- **May Ecology request that I subordinate prior interests in the real property subject to the covenant?**

YES. As a condition of its own approval (signature), Ecology may require subordination of prior interests in the real property subject to the covenant. See [RCW 64.70.040\(3\)](#).

Ecology may require subordination of prior interests to protect human health and the environment and ensure that the holder of the prior interest is bound by the terms of the covenant.

- **How do I subordinate prior interests in the real property subject to the covenant?**

A subordination agreement may be contained in the covenant or in a separate record. An agreement by a person to subordinate a prior interest to a covenant affects the priority of that person's interest. The agreement does not by itself impose any affirmative obligation on the person with respect to the covenant. See [RCW 64.70.030\(4\)](#).

Signing the Covenant

- **Am I responsible for obtaining the required signatures?**

YES. You (the Customer) are responsible for obtaining the required signatures.

- **Must Ecology sign the covenant?**

YES. The Department of Ecology must approve and sign the covenant. See [RCW 64.70.040\(1\)\(e\)](#).

- **Who else must sign the covenant?**

In addition to Ecology, the following persons must sign the covenant:

- Every holder (usually Ecology).
- Every owner of the fee simple of the real property subject to the covenant, unless waived by Ecology.

See [RCW 64.70.040\(1\)\(e\)](#). Furthermore, as a condition of its own approval (signature), Ecology may require persons who have interests in the real property sign the covenant. See [RCW 64.70.040\(3\)](#).

- **When should I obtain Ecology's signature?**

You should obtain Ecology's signature before the covenant is recorded, but after all other persons have signed.

Recording the Covenant

- **Am I responsible for recording the covenant?**

YES. You are responsible for recording the covenant.

- **Where must I record the covenant?**

You must record the covenant in every county in which any portion of the real property subject to the covenant is located. See [RCW 64.70.080\(1\)](#).

- **When should I record the covenant?**

You should record the covenant after obtaining all of the required signatures, including Ecology's signature.

Distributing the Covenant

- **Am I responsible for distributing copies of recorded covenant?**

YES. You are responsible for distributing copies of the recorded covenant. See [RCW 64.70.070\(1\)](#).

- **To whom do I need to send a copy of the recorded covenant?**

You need to send a copy of the recorded covenant to the following:

- The Department of Ecology.
- Each person that signed the covenant.
- Each person holding a recorded interest in the real property subject to the covenant.
- Each person in possession of the real property subject to the covenant at the time the covenant is executed.
- Each municipality or other unit of local government in which real property subject to the covenant is located.
- Any other person the Department of Ecology requires.

See [RCW 64.70.070\(1\)](#).

- **Do I need to provide Ecology an original copy of the recorded covenant?**

YES. You need to provide Ecology an original copy of the recorded covenant.

4.5.3.4 *Performance Monitoring*

- **What is performance monitoring?**

Performance monitoring is monitoring that is conducted during the cleanup to determine whether the cleanup has achieved and will maintain compliance with cleanup and other performance standards. See [WAC 173-340-410](#).

- **Do I always need to conduct performance monitoring?**

YES. You always need to conduct performance monitoring as part of your cleanup to demonstrate compliance with cleanup and other performance standards. See [WAC 173-340-360\(2\)](#) and [173-340-410](#).

- **How much performance monitoring do I need to conduct?**

The nature, scope, and frequency of the performance monitoring that you need to conduct is site-specific and depends on, for example:

- The physical characteristics of the Site.
- The nature and extent of contamination at the Site.
- The use of the land and other resources on the Property.
- The cleanup you selected for the Property.
- Whether the cleanup you selected is permanent.
- Whether the cleanup involves containment of hazardous substances on the Property.
- Whether the cleanup involves containment of hazardous substances located elsewhere at the Site.
- Whether the cleanup may exacerbate any existing or threatened releases at the Site.

- **Do I need to develop a performance monitoring plan?**

YES. You always need to develop a performance monitoring plan. For guidance on how to develop and what to include in such a plan, see [WAC 173-340-410](#) and [173-340-820](#).

- **Do I need to submit my performance monitoring plan to Ecology for review and approval?**

NO. You do not need to submit your performance monitoring plan to Ecology for review and approval. However, as part of your independent remedial action report, you must submit equivalent information. You need to describe your sampling and analysis plan and the procedures you used to analyze and evaluate data. See [WAC 173-340-410](#) and [173-340-515](#).

4.5.3.5 *Confirmational Monitoring*

- **What is confirmational monitoring?**

Confirmational monitoring is monitoring that is conducted after a cleanup to confirm the long-term effectiveness of the cleanup. See [WAC 173-340-410](#).

- **Do I need to conduct confirmational monitoring?**

You may need to conduct confirmational monitoring if engineered or institutional controls are necessary to maintain compliance with cleanup standards on the Property.

- **Do I need to develop a confirmational monitoring plan?**

YES. If confirmational monitoring is necessary, then you need to develop a plan. For guidance on how to develop and what to include in a plan, see [WAC 173-340-410](#) and [173-340-820](#).

- **Do I need to submit my confirmational monitoring plan to Ecology for review and pre-approval?**

YES. You need to submit your confirmational monitoring plan to Ecology for review and pre-approval. Ecology will not issue an NFA opinion without an approved plan. We will attach the approved plan to the NFA opinion.

4.5.3.6 *Periodic Reviews*

- **What are periodic reviews?**

Periodic reviews are reviews that are conducted periodically after a cleanup to determine whether post-cleanup conditions remain protective of human health and the environment. See [WAC 173-340-420](#).

- **When are periodic reviews of independent cleanups necessary?**

Periodic reviews of independent cleanups are necessary if Ecology:

- Issues an opinion on the sufficiency of the independent cleanup under the VCP, and
- Requires institutional controls as a condition of the opinion.

Ecology may require institutional controls as a condition of the following types of opinions:

- No Further Action (NFA) opinion for the Site.
- Partial Sufficiency opinion for the Site.
- No Further Action (NFA) opinion for a Property located within the Site.

Periodic reviews may also be necessary in other circumstances.

See [RCW 70.105D.030\(6\)](#) and [WAC 173-340-420](#).

- **How often must periodic reviews of independent cleanups be conducted?**

Periodic reviews of independent cleanups must be conducted at least once every five years after an environmental covenant is recorded. See [RCW 70.105D.030\(6\)](#) and [WAC 173-340-420](#).

- **Who conducts periodic reviews of independent cleanups?**

Ecology conducts periodic reviews of independent cleanups.

Chapter 5 Guidelines for Reporting Property Cleanups

This chapter explains what you need to do to document your independent clean up of a Property located within a Site and request an opinion under the Voluntary Cleanup Program (VCP), including:

- Regulatory Requirements. (Section 5.1)
- Guidelines for Property Cleanup Reports. (Section 5.2)
- Requesting Opinion on Property Cleanups. (Section 5.3)

5.1 Regulatory Requirements

This section describes the regulatory requirements governing the writing and submission of independent remedial action reports, including:

- Format. (Section 5.1.1)
- Content. (Section 5.1.2)
- Submission. (Section 5.1.3)

5.1.1 Format

Your plan or report does not need to be the same in title or format as the documents required under MTCA. However, your plan or report must still contain sufficient information to serve the same purposes as those documents.

For example, since you are conducting the cleanup independently, you are not required to write a feasibility study report for Ecology review and approval before conducting your cleanup. However, you are required to submit an independent remedial action report after completing your cleanup. And that report must include sufficient information to serve the same purpose as the feasibility study report. In particular, your report must include sufficient information for Ecology to determine whether the cleanup you selected meets the substantive requirements of MTCA.

See [WAC 173-340-515\(3\)](#).

5.1.2 Content

Your plan or report must include sufficient information for Ecology to determine whether your remedial actions meet the substantive requirements of MTCA. See [WAC 173-340-515\(4\)](#).

For additional guidance on what you need to include in your plan or report, see **Section 5.2** of this document.

5.1.3 Submittal

Unless otherwise specified by Ecology, your plan or report must meet the following submittal requirements. Failure to comply with these requirements may result in unnecessary delays. Please note that Ecology may not issue a No Further Action (NFA) opinion unless these requirements are satisfied.

5.1.3.1 *Cover Letter*

Include a cover letter describing the plan or report and specifying the desired Ecology action or response. See [WAC 173-340-840\(1\)](#).

5.1.3.2 *Number of Copies*

Provide **one** hard copy and an electronic copy of the plan or report. Ecology may require additional hard copies. See [WAC 173-340-840\(2\)](#).

5.1.3.3 *Certification*

Submit documents containing geologic, hydrogeologic, or engineering work under the seal of an appropriately licensed professional. Under Washington State law, specifically Chapters [18.220](#) and [18.43](#) RCW, such work must be conducted by, or under the direct supervision of, a licensed geologist or professional engineer qualified to conduct the work. This work includes, for example, interpretation of geologic or groundwater data, design calculations or plans, and as-built plans. However, not all remedial action work requires a license. If you are unsure whether your work requires one of these licenses, contact the applicable licensing board below. For additional information, refer to the following:

1. **Geologists:**

- Rules: [Chapter 308-15 WAC](#).
- Licensing Board:
www.dol.wa.gov/business/geologist/geoardinfo.html.

2. **Engineers:**

- Rules: [Title 196 WAC](#).
- Licensing Board:
www.dol.wa.gov/business/engineerslandsurveyors/

See [WAC 173-340-840\(3\)](#) and [173-340-400\(6\)\(b\)](#).

5.1.3.4 *Visuals*

Include maps, figures, photographs, and tables to clarify information or conclusions. They must be legible. All maps, plan sheets, drawings, and cross-sections must meet the following requirements:

1. **Size.** To facilitate filing and handling, be on paper no larger than 24 x 36 inches and no smaller than 8-1/2 x 11 inches. Photo-reduced copies of plan sheets may be submitted provided at least one full-sized copy of the photo-reduced sheets are included in the submittal.
2. **Scale.** Identify and use appropriate and consistent scales to show all required details in sufficient clarity.
3. **Labeling.** Be numbered, titled, have a legend of all symbols used, and specify drafting or origination dates.
4. **Direction.** Contain a north arrow.
5. **Elevations.** Use United States Geological Survey datum as a basis for all elevations.
6. **Topography.** Where grades are to be changed, show original topography in addition to showing the changed site topography. This requirement does not apply to conceptual diagrams or sketches where before and after topography is not needed to convey the necessary information.
7. **Planimetric views.** For planimetric views, show a survey grid based on monuments established in the field and referenced to state plane coordinates. This requirement does not apply to conceptual diagrams or sketches when the exact location of items shown is not needed to convey the necessary information.
8. **Cross-section views.** For cross-sections views, identify the location and be cross-referenced to the appropriate planimetric view. A reduced diagram of a cross-section location map shall be included on the sheets with the cross-sections.

See [WAC 173-340-840\(4\)](#).

5.1.3.5 *Sampling Data*

Environmental sampling data must be submitted in both a printed form and an electronic form capable of being transferred into Ecology's data management systems. See [WAC 173-340-840\(5\)](#) and [Policy 840](#).

For instructions on how to submit the data, please refer to the following Ecology web site:
www.ecy.wa.gov/programs/tcp/data_submittal/Data_Requirements.htm.

5.1.3.6 *Appendix*

Include an appendix that includes the principal information you relied on to plan or conduct the remedial action and prepare the submittal.

You may need to include, for example, the following:

1. Site diagrams, if not included elsewhere in the report, including:
 - Plainimetric views.
 - Cross-section views.
2. If you relied on other sources of information:
 - Complete citation of references.
3. If you conducted sampling:
 - Sampling and analysis plans.
 - Sampling locations and elevations.
 - Boring logs and well construction details.
 - Raw sampling data.
 - Laboratory reports.
 - Calculations.
4. If you conducted modeling:
 - Model description.
 - Model assumptions and limitations.
 - Results of model iterations used to calibrate the model.
 - Model results (relevant base graph outputs).
 - References.

See [WAC 173-340-840\(6\)](#).

5.2 Guidelines for Property Cleanup Reports

For Ecology to determine that no further remedial action is necessary on the Property to clean up the contamination associated with the Site, you need to include the following information in your plan or report.

5.2.1 Characterization of the Site

You need to provide sufficient information for Ecology to determine whether your characterization meets the substantive requirements of MTCA. You need to describe, for example:

- The characteristics of the Site.
- The basis for your characterization, including plans for and results of any remedial investigations or modeling.

For additional guidance on what to include in your plan or report, refer to [WAC 173-340-350\(7\)\(c\)](#), which describes what should be included in a remedial investigation report.

5.2.2 Establishment of Cleanup Standards for the Site

You need to provide sufficient information for Ecology to determine whether the cleanup standards you established for the Site meet the substantive requirements of MTCA. You need to describe, for example:

- The cleanup standards you established for the Site.
- The basis for those standards, including any calculations or analyses.

5.2.3 Selection of Cleanup for the Property

You need to provide sufficient information for Ecology to determine whether your selected cleanup meets the substantive requirements of MTCA. You need to describe, for example:

- The feasibility study you conducted.
- The cleanup you selected based on that study.

For additional guidance on what to include in your plan or report, refer to [WAC 173-340-350\(8\)\(c\)](#), which describes what should be included in a feasibility study report.

5.2.4 Cleanup of the Property

You need to provide sufficient information for Ecology to determine whether your cleanup meets the substantive requirements of MTCA. You need to describe, for example:

- The cleanup you conducted, including the design, construction, and operation of the cleanup.
- The results of the cleanup you conducted, including plans for and results of all performance monitoring.

If **engineered controls** are necessary to maintain compliance with cleanup standards within the Property after the cleanup, then you also need to submit an operation and maintenance plan for Ecology review and approval. For guidance on what to include in the plan, see [WAC 173-340-400\(4\)\(c\)](#).

If **institutional controls** are necessary to maintain compliance with cleanup standards within the Property after the cleanup, then Ecology may request that you submit for our review and approval environmental covenants to impose those controls. For guidance on what to include in those covenants, see [WAC 173-340-440\(9\)](#).

If **confirmational monitoring** is necessary to monitor compliance with cleanup standards within the Property after the cleanup, then you also need to submit a confirmational monitoring plan for Ecology review and approval. For guidance on what to include in the plan, see [WAC 173-340-410\(3\)](#) and [173-340-820](#).

For additional guidance on what to include in your plan or report, refer to [WAC 173-340-400](#), which describes in part what should be included in different types of cleanup plans and reports (e.g., engineering design reports and as built reports).

5.3 Requesting Opinions on Property Cleanups

To request an opinion on your Property cleanup under the Voluntary Cleanup Program (VCP), do the following:

1. **When applying.** To request an opinion when applying to enter the VCP, do the following:
 - a. Request an opinion in Part 1 of the Application Form.
 - b. Submit the following documents with your application:
 - Independent remedial action plan or report.
 - Terrestrial Ecological Evaluation Exclusion Form (if applicable).
2. **After entering.** To request an opinion after entering the VCP, do the following:
 - a. Complete and submit to Ecology a Request for Opinion Form. Submittal instructions are included in the Form.
 - b. Submit the following documents with the Form:
 - Independent remedial action plan or report.
 - Terrestrial Ecological Evaluation Exclusion Form (if applicable).

These and other forms may be downloaded from our VCP web site:
www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm.

Chapter 6 Opinions on Property Cleanups

This chapter describes the opinions Ecology provides on Property cleanups, including:

- Issues Presented. (Section 6.1)
- Opinions Provided. (Section 6.2)
- Analysis Conducted. (Section 6.3)
- Content of Opinion Letters. (Section 6.4)
- Meaning of No Further Action. (Section 6.5)

6.1 Issues Presented

For Property cleanups, Ecology provides opinions on the following two issues:

1. Is further remedial action under MTCA necessary at the Property to clean up contamination associated with the Site?

This is the primary issue addressed by Ecology in the opinion letter. Ecology's opinion depends on whether your cleanup of the Property meets the substantive requirements of MTCA.

2. Is further remedial action still necessary elsewhere at the Site?

Ecology also provides an opinion on this issue because the Property constitutes only a portion of the Site. Ecology's opinion is based on whether the remaining portions of the Site have already been cleaned up. Even if Ecology determines that no further action is necessary at the Property, further action may still be necessary elsewhere at the Site.

6.2 Opinions Provided

Ecology will provide one of the following two opinions on Property cleanups:

1. No Further Action (NFA) opinion.

Ecology will provide this opinion if no further remedial action under MTCA is necessary at the Property to clean up contamination associated with the Site.

2. Further Action (FA) opinion.

Ecology will provide this opinion if further remedial action under MTCA is necessary at the Property to clean up contamination associated with the Site.

For example, Ecology will provide you with a Further Action opinion if you do not adequately address all the contamination associated with the Site on the Property or you only address:

- Some of the hazardous substances on the Property.
- Some of the affected media on the Property.
- Some of the pathways of exposure.
- Portions of the Property.

ATTENTION: Ecology uses boilerplate letters to provide opinions on cleanups. The content of the letters is described in **Section 6.4** below.

Appendix B illustrates the opinions Ecology may provide on Property cleanups under different cleanup scenarios.

6.3 Analysis Conducted

Ecology's opinion will be based on an analysis of whether the Property cleanup meets the substantive requirements of MTCA, [Chapter 70.105D RCW](#), and its implementing regulations, [Chapter 173-340 WAC](#).

For Ecology to conclude that no further remedial action under MTCA is necessary at the Property to clean up contamination associated with the Site, you must demonstrate and Ecology must determine:

1. That your characterization of the Site is sufficient to establish cleanup standards for the Site and select a cleanup for the Property.
2. That the cleanup standards you established for the Site meet the substantive requirements of MTCA.
3. That the cleanup you selected for the Property meets minimum cleanup requirements and does not exacerbate conditions or foreclose reasonable cleanup alternatives elsewhere at the Site.
4. That your cleanup achieved and will maintain applicable Site cleanup standards within the Property.

To help you determine what you need to do meet the substantive requirements of MTCA, Ecology has developed several guidelines. Those guidelines are discussed in **Chapter 4** of this document.

Ecology will make those determinations based primarily on the information you provide in your plans and reports. Ecology's opinion will therefore be void if any of the information contained in those documents is materially false or misleading.

6.4 Content of Opinion Letters

Ecology has developed boilerplate letters to provide opinions on Property cleanups. The letters are available on our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. The boilerplate opinions letters include the following sections:

1. **Issues Presented and Opinion.** This section identifies the issues addressed in the letter and provides Ecology's opinion on those issues.
2. **Description of the Property and the Site.** This section identifies and describes the Site and the Property (parcels of real property) affected by the Site and addressed by your cleanup.
 - Enclosure A** includes a legal description of the Property.
 - Enclosure B** includes a description and diagram of the Site, which also illustrates the boundaries and location of the Property.

This section also clarifies that the opinion applies only to the identified Site, not to any other hazardous waste site that may affect the Property.

3. **Basis for the Opinion.** This section identifies the documents Ecology relied on to provide an opinion on the sufficiency of your cleanup. Those documents either describe the Site or the remedial actions performed at the Site. Those documents are kept in our files and are available for review by appointment.
4. **Analysis of the Cleanup.** This section provides an analysis of your cleanup. The analysis is structured based on the guidelines for Property cleanups discussed in **Chapter 4** of this document.

If no further action is necessary, Ecology will summarize the cleanup standards you established for the Site and the cleanup you proposed or performed to meet those standards within the Property. If further action is still necessary to clean up the Property, then Ecology will also explain what action is still necessary and why such action is necessary.

5. **Post-Cleanup Controls and Monitoring (if applicable).** Ecology will include this section if controls are necessary to maintain compliance with cleanup standards on the Property. This section identifies the actions you need to undertake after the cleanup to maintain compliance with cleanup standards on the Property. Those actions may include:
 - Complying with institutional controls, including any environmental covenants recorded against the Property to implement those controls.
 - Operating and maintaining engineered controls.
 - Monitoring the effectiveness of the controls.

Ecology must approve any environmental covenants or plans. Those documents will be enclosed with the opinion letter.

6. **Periodic Review of Post-Cleanup Conditions (if applicable).** Ecology will include this section if controls are necessary to maintain compliance with cleanup standards on the Property. This section provides notice that Ecology will conduct periodic reviews of post-cleanup conditions on the Property to ensure that they remain protective of human health and the environment.
7. **Listing of the Site.** This section provides notice that Ecology will **not** remove the Site from our list of hazardous waste sites, and that the Property will remain listed as part of the Site.
8. **Limitations of the Opinion.** This section provides notice of several important limitations, including the following:
 - The opinion does not settle liability with the state.
 - The opinion does not determine substantial equivalence.
 - The state is immune from liability.

6.5 Meaning of No Further Action

No Further Action (NFA) opinions for Property cleanups mean:

1. That the cleanup achieved Site cleanup standards within the Property.
2. That unless the cleanup is permanent, post-cleanup remedial actions are necessary to maintain compliance with Site cleanup standards within the Property. Those actions may include:
 - Complying with institutional controls, as executed by an environmental covenant.
 - Operating and maintaining engineered controls.
 - Monitoring to confirm compliance.
3. That further remedial action is still necessary elsewhere at the Site to achieve Site cleanup standards.
4. That the Site will remain listed on the Hazardous Sites List (if listed), and the Property will remain listed as part of the Site.

However, the opinion **does not**:

1. Change the boundaries of the Site. See [RCW 70.105D.020](#).
2. Change or settle liability with the state. See [RCW 70.105D.040](#).

3. Provide protection from contribution claims. *See* [RCW 70.105D.040](#).
4. Constitute a determination that the independent cleanup is the “substantial equivalent” of an Ecology-supervised cleanup. *See* [RCW 70.105D.080](#).
5. Make local governments eligible to receive remedial action grants. Local governments must clean up the entire Site, not just a Property located within the Site, to receive funding. *See* [WAC 173-322-080](#).

Appendix A

Glossary of Cleanup Terms

The definitions set forth in the MTCA Cleanup Regulation, [chapter 173-340 WAC](#), shall control the meanings of the terms used in this document. Some of those definitions are included below for convenience. For terms not defined in the MTCA Cleanup Regulation, the definitions provided below shall control the meanings of the terms.

"Applicable state and federal laws" means all legally applicable requirements and those requirements that Ecology determines, based on the criteria in [WAC 173-340-710\(3\)](#), are relevant and appropriate requirements. [WAC 173-340-200](#).

"Cleanup action" means any remedial action, except interim actions, taken at a site to eliminate, render less toxic, stabilize, contain, immobilize, isolate, treat, destroy, or remove a hazardous substance that complies with [WAC 173-340-350](#) through 173-340-390. [WAC 173-340-200](#). A cleanup action may consist of one or more cleanup action components.

"Cleanup action alternative" means one or more cleanup action components that, individually or in combination, achieve a cleanup action at a site. [WAC 173-340-200](#).

"Cleanup action component" means a treatment technology, containment action, removal action, engineered control, institutional control or other type of remedial action that is used, individually or in combination with other components, to achieve a cleanup action at a site. [WAC 173-340-200](#).

"Cleanup level" means the concentration of a hazardous substance in a soil, water, air, or sediment that is determined to be protective of human health and the environment under specified exposure conditions. [WAC 173-340-200](#).

"Cleanup standards" means the standards adopted under [RCW 70.105D.030\(2\)\(e\)](#). Establishing cleanup standards requires specification of the following:

- Hazardous substance concentrations that protect human health and the environment ("cleanup levels");
- The location on the site where those cleanup levels must be attained ("points of compliance"); and
- Additional regulatory requirements that apply to a cleanup action because of the type of action and/or the location of the site. These requirements are specified in applicable state and federal laws and are generally established in conjunction with the selection of a specific cleanup action.

[WAC 173-340-200](#).

"Compliance monitoring" means a remedial action that consists of monitoring as described in WAC 173-340-410. [WAC 173-340-200](#).

There are three types of compliance monitoring: Protection, performance, and confirmational monitoring. See [WAC 173-340-410](#).

“Conceptual site model” means a conceptual understanding of a site that identifies potential or suspected sources of hazardous substances, types and concentrations of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors. This model is typically initially developed during the scoping of the remedial investigation and further refined as additional information is collected about the site. It is a tool used to assist in making decisions at a site. [WAC 173-340-200](#).

“Confirmational monitoring” is a type of compliance monitoring that is conducted after a cleanup has achieved cleanup or other performance standards to confirm the long-term effectiveness of the cleanup. See [WAC 173-340-410\(1\)\(c\)](#).

“Confirmed and suspected contaminated sites list” or “CSCSL” means the list of hazardous waste sites that Ecology has determined require further remedial action based on an initial investigation or other information submitted to Ecology. The “hazardous sites list” (HSL), defined below, is a subset of this list and includes only those sites that Ecology has determined require further remedial action based on a site hazard assessment (SHA).

“Contaminant” means any hazardous substance that does not occur naturally or occurs at greater than natural background levels. [WAC 173-340-200](#).

“Decree” means consent decree under [WAC 173-340-520](#). “Consent decree” is synonymous with decree. [WAC 173-340-200](#).

“Ecology” means the Washington State Department of Ecology.

“Engineered controls” means containment and/or treatment systems that are designed and constructed to prevent or limit the movement of, or the exposure to, hazardous substances. Examples of engineered controls include a layer of clean soil, asphalt or concrete paving or other materials placed over contaminated soils to limit contact with contamination; a ground water flow barrier such as a bentonite slurry trench; ground water gradient control systems such as French drains or pump and treat systems; and vapor control systems. [WAC 173-340-200](#).

“Environment” means any plant, animal, natural resource, surface water (including underlying sediments), ground water, drinking water supply, land surface (including tidelands and shorelands) or subsurface strata, or ambient air within the state of Washington or under the jurisdiction of the state of Washington. [WAC 173-340-200](#).

“Environmental covenant” means a servitude arising under an environmental response project that imposes activity or use limitations. [RCW 64.70.020\(4\)](#).

“Facility” means any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft; or any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located. [WAC 173-340-200](#).

"Hazardous sites list" or "HSL" means the list of hazardous waste sites maintained under WAC 173-340-330. [WAC 173-340-200](#).

This list consists of those sites that Ecology has determined require further remedial action and ranked based on a site hazard assessment (SHA). This list is a subset of the "confirmed and suspected contaminated sites list" (CSCSL), defined above. See [WAC 173-340-330](#).

"Hazardous substance" means any dangerous or extremely hazardous waste as defined in [RCW 70.105.010\(5\)](#) and (6), or any dangerous or extremely dangerous waste as designated by rule under [chapter 70.105 RCW](#); any hazardous substance as defined in [RCW 70.105.010\(14\)](#) or any hazardous substance as defined by rule under [chapter 70.105 RCW](#); any substance that, on the effective date of this section, is a hazardous substance under section 101(14) of the federal cleanup law, 42 U.S.C., Sec. 9601(14); petroleum or petroleum products; and any substance or category of substances, including solid waste decomposition products, determined by the director by rule to present a threat to human health or the environment if released into the environment.

The term hazardous substance does not include any of the following when contained in an underground storage tank from which there is not a release: Crude oil or any fraction thereof or petroleum, if the tank is in compliance with all applicable federal, state, and local law. [WAC 173-340-200](#).

"Hazardous waste site" means any facility where there has been confirmation of a release or threatened release of a hazardous substance that requires remedial action. [WAC 173-340-200](#).

"Independent remedial actions" means remedial actions conducted without Ecology oversight or approval and not under an order, agreed order, or consent decree. [WAC 173-340-200](#).

"Initial investigation" means a remedial action that consists of an investigation under [WAC 173-340-310](#). [WAC 173-340-200](#).

"Institutional controls" means measures undertaken to limit or prohibit activities that may interfere with the integrity of an interim action or a cleanup action or result in exposure to hazardous substances at the site. [WAC 173-340-200](#).

"Interim action" means a remedial action conducted under WAC 173-340-430. [WAC 173-340-200](#). An interim action is distinguished from a cleanup action in that an interim action only partially addressed the cleanup of the Site. [WAC 173-340-430](#).

"Legally applicable requirements" means those cleanup standards, standards of control, and other human health and environmental protection requirements, criteria, or limitations adopted under state or federal law that specifically address a hazardous substance, cleanup action, location, or other circumstances at the site. [WAC 173-340-200](#).

“Media” means the portions of the environment into which hazardous substances have been released or through which hazardous substances have migrated. Media include soil, ground water, surface water, sediments, and air. If a medium has been affected by a release of hazardous substances, then cleanup standards must be established for that medium.

“Model Toxics Control Act” or **“MTCA”** means [chapter 70.105D RCW](#), first passed by the voters in the November 1988 general election as Initiative 97 and as since amended by the legislature. [WAC 173-340-200](#).

“MTCA Cleanup Regulation” means [chapter 173-340 WAC](#).

“Order” means an enforcement order issued under [WAC 173-340-540](#) or an agreed order issued under [WAC 173-340-530](#). [WAC 173-340-200](#).

“Owner or operator” means any person that meets the definition of this term in [RCW 70.105D.020\(12\)](#). [WAC 173-340-200](#).

“Performance monitoring” is a type of compliance monitoring that is conducted during a cleanup to determine whether the cleanup has achieved and will maintain compliance with cleanup or other performance standards. See [WAC 173-340-410\(1\)\(b\)](#).

“Permanent solution” or **“permanent cleanup action”** means a cleanup action in which cleanup standards of [WAC 173-340-700](#) through 173-340-760 can be met without further action being required at the site being cleaned up or any other site involved with the cleanup action, other than the approved disposal of any residue from the treatment of hazardous substances. [WAC 173-340-200](#).

“Person” means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, state government agency, unit of local government, federal government agency, or Indian tribe. [WAC 173-340-200](#).

“Points of compliance” means the point or points where cleanup levels established in accordance with [WAC 173-340-720](#) through 173-340-760 shall be attained. This term includes both standard and conditional points of compliance. A conditional point of compliance for particular media is only available as provided in WAC 173-340-720 through 173-340-760. [WAC 173-340-200](#).

“Potentially liable person” means any person who Ecology finds, based on credible evidence, to be liable under [RCW 70.105D.040](#). [WAC 173-340-200](#).

“Practicable” means capable of being designed, constructed and implemented in a reliable and effective manner including consideration of cost. When considering cost under this analysis, an alternative shall not be considered practicable if the incremental costs of the alternative are disproportionate to the incremental degree of benefits provided by the alternative over other lower cost alternatives. [WAC 173-340-200](#).

“Property” means, for the purposes of this guidance, the parcel or parcels of real property affected by a hazardous waste site and addressed by your cleanup. For additional guidance on how to define a Property, see **Chapter 3** of this document.

“Release” means any intentional or unintentional entry of any hazardous substance into the environment, including but not limited to the abandonment or disposal of containers of hazardous substances. [WAC 173-340-200](#).

“Relevant and appropriate requirements” means those cleanup standards, standards of control, and other human health and environmental requirements, criteria, or limitations established under state and federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstance at a site, Ecology determines address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site. The criteria specified in [WAC 173-340-710\(3\)](#) shall be used to determine if a requirement is relevant and appropriate. [WAC 173-340-200](#).

“Remedial action” means any action or expenditure consistent with the purposes of [Chapter 70.105D RCW](#) to identify, eliminate, or minimize any threat posed by hazardous substances to human health or the environment, including any investigative and monitoring activities with respect to any release or threatened release of a hazardous substance and any health assessments or health effects studies conducted in order to determine the risk or potential risk to human health. [WAC 173-340-200](#).

“Remedial investigation/feasibility study” means a remedial action that consists of activities conducted under [WAC 173-340-350](#) to collect, develop, and evaluate sufficient information regarding a site to select a cleanup action under [WAC 173-340-360](#) through 173-340-390. [WAC 173-340-200](#).

“Site” means the same as “facility”. [WAC 173-340-200](#).

“Site hazard assessment” means a remedial action that consists of an investigation performed under [WAC 173-340-320](#). [WAC 173-340-200](#).

“Technically possible” means capable of being designed, constructed and implemented in a reliable and effective manner, regardless of cost. [WAC 173-340-200](#).

“Voluntary Cleanup Program” or **“VCP”** means the program authorized under [RCW 70.105D.030\(1\)\(i\)](#) and [WAC 173-340-515\(5\)](#). Under the VCP, a person who conducts remedial actions independently may obtain informal advice and assistance (technical consultations) from Ecology.

Appendix B

Opinion Letter Scenarios

The purpose of the scenarios is to illustrate the types of opinions Ecology will provide on cleanups.

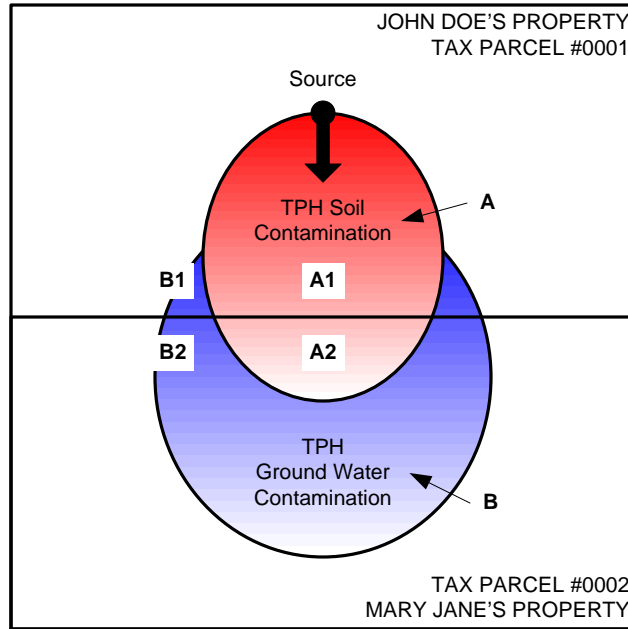
The scenarios make assumptions about whether the cleanup meets one or more cleanup standards.

The purpose is **not** to illustrate what types of actions are necessary to meet cleanup standards.

Scenario #1

One Site affecting Two Properties

Plate 1: Site Diagram



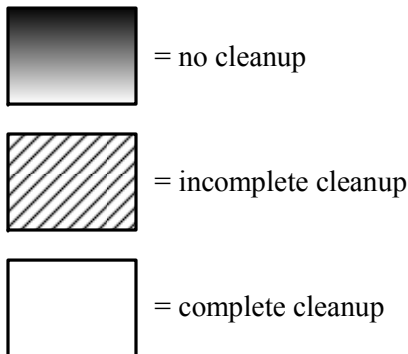
Description of Releases: For this scenario, assume that the following releases have occurred:

- Releases @ John Doe's Property:
 - Release of TPH into the soil and ground water
- Releases @ Mary Jane's Property:
 - None

Description of the Site: The Site is defined by the extent of contamination caused by the release of TPH into the soil and ground water. The TPH contamination, and therefore the Site, extends beyond the boundary of John Doe's Property (#0001) to affect Mary Jane's adjacent Property (#0002). The Site consists of the following areas, which are illustrated in the adjacent site diagram (Plate 1):

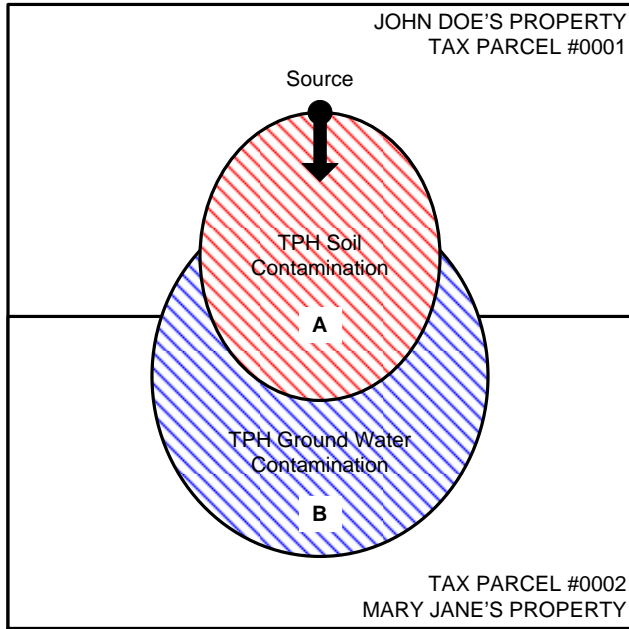
- A = TPH soil contamination at the Site
 - A1 = TPH soil contamination on John Doe's Property (#0001)
 - A2 = TPH soil contamination on Mary Jane's Property (#0002)
- B = TPH ground water contamination at the Site
 - B1 = TPH ground water contamination on John Doe's Property (#0001)
 - B2 = TPH ground water contamination on Mary Jane's Property (#0002)

Cleanup Key for Diagrams



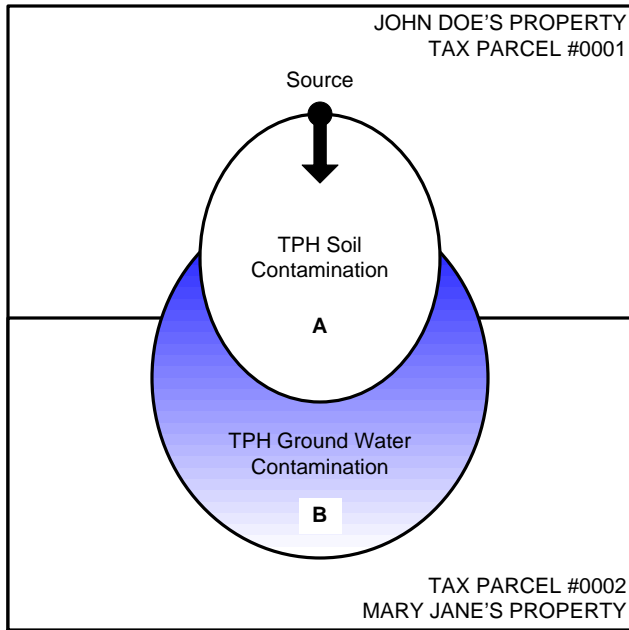
DISCLAIMER: The site scenarios provided below are for illustrative purposes only. They do not establish or modify regulatory requirements, and cannot be relied upon to create either substantive or procedural rights enforceable by any party in litigation with the State of Washington. Instead, the scenarios are designed to facilitate an understanding of the different types of opinions Ecology may provide under the Voluntary Cleanup Program (VCP) to persons conducting independent remedial actions under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Plate 1A: Site Cleanup — Further Action Opinion for the Site



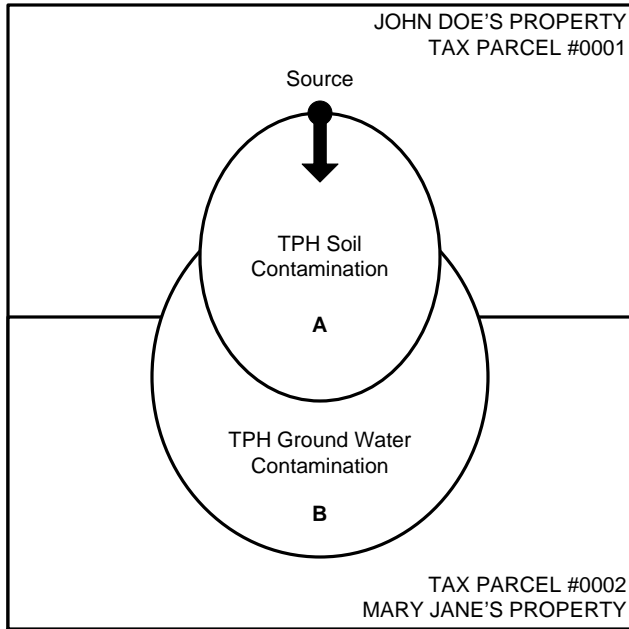
- (1) What type of cleanup did the Customer request that Ecology review?
 - **Site cleanup** = cleanup of both John Doe’s Property (#0001) and Mary Jane’s Property (#0002)
- (2) What contamination at the **Site** did the cleanup address?
 - TPH soil (A) ► YES
 - TPH ground water (B) ► YES
- (3) Does the cleanup meet cleanup standards at the **Site**?
 - TPH soil ► NO
 - TPH ground water ► NO
- (4) What type of opinion would Ecology provide the Customer?
 - **Further Action** opinion for the **Site**

Plate 1B: Site Cleanup — Partial Sufficiency Opinion for the Site



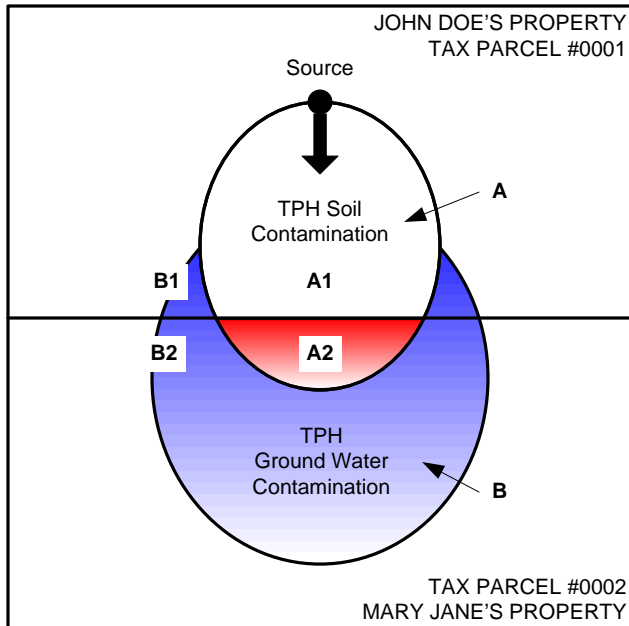
- (1) What type of cleanup did the Customer request that Ecology review?
 - **Site cleanup** = cleanup of both John Doe’s Property (#0001) and Mary Jane’s Property (#0002)
- (2) What contamination at the **Site** did the cleanup address?
 - TPH soil (A) ► YES
 - TPH ground water (B) ► NO
- (3) Does the cleanup meet cleanup standards at the **Site**?
 - TPH soil ► YES
 - TPH ground water ► NO
- (4) What type of opinion would Ecology provide the Customer?
 - **Partial Sufficiency** opinion for the **Site**

Plate 1C: Site Cleanup — No Further Action Opinion for the Site



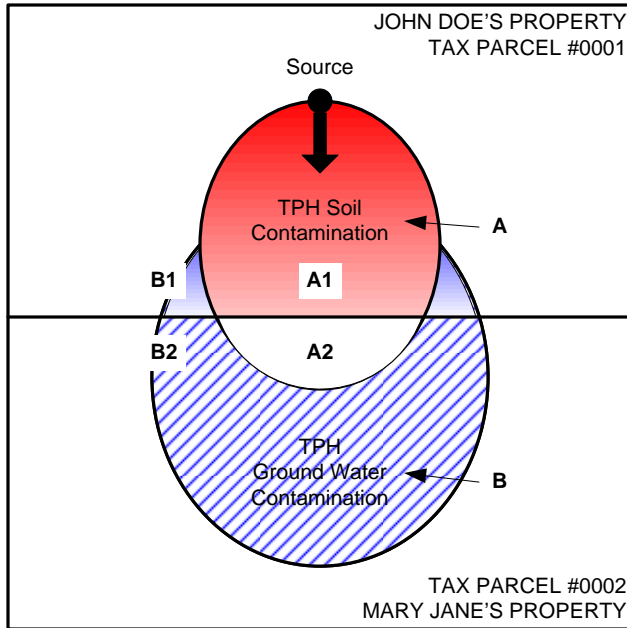
- (1) What type of cleanup did the Customer request that Ecology review?
 - **Site cleanup** = cleanup of both John Doe's Property (#0001) and Mary Jane's Property (#0002)
- (2) What contamination at the **Site** did the cleanup address?
 - TPH soil (A) ► YES
 - TPH ground water (B) ► YES
- (3) Does the cleanup meet cleanup standards at the **Site**?
 - TPH soil ► YES
 - TPH ground water ► YES
- (4) What type of opinion would Ecology provide the Customer?
 - **No Further Action** opinion for the **Site**

Plate 1D: Property Cleanup — Further Action Opinion for the Property



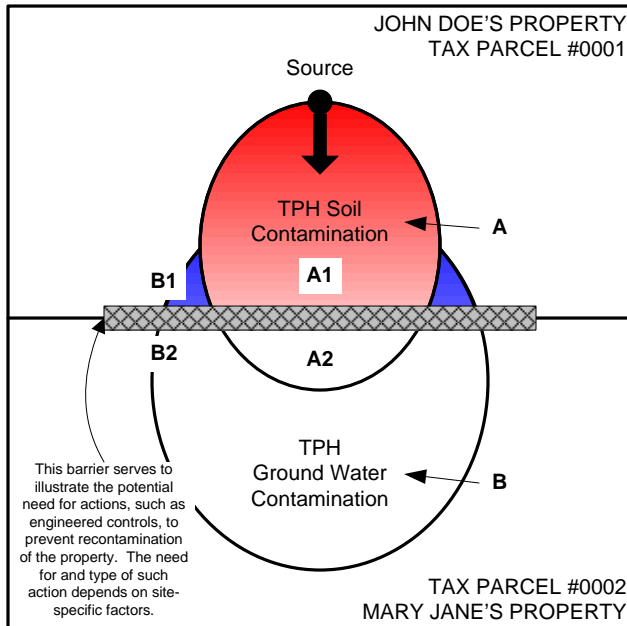
- (1) What type of cleanup did the Customer request that Ecology review?
 - **Property cleanup**
- (2) Which property at the Site did the cleanup address?
 - **"Property"** = John Doe's Property (Tax Parcel #0001)
- (3) What contamination within the **Property** did the cleanup address?
 - TPH soil (A1) ► YES
 - TPH ground water (B1) ► NO
- (4) Does the cleanup meet Site cleanup standards within the **Property**?
 - TPH soil ► YES
 - TPH ground water ► NO
- (5) Does the cleanup meet Site cleanup standards throughout the **Site**?
 - TPH soil ► NO
 - TPH ground water ► NO
- (6) What type of opinion would Ecology provide the Customer?
 - **Further Action** opinion for the **Property** (Tax Parcel #0001)

Plate 1E: Property Cleanup — Further Action Opinion for the Property



- (1) What type of cleanup did the Customer request that Ecology review?
 - **Property cleanup**
- (2) Which property at the Site did the cleanup address?
 - **“Property”** = Mary Jane’s Property (Tax Parcel #0002)
- (3) What contamination within the **Property** did the cleanup address?
 - TPH soil (A2) ► YES
 - TPH ground water (B2) ► YES
- (4) Does the cleanup meet Site cleanup standards within the **Property**?
 - TPH soil ► YES
 - TPH ground water ► NO
- (5) Does the cleanup meet Site cleanup standards throughout the **Site**?
 - TPH soil ► NO
 - TPH ground water ► NO
- (6) What type of opinion would Ecology provide the Customer?
 - **Further Action** opinion for the **Property** (Tax Parcel #0002)

Plate 1F: Property Cleanup — No Further Action Opinion for the Property

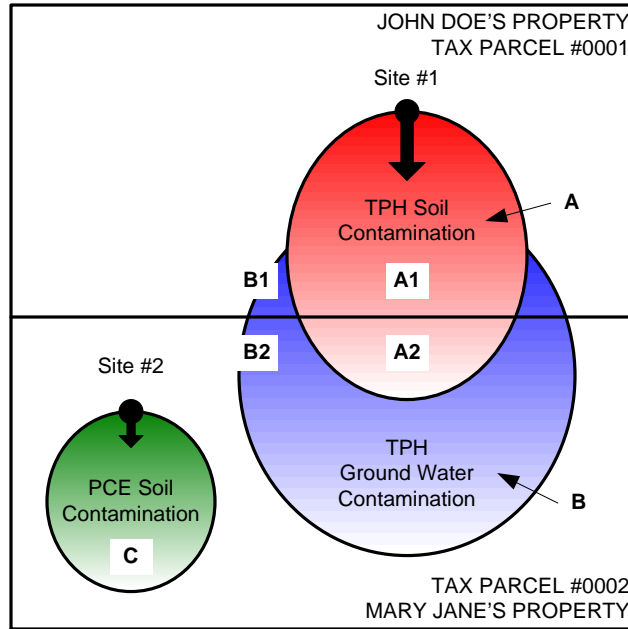


- (1) What type of cleanup did the Customer request that Ecology review?
 - **Property cleanup**
- (2) Which property at the Site did the cleanup address?
 - **“Property”** = Mary Jane’s Property (Tax Parcel #0002)
- (3) What contamination within the **Property** did the cleanup address?
 - TPH soil (A2) ► YES
 - TPH ground water (B2) ► YES
- (4) Does the cleanup meet Site cleanup standards within the **Property**?
 - TPH soil ► YES
 - TPH ground water ► YES
- (5) Does the cleanup meet Site cleanup standards throughout the **Site**?
 - TPH soil ► NO
 - TPH ground water ► NO
- (6) What type of opinion would Ecology provide the Customer?
 - **No Further Action** opinion for the **Property** (Tax Parcel #0002)

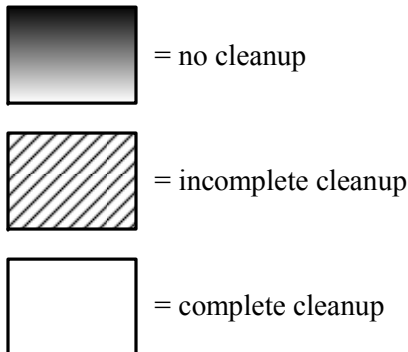
Scenario #2

Two Sites, One of which affects Two Properties

Plate 1: Site Diagram



Cleanup Key for Diagrams



Description of Releases: For this scenario, assume that the following releases have occurred:

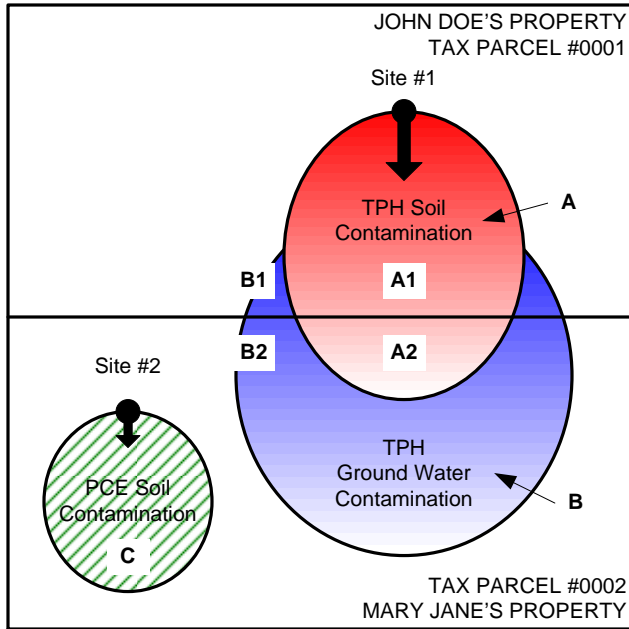
- Releases @ John Doe's Property:
 - Release of TPH into the soil and ground water
- Releases @ Mary Jane's Property:
 - Release of PCE into the soil

Description of the Sites: Assume that the two releases have not commingled and are defined as two separate sites. The two sites are described below.

- **Site #1 – TPH release:** The first site is defined by the extent of contamination caused by the release of TPH into the soil and ground water. The TPH contamination, and therefore the Site, extends beyond the boundary of John Doe's Property (#0001) to affect Mary Jane's adjacent Property (#0002). The Site consists of the following areas, which are illustrated in the adjacent site diagram (Plate 2):
 - A = TPH soil contamination at the Site
 - A1 = TPH soil contamination on John Doe's Property (#0001)
 - A2 = TPH soil contamination on Mary Jane's Property (#0002)
 - B = TPH ground water contamination at the Site
 - B1 = TPH ground water contamination on John Doe's Property (#0001)
 - B2 = TPH ground water contamination on Mary Jane's Property (#0002)
- **Site #1 – PCE release:** The second site is defined by the extent of contamination caused by the release of PCE into the soil. The PCE contamination, and therefore the Site, does not extend beyond the boundary of Mary Jane's Property (#0002). The Site consists of the following area, which is illustrated in the adjacent site diagram (Plate 2):
 - C = PCE soil contamination on Mary Jane's Property (#0002)

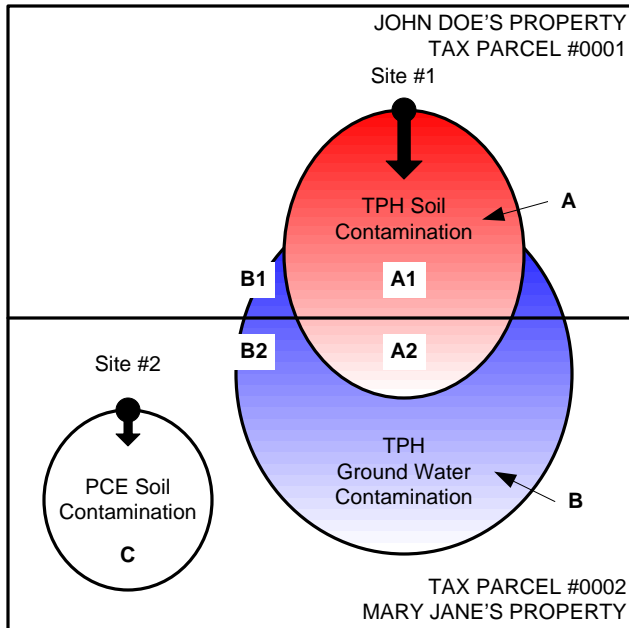
DISCLAIMER: The site scenarios provided below are for illustrative purposes only. They do not establish or modify regulatory requirements, and cannot be relied upon to create either substantive or procedural rights enforceable by any party in litigation with the State of Washington. Instead, the scenarios are designed to facilitate an understanding of the different types of opinions Ecology may provide under the Voluntary Cleanup Program (VCP) to persons conducting independent remedial actions under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Plate 2A: Cleanup of Site #2 — Further Action Opinion for Site #2



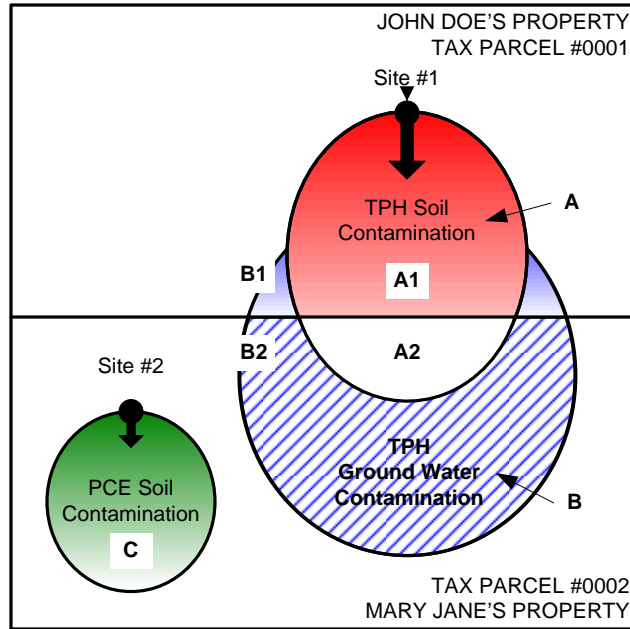
- (1) Which site did the cleanup address?
 - **Site #2**
- (2) What type of cleanup of **Site #2** did the Customer request that Ecology review?
 - **Site Cleanup**
- (3) Does the cleanup meet cleanup standards at **Site #2**?
 - PCE soil ► NO
- (4) What type of opinion would Ecology provide the Customer?
 - **Further Action** opinion for **Site cleanup** of **Site #2**
- (5) In the opinion, would Ecology provide notice of Site #1, which also affects the Property (Tax Parcel #0002) affected by Site #2?
 - YES

Plate 2B: Cleanup of Site #2 — No Further Action Opinion for Site #2



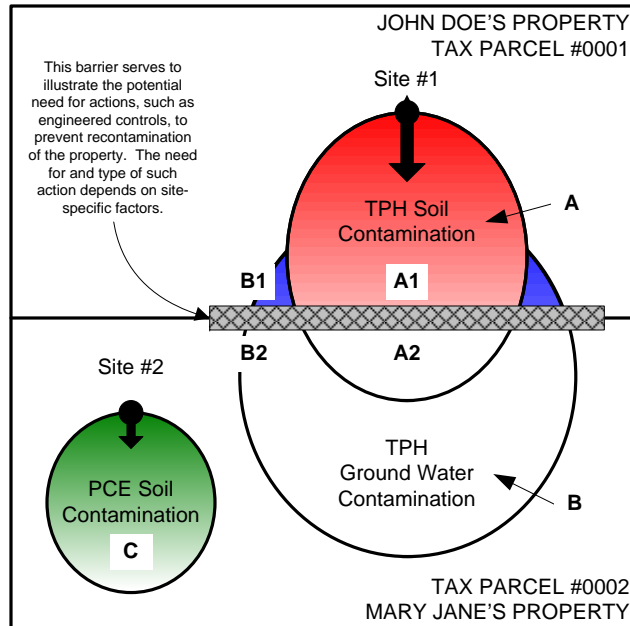
- (1) Which site did the cleanup address?
 - **Site #2**
- (2) What type of cleanup of **Site #2** did the Customer request that Ecology review?
 - **Site Cleanup**
- (3) Does the cleanup meet cleanup standards at **Site #2**?
 - PCE soil ► YES
- (4) What type of opinion would Ecology provide the Customer?
 - **No Further Action** opinion for **Site cleanup** of **Site #2**
- (5) In the opinion, would Ecology provide notice of Site #1, which also affects the Property (Tax Parcel #0002) affected by Site #2?
 - YES

Plate 2C: Cleanup of Property within Site #1 — Further Action Opinion for the Property



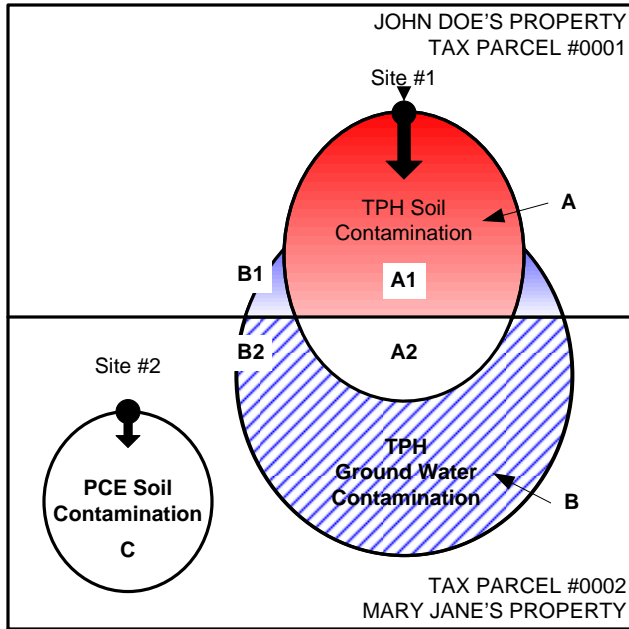
- (1) Which site did the cleanup address?
 - **Site #1**
- (2) What type of cleanup of **Site #1** did the Customer request that Ecology review?
 - **Property Cleanup**
- (3) Which property affected by **Site #1** did the cleanup address?
 - **“Property”** = Mary Jane’s Property (Tax Parcel #0002)
- (4) Does the cleanup meet the cleanup standards for **Site #1** within the **Property**?
 - TPH soil ► YES
 - TPH ground water ► NO
- (5) What type of opinion would Ecology provide the Customer?
 - **Further Action** opinion for **Property cleanup** within **Site #1** (Tax Parcel #0002)
- (6) In the opinion, would Ecology provide notice of Site #2, which also affects the Property?
 - YES

Plate 2D: Cleanup of Property within Site #1 — No Further Action Opinion for the Property



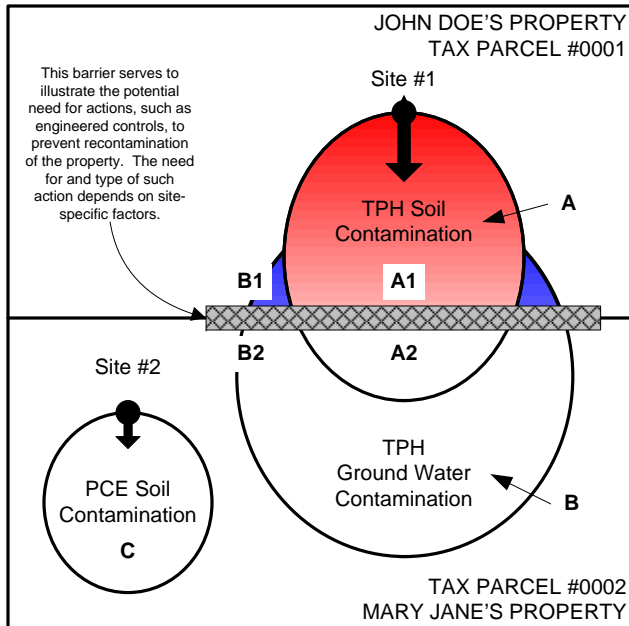
- (1) Which site did the cleanup address?
 - **Site #1**
- (2) What type of cleanup of **Site #1** did the Customer request that Ecology review?
 - **Property Cleanup**
- (3) Which property affected by **Site #1** did the cleanup address?
 - **“Property”** = Mary Jane’s Property (Tax Parcel #0002)
- (4) Does the cleanup meet Site cleanup standards within the **Property**?
 - TPH soil ► YES
 - TPH ground water ► YES
- (5) What type of opinion would Ecology provide the Customer?
 - **No Further Action** opinion for **Property cleanup** within **Site #1** (Tax Parcel #0002)
- (6) In the opinion, would Ecology provide notice of Site #2, which also affects the Property?
 - YES

Plate 2E: Cleanup of Property within Site #1 (Property FA) and Cleanup of Site #2 (Site NFA)



- (1) Which Sites did the cleanup address?
 - **Site #1** (Property cleanup)
 - **Site #2** (Site cleanup)
- (2) Which Property did the cleanup address?
 - **“Property”** = Mary Jane’s Property (Tax Parcel #0002)
- (3) Does the cleanup meet cleanup standards for **Site #1** within the **Property**?
 - TPH soil ► YES
 - TPH ground water ► NO
- (4) Does the cleanup meet cleanup standards for **Site #2**?
 - PCE soil ► YES
- (5) What opinions would Ecology provide the Customer?
 - **Further Action** opinion for **Property cleanup** within **Site #1** (Tax Parcel #0002)
 - **No Further Action** opinion for **Site cleanup** of **Site #2**
- (6) In each opinion letter, would Ecology provide notice of the other Site affecting the Property?
 - YES

Plate 2F: Cleanup of Property within Site #2 (Property NFA) and Cleanup of Site #2 (Site NFA)



- (1) Which Sites did the cleanup address?
 - **Site #1** (Property cleanup)
 - **Site #2** (Site cleanup)
- (2) Which Property did the cleanup address?
 - **“Property”** = Mary Jane’s Property (Tax Parcel #0002)
- (3) Does the cleanup meet cleanup standards for **Site #1** within the **Property**?
 - TPH soil ► YES
 - TPH ground water ► YES
- (4) Does the cleanup meet cleanup standards for **Site #2**?
 - PCE soil ► YES
- (5) What opinions would Ecology provide the Customer?
 - **No Further Action** opinion for **Property cleanup** within **Site #1** (Tax Parcel #0002)
 - **No Further Action** opinion for **Site cleanup** of **Site #2**
- (6) In each opinion letter, would Ecology provide notice of the other Site affecting the Property?
 - YES